Course descriptions from the 2016-2017 Catalog can be viewed by clicking on a specific subject listed in this table of contents.
Course Descriptions

Courses listed in this catalog are those Black Hawk College plans to offer. Inclusion of a course description does not obligate the College to offer the course in any particular semester. Students should review the appropriate class schedule each semester for specific and current course offerings.

Accounting

**ACCT 101 Financial Accounting**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: Eligibility to enroll in MATH 112 or instructor consent. Concurrent enrollment in ACCT 103 or ACCT 103 "C" or better.  
Introductory course for the study of financial accounting principles that presents accounting as an information system used to analyze, record, and communicate financial information about business performance. Emphasis is on understanding and applying basic accounting principles and concepts guiding the reporting of business transactions for service and merchandising enterprises. Topics covered include the accounting cycle (transaction analysis, accruals and deferrals, preparation of financial statements including the income statement, statement of stockholders’ equity, balance sheet, and statement of cash flows, and the closing process); internal controls, cash, recording and valuation of current and long-term receivables; merchandise inventory including perpetual and periodic systems and inventory valuation methods; long-term assets including property, plant, and equipment, natural resources, and intangible assets; cost allocation methods related to long-term assets including depreciation, depletion, and amortization; current liabilities (accounts payable, unearned revenues, and short-term notes payable); long-term liabilities (notes and bonds payable and related interest expense); contingent liabilities; and stockholders’ equity including retained earnings and paid-in capital. IAI: BUS 904

**ACCT 102 Managerial Accounting**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: ACCT 101 "C" or better or BA 170 and BA 180 "C" or better. Concurrent enrollment in ACCT 104 or ACCT 104 "C" or better.  
An introductory course for the study of managerial accounting principles that presents managerial accounting as an information system used by managers for planning, controlling and directing business operations in domestic and international manufacturing and service environments. Emphasis is on understanding and applying common managerial accounting practices and decision-making techniques that support the achievement of an organization’s financial goals and objectives. Topics covered include the role of managerial accounting in domestic and international settings, classification and analysis of costs (product, period, variable, fixed, mixed, opportunity, sunk and differential), costing systems (job-order, process, activity-based, variable, absorption, standard, just-in-time) cost-volume-profit relationships, break-even analysis, preparation and analysis of budgets (master budget with supporting schedules, flexible budget), standard costs and variance analysis, preparation and analysis of financial statements (pro forma Income Statement, pro forma Balance Sheet, and Statement of Cash Flows), and analysis of financial statements (vertical, horizontal, and ratio). IAI: BUS 903

**ACCT 103 Financial Accounting Lab**

1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
Prerequisite: Concurrent enrollment in ACCT 101 or ACCT 101 “C” or better.  
An introductory course which provides a computerized learning environment to support the study of financial accounting principles that presents accounting as an information system used to analyze, record, and communicate financial information about business performance. Emphasis is on understanding and applying basic accounting principles and concepts guiding the reporting of business transactions for service and merchandising enterprises. Topics covered include the accounting cycle (transaction analysis, accruals and deferrals, preparation of financial statements including the income statement, statement of stockholders’ equity, balance sheet, and statement of cash flow, the closing process); internal controls; cash; recording and valuation of current and long-term receivables; merchandise inventory including perpetual and periodic systems and inventory valuation methods; long-term assets including property, plant, and equipment, natural resources, and intangible assets; cost allocation methods related to long-term assets including depreciation, depletion, and amortization; current liabilities (accounts payable, unearned revenues, and short-term notes payable); long-term liabilities (notes and bonds payable and related interest expense); contingent liabilities; and stockholders’ equity including retained earnings and paid-in capital. IAI: BUS 903
ACCT 104 Managerial Accounting Lab
1 cr. hr.; 0 lecture hours; 2 lab hours per week. 
Prerequisite: Concurrent enrollment in ACCT 102 or ACCT 102 “C” or better.
An introductory course which provides a computerized learning environment to support the study of managerial accounting principles that presents managerial accounting as an information system used by managers for planning, controlling and directing business operations in domestic and international manufacturing and service environments. Emphasis is on understanding and applying common managerial accounting practices and decisions-making techniques that support the achievement of an organization’s financial goals and objectives. Topics covered include the role of managerial accounting in domestic and international settings, classification and analysis of costs (product, period, variable, fixed, mixed, opportunity, sunk and differential), costing systems (job-order, process, activity-based, variable, absorption, standard, just-in-time) cost-volume-profit relations, break-even analysis, preparation and analysis of budgets (master budget with supporting schedules, flexible budget), standard costs and variance analysis, preparation and analysis of financial statements (pro forma Income Statement, pro forma Balance sheet, and Statement of Cash Flows), and analysis of financial statements (vertical, horizontal, and ratio). IAI: BUS 904

ACCT 121 Accounting with QuickBooks I
2 cr. hrs.; 1 lecture hour; 2 lab hours per week. 
A introduction to the procedures and uses of QuickBooks software to account for the transactions of a business.

ACCT 122 Accounting with Peachtree
2 cr. hrs.; 1 lecture hour; 2 lab hours per week. 
A study of the procedures and uses of Peachtree software to account for the transactions of a business.

ACCT 123 Accounting with QuickBooks II
2 cr. hrs.; 1 lecture hour; 2 lab hours per week. 
Prerequisite: ACCT 121 “C” or better.
A advanced study of the procedures and uses of QuickBooks software to account for the transactions of a business.

ACCT 140 Business Computer Systems
3 cr. hrs.; 3 lecture hours; 1 lab hour per week. 
Prerequisite: MATH 131 or equivalent.
A course evenly divided between the study of Management Information Systems theory and common microcomputer productivity tools. Computer hardware, software, system analysis, database management systems, telecommunications, and artificial intelligence are among the topics surveyed.

ACCT 205 Principles of Cost Accounting
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: ACCT 102 “C” or better or instructor consent.
Cost principles as applied to service, retail, and manufacturing businesses. Topics covered will include the role of cost principles in planning, evaluation, and control of costs. Also, the use of cost principles in pricing and management decision-making. Statement preparation, reports on the cost of products or services, activity based costing, just-in-time inventory systems, capital budgeting, cost-volume-profit analysis, and performance measures are additional topics included in the course.

ACCT 209 Intermediate Accounting I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisites: ACCT 101 “C” or better, or BA 170 and 180 “C” or better, or instructor consent.
Comprehensive review of fundamental accounting principles and the conceptual framework, including the financial statements, time value of money and current assets. Designed for students in the Accounting Specialist Career Program.

ACCT 210 Intermediate Accounting II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: ACCT 209 “C” or better or instructor consent.
Further study of corporate accounting, inventories, non-current assets, current and non-current liabilities, and stockholders' equity.

ACCT 240 Internal Controls and Fraud
2 cr. hrs.; 2 lecture hour; 0 lab hours per week. 
Prerequisite: ACCT 101 & ACCT 103 “C” or better; or BA 180 & BA 181 “C or better or instructor consent.
Introduction to internal control as a means to help ensure reliable financial reporting, compliance with laws and regulations, and effective and efficient operations. Discussion of fraud cases related to internal control deficiencies.

ACCT 250 Federal Income Tax I
4 cr. hrs.; 3 lecture hours; 2 lab hours per week. 
Prerequisite: ACCT 101 or BA 170 or instructor consent.
Covers the regulations applicable to the determination of taxable income with an emphasis on the determination of tax liability of individual taxpayers. Includes instruction in the use of computer software to prepare tax returns.

ACCT 251 Federal Income Tax II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisites: ACCT 250 and BA 180 or ACCT 250 and ACCT 101, or instructor consent.
Covers the regulations applicable to the determination of taxable income with an emphasis on the determination of tax liability of business tax returns.

Agriculture

AG 100 Introduction to Agriculture
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
A study of agriculture in our modern society. Emphasis on leadership development, educational goals and employment opportunities. Brief orientation to the College and agriculture division.

**AG 101 Introductory Agriculture Seminar**
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
A study of the agricultural industries that are of service to farmers. Special reports on selected current topics. Part of class time will be utilized by visiting lecturers. Occasionally, a dinner meeting may be held. Required of all full-time agricultural students.

**AG 102 Agriculture Work Experience Seminar**
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Continuation of AG 101 with special emphasis on developing the work-education experience program.

**AG 107 Agribusiness Work Experience**
1-8 cr. hrs.; 0 lecture hours; 48 lab hours per week.
*Prerequisites: Satisfactory completion of 22 credit hours in the Agribusiness curriculum or instructor consent and concurrent enrollment in AG 102.*
Eleven weeks of supervised training in an approved agricultural business. Reports by the student and satisfactory job performance required for credit.

**AG 108 Agricultural Production Work Experience**
1-8 cr. hrs.; 0 lecture hours; 48 lab hours per week.
*Prerequisites: Satisfactory completion of 22 credit hours in the Agricultural Production curriculum or instructor consent and concurrent enrollment in AG 102.*
Eleven weeks of supervised training in an approved agricultural production situation. Reports by the student and satisfactory job performance are required for credit.

**AG 112 Intro to Agriculture Management**
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
*Prerequisite: AG 121 or instructor consent.*
The functions of management applied to the problems of agricultural producers and business managers will be studied. Topics to be covered include resource analysis, budgeting, enterprise planning, and labor management. The major focus of the course will be on planning and budgeting.

**AG 121 Introduction to Ag Economics**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An introductory course covering selected agricultural economics principles and topics. Includes economic principles applied to agricultural problems; agriculture as business; resource utilization; production principles; profit maximization; supply and demand principles; market structures and price determination; finance; and agricultural policy. Other topics covered are the world food situation and food production; agricultural trade; and the role of agriculture in economic growth. Special emphasis is placed on applying economic theories and principles to solving problems facing agricultural producers and agricultural industries.

**AG 123 Agricultural Mathematics**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The practical mathematical background needed for agricultural mechanics, Agribusiness and agricultural production. Includes calculations of land area, planting, fertilizer, chemical and herbicide application rates, storage capacity, material estimates, depreciation, ratio, markups, production rates, and machinery operating costs.

**AG 125 Computers in Agriculture**
1-3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
An introductory course in the use of computers in agricultural situations. Emphasis will be placed on the type of computers used in agriculture, how these computers operate, and the types of computer software available for agricultural use. Students will learn to operate computers through hands-on classroom and laboratory experiences.

**AG 131 Soils and Soil Fertility**
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Basic course dealing with the formation, physical, chemical, colloidal, and biological properties of soils. Special emphasis is given to soil conditions that affect plant growth and crop yields. Laboratory experience in texture, structure and fertility.

**AG 132 Field Crop Science 1**
1.5 cr. hrs.; 1.5 lecture hours; 0 lab hours per week.
The study of botanical characteristics and cultural practices of commercially important Corn Belt crops, including quality improvements, seed purity, diseases, insects, weeds and crop production. Laboratory exercises focus on selected crop production and management practices.

**AG 133 Field Crop Science 2**
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
The study of botanical characteristics and cultural practices of commercially important Corn Belt crops, including quality improvements, seed purity, diseases, insects, weeds and crop production techniques. Laboratory exercises focus on selected crop production and management practices. Continuation of AG 132.

**AG 134 Field Crop Science 3**
.5 cr. hrs.; 0.5 lecture hours; 0 lab hours per week.
The study of botanical characteristics and cultural practices of commercially important Corn Belt crops, including quality improvements, seed purity, diseases, insects, weeds and crop production techniques. Laboratory exercises focus on selected crop production and management practices. Continuation of AG 133.

**AG 135 Integrated Pest Management 1**
1.5 cr. hrs.; 1.5 lecture hours; 0 lab hours per week.
The study of the role of chemicals commonly used in agricultural production, including insecticides, herbicides, seed treatments and livestock chemicals. Emphasis is placed on the identification of weeds, insects and plant diseases, as well as prevention, control, and eradication of...
these problems. Laboratory exercises focus on weed and insect scouting, procedures used in handling and applying chemicals and comparisons of various pest management practices.

AG 136 Integrated Pest Management 2
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
The study of the role of chemicals commonly used in agricultural production, including insecticides, herbicides, seed treatments and livestock chemicals. Emphasis is placed on the identification of weeds, insects and plant diseases, as well as prevention, control, and eradication of these problems. Laboratory exercises focus on weed and insect scouting, procedures used in handling and applying chemicals and comparisons of various pest management practices. Continuation of AG 135.

AG 137 Integrated Pest Management 3
.5 cr. hrs.; 0.5 lecture hours; 0 lab hours per week.
The study of the role of chemicals commonly used in agricultural production, including insecticides, herbicides, seed treatments and livestock chemicals. Emphasis is placed on the identification of weeds, insects and plant diseases, as well as prevention, control, and eradication of these problems. Laboratory exercises focus on weed and insect scouting, procedures used in handling and applying chemicals and comparisons of various pest management practices. Continuation of AG 136.

AG 138 Crop and Soil Management
3 cr. hr.; 3 lecture hours; 0 lab hours per week.
Provides students an opportunity to gain experience in advanced crop and soil management. An emphasis will be placed on new technology and products that have been implemented into crop production. The application of geographical information systems and global position equipment in crop production and soil management will also be covered.

AG 139 Crop and Soil Evaluation 2
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: AG 138 or instructor consent.
Provides students an opportunity to gain experience in evaluating crops and soils. Selection will be based on marketing and/or production standards. A continuation of AG 138.

AG 141 Animal Science
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
A comprehensive view of the livestock industry as a science. Study is based upon biological principles with application to modern livestock management practices for beef, swine, dairy cattle, sheep, and horses. Laboratory to supplement lectures and discussions.

AG 142 Animal Nutrition
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Study of common feeds and their uses in animal nutrition including calculations of rations for maintenance, growth and production.

AG 147 Dairy Evaluation
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Provides students an opportunity to gain experience in evaluating dairy cattle. Selection will be based on marketing and/or production standards. Consideration will be given to organizing and presenting oral reasons.

AG 148 Livestock Evaluation I
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: AG 147 or instructor consent.
Provides an opportunity to gain experience in evaluating livestock. Selection will be based on marketing and/or reasons. Continuation of AG 148.

AG 149 Livestock Evaluation 2
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: AG 148 or instructor consent.
Provides an opportunity to gain experience in evaluating livestock. Selection will be based on marketing and/or reasons. Continuation of AG 148.

AG 171 Materials Handling Equipment
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Mechanics of materials handling for chemicals, feeds and fertilizers; calibration of equipment, and adjustment and maintenance of equipment. Special emphasis on small engines. Laboratory experiences will allow for actual experiences.

AG 172 Agricultural CDL Training
2 cr. hrs.; 1 lecture hours; 2 lab hours per week.
This course is required for students in the Associate in Applied Science degree program in agribusiness management in the agricultural chemical application specialty.

AG 173 Ag Chemical Equipment Technology I
1-2 cr. hr.; 1 lecture hour; 0 lab hours per week.
A course focusing on studies of dry fertilizer material equipment variations, calibration systems and methods, maintenance and service requirements, and actual operation of application equipment.

AG 174 Ag Chemical Equipment Technology II
1-2 cr. hr.; 2 lecture hour; 0 lab hours per week.
A course focusing on studies of liquid fertilizer material and agricultural chemical equipment variations, calibration systems and methods, maintenance and service requirements, and actual operations of liquid application equipment.

AG 200 Topics in Agriculture
.5-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Designed to satisfy specific needs and interest of students in agriculture. Topics will vary and will be announced in advance. This course may be taken more than once.
provided that different topics are considered. The maximum credit that can be earned is six credit hours.

**AG 201 Advanced Ag Work Experience Seminar**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Prerequisite: AG 102/AG 107, AG 102/AG 108, and concurrent enrollment in AG 207 or AG 208.  
Special emphasis on preparing for advanced training for final supervised work-education experience and career planning.

**AG 202 Advanced Agriculture Seminar**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Prerequisites: AG 101, 102 and 201 or instructor consent.  
Special emphasis will be given to definition and career explanation in the agribusiness field by students enrolled.

**AG 207 Advanced Agribusiness Work Experience**  
1-5 cr. hrs.; 0 lecture hours; 48 lab hours per week.  
Prerequisites: AG 107 and concurrent enrollment in AG 201.  
Similar to AG 109 with emphasis on sales and management of agricultural supply business. One credit hour credit is awarded for satisfactory completion of training manual.

**AG 208 Advanced Ag Production Work Experience**  
1-5 cr. hrs.; 0 lecture hours; 48 lab hours per week.  
Prerequisites: AG 108 and concurrent enrollment in AG 201.  
Similar to AG 108 with emphasis on improvement of farm operations problem areas. Satisfactory completion of the training manual is required.

**AG 211 Ag Salesmanship**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Study of the basic principles and theories of salesmanship with considerable emphasis given to the practical application. Role playing will be utilized to stress techniques. Sales aids, market promotion and advertising will be included.

**AG 214 Ag Technology & Information Management**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
A course focusing on new and existing technology in agriculture, the collection of agricultural information, with analysis and applications to areas of agriculture production and ag business management.

**AG 222 Advanced Agriculture Management**  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: AG 122 or instructor consent.  
A course dealing with management factors affecting profits in the operation of agribusinesses and farm production businesses. These factors include the keeping of records, analyzing records, income tax preparation and management, using credit to finance the business, using insurance in the business, calculating depreciation, and lease agreements. Experiences in making accounting entries and summarizing business records, as well as completing income tax forms will be provided.

**AG 223 Agriculture Marketing**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: AG 121 or instructor consent.  
A study of the food and agricultural supply marketing systems with their associated sectors and costs. The problems of managing price risk, using market information, and dealing with government programs will be examined. Emphasis is placed on commodity marketing, current market conditions, price trends, selling alternative, database marketing, and sources of market information.

**AG 224 Agricultural Law**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
A study of the laws that affect agricultural businesses in the context of labor, taxation, tenancy, liability and other areas.

**AG 225 Computer Applications in Agriculture**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Use of computers in farm and agribusiness management with emphasis on commercially available software for accounting, budgeting, record keeping, and market analysis.

**AG 232 Forage Crops**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Examination of forage crops characteristics and ecology, grasslands of farm and range as related to animal production.

**AG 238 Crop and Soil Evaluation 3**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Provides students an opportunity to gain experience in evaluating crops and soils. Selection will be based on marketing and/or production standards. A continuation of AG 139.

**AG 239 Crop and Soil Evaluation 4**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Provides students an opportunity to gain experience in evaluating crops and soils. Selection will be based on marketing and/or production standards. A continuation of AG 238.

**AG 241 Artificial Insemination of Cattle**  
1.5 cr. hrs.; 1 lecture hour; 1 lab hour per week.  
Theory and technology involved in artificial insemination, including semen collection techniques, evaluation of semen, processing of semen for storage, and insemination techniques.

**AG 242 Artificial Insemination of Swine**  
1.5 cr. hrs.; 1 lecture hour; 1 lab hour per week.  
Theory and technology involved in artificial insemination, including semen collection techniques, evaluation of
semen, processing of semen for storage and insemination techniques.

**AG 244 Swine Science**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
*Prerequisite: AG 141 or AG 285.*  
A basic course in swine production and management which includes selecting, breeding, feeding, managing and marketing of swine. Laboratory will provide hands-on experience to develop in-depth skills in the rapidly changing technology of the swine industry.

**AG 245 Beef Science**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
A basic beef production and management course which includes the cow-calf and feedlot operations. Laboratory exercises to acquire and develop in-depth skills.

**AG 246 Meat Animal Evaluation**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
*Prerequisite: AG 141 or AG 285.*  
Live animal and carcass evaluation of meat animals-beef, sheep and swine. Students acquire and develop in-depth skills in laboratory.

**AG 247 Animal Health**  
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Animal diseases and parasites, their prevention and control. Man’s susceptibility to disease. Federal and State regulations.

**AG 248 Livestock Evaluation 3**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
*Prerequisites: AG 148 and AG 149 or instructor consent.*  
Provides students an opportunity to gain experience in evaluating livestock. Selection will be based on marketing and/or production standards. Consideration will be given to organizing and presenting oral reasons. Continuation of AG 149.

**AG 249 Livestock Evaluation 4**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
*Prerequisites: AG 148, AG 149, AG 248 or instructor consent.*  
Provides students an opportunity to gain experience in evaluating livestock. Selection will be based on marketing and/or production standards. Consideration will be given to organizing and presenting oral reasons. Continuation of AG 248.

**AG 272 Grain Drying and Handling**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
A basic course in the operation, adjustment and maintenance of grain-drying equipment in the field.

**AG 273 Lawn and Garden Equipment Repair**  
1-4 cr. hrs.; 2 lecture hours; 4 lab hours per week.  
This course covers the operation and maintenance of consumer products in the agriculture industry. Topics to be covered include lawnmowers, lawn sweepers, lawn conditioning equipment, snow blowers, leaf blowers, tillers, weed eaters, and chain saws. Emphasis will be given to safety, operation, maintenance, and repair.

**AG 275 Field Machinery Operations I**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Introduces the student to harvesting, tillage, and planting operations. Emphasis will be placed on theory, operation, maintenance and adjustment of the machines.

**AG 276 Field Machinery Operations II**  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Introduces the student to theory and maintenance of agricultural planting systems. Includes care, maintenance and calibration of field sprayers.

**AG 280 Introduction to Agricultural Education**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
An overview of the agricultural occupations program from the vocational agriculture teacher’s role and responsibility in an educational system. Opportunities, methods of certification, and securing positions in the teaching profession. FFA will be an integral part. IAI: AG 911

**AG 281 Agricultural Economics**  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
An introduction to the principles of economics including production principles; production costs, supply and revenue; profit maximization; consumption and demand; price elasticity; market price determination; and competitive versus noncompetitive market models. These principles are applied to agriculture and the role of agriculture in the United States and world economies. Other topics include a survey of the world food situation; natural, human and capital resources; commodity product marketing; and agricultural problems and policies. IAI: AG 901

**AG 282 Introduction to Soil Science**  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
*Prerequisite: Chemistry recommended.*  
Origin, classification and distribution of soils and their relationship to man and food production. Fundamentals of biological, chemical and physical properties of soils. Laboratory exercises and/or field trips on major topics. IAI: AG 904

**AG 283 Field Crop Science**  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Basic principles applicable to the planting, cultivating and harvesting of the more important crops, their improvement, production methods and uses will be covered. Importance of field crops in providing food and fiber, methods of weed and insect control, study of diseases and their control, and new developments in crop production will be given emphasis. IAI: AG 903
AG 285 Animal Science
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
A comprehensive view of the livestock industry as a science. Study is based upon biological principles with application to modern livestock management practices for beef, dairy cattle, swine, sheep, goats and horses. Includes animal breeds, breeding and selection; anatomy, physiology, nutrition, growth; environment, health and sanitation; products and marketing; production technology and economics; animal behavior; and current issues in animal science. Laboratory to supplement lectures and discussions. IAI: AG 902

AG 287 Introductory Agricultural Mechanics
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
An introduction to agricultural power and machinery, agricultural electrification and applications, agricultural structures, and soil and water conservation. IAI: AG 906

AG 288 Ag of Developing Countries
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Agriculture of Developing Countries is an examination of the critical role played by agriculture in the economic development of Third World Nations. Agricultural production systems, policies, and problems are evaluated in relation to the economic, social and political structures of selected countries and societies.

AG 289 Microcomputer Skills for Agriculture
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
This course is designed to introduce the student to the concepts, principles and applications of microcomputers as they apply to agriculture and business. Students will learn agriculture and business applications of several common software packages in use today. Evaluation of current software will also be a focus. IAI: AG 913

Anthropology

ANTH 101 Introduction to Physical Anthropology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Explores human origins, the fossil record, variation and human adaptation, population genetics, and humankind’s place in world ecology. IAI: SI 902

ANTH 102 Introduction to Cultural Anthropology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to culture, as an adaptive mechanism that provides for the survival of the human species that encompasses social organization, technology, economics, religion, and language as used by various peoples, in both traditional and technologically advanced societies. IAI: SI 901N

ANTH 103 Introduction to Archaeology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduces concepts, principles, and methods used to reconstruct cultural history and prehistory. Explores sequences of cultural development that have been learned through archeological analysis. IAI: SI 903

ANTH 204 Archaeology in the Americas
3-4 cr. hrs.; 3 lecture hours; 0-2 lab hours per week.
Study of prehistoric Native American Society at the band, tribal, chiefdom, state, and Imperial levels that covers the evolution of Native American cultures from their beginning to their initial contact with European civilization.

ANTH 205 Field Methods in Archaeology
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: ANTH 103 or ANTH 204 or instructor consent.
This course introduces students to the archeological field methods of excavation, survey, and recording through a combination of readings and hands-on experience. Labs emphasize the basics of site survey and mapping, testing, excavation, artifact recovery and field processing, and data recording in the field. Artifact identification, curation, and artifact conservation are addressed.

ANTH 290 Special Topics in Anthropology
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Prerequisite: Instructor consent.
Topics vary according to student interest and instructor availability. Examples of courses offered include: Linguistic Anthropology; World Culture Regions (e.g., Asia, Latin American, Africa); Native North American Cultures; Cross-Cultural Perspectives on Health and Medicine; Anthropology of Food & Nutrition; Gender and Culture. Students may take up to nine semester hours if the topic varies.

Art

ART 100 Art Appreciation
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction of the world of fine and applied arts. Great works of art are examined as expressions of a culture, a historical period, the creative personality, and process of making art. IAI: F2 900

ART 101 2-Dimensional Design
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Open to all students. Fundamentals of two-dimensional design. Students learn basic elements and principles of visual design through the completion of a wide variety of two-dimensional projects. Emphasis on terminology, problem-solving and craftsmanship.

ART 111 3-Dimensional Design
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Open to all students. Fundamentals of three-dimensional design, utilizing a variety of materials. Projects examine these materials and probe the elements and principles of design as they relate to sculptural form. Emphasis on terminology, problem-solving and craftsmanship.
ART 121 Drawing and Drawing Theory
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Open to all students. Study of basic drawing techniques using traditional drawing media such as pencil, ink, charcoal and ink wash. Concentration on composition and craftsmanship.

ART 122 Drawing and Drawing Theory
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: ART 121.
Emphasis on color and expressions in composition utilizing various drawing media such as pastels, colored pencils, ink, and other traditional drawing media.

ART 130 Survey of Materials and Methods
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
An introduction to various materials and processes used by the artist in both fine art and commercial application. Safety and hazards of materials is emphasized.

ART 200 Art Problems
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Topic varies each semester; designed to provide workshops on new topics as needed. Each workshop may emphasize a different medium, provide practical experience with techniques or processes, or explore a special area of art history or appreciation. Examples of courses offerings include: digital portfolio, cartooning, or gender in art history. No more than 3 semester hours of this course may be applied toward a degree.

ART 201 Life Drawing
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: ART 121 or instructor consent.
Basic figure drawing skills with emphasis on various media and individual approaches. An appreciation of the human form through the study of human anatomy and structure.

ART 202 Life Composition
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: ART 201.
Investigation of the compositional design as it relates to the human form. Emphasis on individual expression and creativity.

ART 209 Introduction to Painting I
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
An introduction to the materials and techniques of opaque and transparent watercolor media. Exercises in color theory, composition and design, still life, landscape, and elementary drawing skills, matting and presentation.

ART 210 Introduction to Illustration
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: Art 201 or instructor consent.
The practices and techniques of illustration are explored with an emphasis on art created for the printed media. Advanced skills in drawing for visual communication are applied using a variety of materials and techniques. Students are instructed in process to develop their creative concepts. Projects address visual communications for magazine, book, editorial, advertising, and digital media. Emphasis on individual creativity and professional presentation is stressed.

ART 211 Painting
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: ART 101 or instructor consent.
Study of the fundamentals and media of painting. Practical application emphasized in water-based-media and ground preparations with introduction to other paint media.

ART 212 Painting
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: ART 211.
Advanced study of the technique, media, and compositional methods of painting. Individual media research and expression stressed.

ART 213 Digital Photography
2-3 cr. hrs.; 0 lecture hours; 4-6 lab hours per week.
This course offers students of all levels a working knowledge of digital photography. Students will develop an understanding of operating a digital camera and explore photographic methods as they relate to digital images, develop their creative expression through photography, use relevant software for image modifications, and learn to value the contributions of photography to our global society.

ART 215 Digital Imagery
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Fundamentals of working with raster imagery are explored using the computer. Emphasis is placed on proficiency with various tools and features in software programs such as Adobe Photoshop. Students learn to create work for print and web publication, as well as for creative self-expression. Work with peripheral devices such as scanners, printers and digital cameras is also included.

ART 217 Digital Drawing
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Fundamentals of vector-based drawing are explored using the computer. Emphasis is placed on proficiency using various tools, creating imagery used for graphic design, web publishing and illustration. Basic design principles and printing and reproduction requirements are also emphasized.

ART 221 Printmaking
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Exploration of the “multiple” art media: block print, intaglio, serigraphy, and lithography. Emphasis on practical application.

ART 230 Type and Digital Layout
3 cr. hrs.; 0 lecture hour; 6 lab hours per week.
Open to all students. The study of type and its usage from the calligraphic origins through historic uses to digital type. Emphasis will be placed on the use of type as a design element and using current industry standard software.

**ART 231 Darkroom Photography**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 213 or instructor consent, and 35mm reflex camera.*
Basic tools and techniques of photography. Includes field trips and darkroom experience.

**ART 232 The Photographic Series**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 231 or instructor consent.*
Exploration of photographic genres that may include landscape, street, portraiture, and abstraction among others. Students will work towards the creation of a completed photographic series on a topic of their choice.

**ART 233 Studio Lighting**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
*Prerequisite: ART 213 or instructor consent.*
This course offers students a working knowledge of studio lighting techniques related to digital photography. Students will develop an understanding of the technical operation of a variety of lighting equipment. They will complete assignments related to portraiture, product and editorial photography in a studio setting.

**ART 234 Video and Time Based Media**
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
*Prerequisite: ART 213 or instructor consent.*
This course offers students a working knowledge of digital video techniques with a single lens reflex camera. Students will develop an understanding of the technical operation of camera and audio equipment, as well as digital editing software. Student will also learn to optimize video for a variety of outputs.

**ART 235 Website Design for Artists**
2 cr. hrs.; 0 lecture hours; 4 lab hours per week.  
Introduction to creating a website, blog and related social media content for the purposes of showcasing art and design work.

**ART 241 Calligraphy and Layout**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
Open to all students. Study of historical styles of calligraphy with emphasis on practical usage. Projects include calligraphic exercises, illuminated scrolls, and “hand-made” books.

**ART 246 Graphic Design**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 101 or instructor consent.*
Examination of skills, techniques, and tools of the advertising and commercial arts. Projects provide experience in techniques and design elements as applied to graphic design.

**ART 248 Production and Prepress**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: One of the following: ART 290 or ART 230 or ART 246 “C” or better or instructor consent.*
Fundamentals of graphic design are further explored, with strong emphasis on editorial design. Students will work with digital drawing, imagery and text layout software. Particular emphasis is placed on setting up electronic files for print, paper selection and printing considerations. Includes layout and production work on student art publication with a press check at a commercial print shop.

**ART 251 Sculpture**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
Investigation of the basic sculptural problems, methods and materials. Projects include clay and plaster portrait heads, wax figure studies, and wax and plaster abstract forms.

**ART 252 Sculpture**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 251.*
Advanced problems and methods of sculptural forms which may include wood or stone carving, metal casting and fabrication, plaster fabrication, and fiberglass. Emphasis on individual research and media exploration.

**ART 261 Jewelry**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
Open to all students. Studio experience with basic tools, materials and techniques as used in contemporary jewelry and metal design. Projects include hand fabrication as well as metal casting.

**ART 262 Jewelry**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 261.*
Advanced techniques with tools and materials as used in contemporary jewelry and metal design. Individual research and creativity stressed.

**ART 265 Weaving**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
A basic course in fabric structure, weaving materials and processes. Emphasis is on creative design with color, texture and fabric structures.

**ART 271 Ceramics**
3 cr. hrs.; 0 lecture hour; 6 lab hours per week.  
Open to all students. Hand and wheel methods of clay construction. Examination of clay bodies, glazes, decoration methods, and kiln firing.

**ART 272 Ceramics**
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.  
*Prerequisite: ART 271.*
Advanced exploration of throwing and decorative techniques, glaze composition and kiln firing. Emphasis on individual expression and creativity.

ART 281 History of Art
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Survey of the great works of architecture, painting, and sculpture from the Ancient World to the Gothic Age. The historic development of Western Art is emphasized. IAI: F2 901

ART 282 History of Art
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Survey of the great works of architecture, painting, and sculpture from the Renaissance into the Twenty First Century. The historical development of western art traditions is emphasized. IAI: F2 902

ART 285 Survey of Asian Art
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A course designed to provide students with an overview of the major Asian cultures and the art forms created by those cultures. Emphasis will be placed on the art forms, aesthetics and cultural ideologies. IAI: F2 903N

ART 286 Survey of Non-Western Art
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Survey of the art of non-Western cultures from ancient traditions through the postcolonial period. Explores the historical context of works of architecture, sculpture, painting, and craft from Sub-Saharan Africa, Asia, Oceania, and the Americas. IAI: F2 903N

ART 290 Applications in Computer Art
3 cr. hrs.; 0 lecture hour; 6 lab hours per week.
An introduction to computer applications in the visual arts. A computer software based approach to visual image manipulation and generation, including the integration of computer hardware, software, and peripheral devices as tools to create and combine traditional and contemporary visual ideas as applied to art and design.

ART 299 Art Internship
1-3 cr. hrs.; 0 lecture hours; 5-15 lab hours per week.
Prerequisite: Instructor consent. Must have completed 65-68 hours of 5047 curriculum.
For commercial art student with interest in design, graphic arts, computer-related field. Experience related to supervised work experience in preparation for future employment.

Astronomy

ASTR 101 Descriptive Astronomy
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
For non-science majors. The solar system: structure and motions of the planets, comets, meteors, and origin and evolution of the solar system. IAI: P1 906L

ASTR 102 Descriptive Astronomy
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
For non-science majors. Stars: distances, motions, dimensions, structure, origin, and evolution. Structure of the Milky Way and other galaxies. Structure and origin of the universe. IAI: P1 906L

Automotive/Agriculture Technology

AUTO 100 Basic Vehicle Maintenance & Repair I
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A fundamental course in general vehicle maintenance and repair. Students learn to use basic auto and truck repair terminology, tools and techniques utilized in automotive dealerships and service facilities. The course provides both a general orientation to the vehicle service industry and develops salable vehicle maintenance skills.

AUTO 101 Basic Vehicle Maintenance II
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A fundamental course in general vehicle maintenance and repair. Students learn to use basic auto and truck repair terminology, tools and techniques utilized in automotive dealerships and service facilities. The course provides both a general orientation to the vehicle service industry and develops salable vehicle maintenance skills.

AUTO 107 Engine Performance I
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
A study of today’s auto ignition, fuel delivery, air induction and emissions systems integrated under a computerized control system.

AUTO 115 Wheel Alignment and Suspension
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
A study of suspension systems and repair. Principles of wheel alignment, repair, and adjustment.

AUTO 121 Auto Body I
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
An introductory course in the fundamentals of auto body repair. Emphasized in the course are metal straightening, leading, use of plastics and filler, paint preparation and painting. Students will complete lab projects.

AUTO 122 Auto Body II
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: AUTO 121 or have developed sufficient skills by practical use.
A further study of the procedures and principles involved in auto body repair. Emphasis is placed on building on the skills developed in AUTO 121.

AUTO 207 Engine Performance II
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: AUTO 107 or instructor consent.
A detailed study of today’s computer controlled systems and how they interrelate. Emphasis on diagnosis and test procedures and how they relate to drivability problems.
AUTO 291  Work Experience Internship  
1-6 cr. hrs.; 0 lecture hours; 30 lab hours per week.  
Prerequisite: Instructor consent.  
On the job training program required of all second year  
Automotive students. Emphasis is placed on organizing  
skill development experiences in a work setting.

AUTO 299  ASE Review  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Review course to prepare for the ASE exams. Sample  
questions, reasons behind the answers, and test taking  
techniques will be covered.

Biology

BIOL 100  Introduction to Biology  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Intended for non-science majors. This course provides an  
introduction to important biological principles: (1) cellular  
biology including chemistry of life, cell structures, cell  
division, cell metabolism, classical and molecular genetics;  
and (2) organismal biology including diversity, evolution, and  
ecology. IAI: L1 900L

BIOL 101  General Human Biology  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Introductory biology course intended for non-science  
majors. Current biological principles stressed, using the  
human as the primary organism of study. Topics include  
scientific literacy, cell organization, diseases of the human,  
development, genetics and ecology. IAI: L1 904L

BIOL 105  General Biology I  
5 cr. hrs.; 4 lecture hours; 3 lab hours per week.  
Prerequisite: Students must be eligible for (as determined  
by placement score or other assessment) or currently  
enrolled in college level Math and English courses (100-  
level or greater).  
For science and pre-professional majors and those with  
strong interest in science. This course includes the  
principles of cellular and molecular biology, including the  
chemistry of life, metabolism, photosynthesis, classical  
and molecular genetics, genetic regulation, and cellular  
reproduction. IAI: L1 910L; BIO 910

BIOL 106  General Biology II  
5 cr. hrs.; 4 lecture hours; 3 lab hours per week.  
Prerequisite: BIOL 105 or instructor consent.  
For science and pre-professional majors and those with  
strong interest in science. This course includes principles  
of organismic population and community biology  
including reproduction, development, homeostasis,  
behavior, ecology, and evolution. IAI: L1 910L; BIO 910

BIOL 108  Principles of Biology I  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
The first of a two semester sequence in introductory  
biology which covers the chemistry of living organisms,  
cellular biology, respiration, photosynthesis, classical and  
molecular genetics and biotechnology. IAI: L1 900L

BIOL 109  Principles of Biology II  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: BIOL 108 or instructor consent.  
The second of a two semester sequence in introductory  
biology which covers animal structure and function, plant  
structure and function, ecology and animal behavior.

BIOL 120  Nutrition  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Reviews the principles of nutritional science, the steps of  
scientific method applied to nutrition research, and the  
current nutritional concepts and controversies. Topics  
include digestion, absorption, and functions of  
macronutrients and micronutrients; diet analysis;  
amalnutrition; under-nutrition; and nutritional needs of  
pregnancy, infancy and other sages of life.

BIOL 135  Evolution of Microbes and Humans  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
The co-evolution of microbe and human populations will  
be examined. The changes brought about by mankind on  
the environment as well as the adaptation of microbes to  
those changes will be studied. Through the microworld we  
will explore ecological diversity. Epidemic disease will be  
examined as an indicator of ecological disruption. Patterns  
of overpopulation, environmental changes, and exposure to  
novel disease will be studied in the wake of each new  
pandemic. Diversity and interdependence of living  
organisms will be viewed as they relate to microorganisms  
and humans. IAI: L1 903L

BIOL 145  Anatomy Physiology I  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: Students must complete both #1 & #2 below  
or have instructor approval.  
1. Biology 100, 101 or 105 “C” or better or appropriate  
   Biology Competency Exam score and Chemistry 101 or  
   110 with a “C” or better or appropriate Chemistry  
   Competency Exam score.  
2. REA 098 & MATH 080 (or placement score equivalent)  
and students must be eligible for (as determined by  
placement score or other assessment) or currently enrolled  
in college-level English courses (100-level or greater).  
A systematic study of the anatomical-physiological aspects  
of the human body. Topics include homeostasis,  
biomolecules, cytology, histology, as well as  
integumentary, skeletal-muscular, nervous and endocrine  
systems.

BIOL 146  Anatomy Physiology II  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: BIOL 145 “C” or better.  
Continuation of BIOL 145. Systematic study of  
cardiovascular, lymphatic, immune, respiratory, digestive,  
urinary, and reproductive systems. Fluids, electrolytes,
acid-base balance, metabolism, and human development are also studied.

**BIOL 150 Medical Terminology**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: 83 or above on COMPASS reading test or REA 098 “C” or better.*

This course presents the principles of medical word construction through identification of root words, prefixes, suffixes, combining forms, and methods of building medical terms. Emphasis is placed on correct medical word spelling, pronunciation, and definition, while introducing terminology specific to various body systems. The course is intended to prepare students to classify medical information for use in medical coding, billing, and reporting.

**BIOL 190 General Zoology**

*4 cr. hrs.; 2 lecture hours; 4 lab hours per week.*

This course is first and foremost an introduction to scientific inquiry through selected concepts in animal biology. This course is a survey of the animal kingdom from an evolutionary perspective. We will address topics such as cell and molecular biology, morphology, taxonomy, growth, function, animal genetics and heredity evolution and ecology, and reproduction using non-human animals as model organisms. Biological issues with personal and social implications are integrated throughout the course. There are no prerequisites for this course, but a prior high school biology course is assumed.

**BIOL 200 Environmental Biology I**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Familiarizes the students with dimensions, complexities, and gravity of man’s impact on the earth. Includes growth strategies, human demography, ecosystem structure and function, eco-agro conflicts, food production limits. IAI: L1 905

**BIOL 201 Environmental Biology II**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Extension of BIOL 200 (but not required for this course). Covers habitat destruction, extinction, introduction of exotics, biocides, limits to growth, water, air, and ground pollution, and the stationary state. IAI: L1 905

**BIOL 205 Ecology and Field Biology**

*4 cr. hrs.; 2 lecture hours; 4 lab hours per week.*

*Prerequisites: BIOL 105 and BIOL 106 or instructor consent.*

An introduction to the study of organisms in their natural environments. The emphasis will be on the ecological principles and techniques most relevant to the understanding and/or learning of biology in the field.

**BIOL 207 Selected Topics in Biology**

*1-2 cr. hrs.; 1-2 lecture hours; 2 lab hours per week.*

This course is designed to satisfy specific needs or interests of students in the biological sciences. This course can be taken to: 1) provide students with library research skills on topics of special interest; 2) provide students with laboratory or field research techniques and/or research projects; 3) provide students an opportunity to obtain college credit for structured biological field trips with a qualified instructor and 4) provide students with a chance to study selected biological topics. The course may be repeated once for a maximum of four credit hours if the topic varies. All offerings must be approved in advance by the majority of the tenured faculty of the Biological Sciences area.

**BIOL 210 Local Flora**

*3 cr. hrs.; 1 lecture hour; 4 lab hours per week.*

A study of identification of local plant species. Emphasis will be placed on identification of species by using a key and anatomical characteristics of plants. Species will be collected and preserved properly and a personal herbarium prepared. Interrelationships between plant species and their environments will be studied.

**BIOL 211 General Botany**

*4 cr. hrs.; 2 lecture hours; 4 lab hours per week.*

Study of plants emphasizing structure, physiology, growth, ecology, botanical keys and identification of trees; also includes classification and life cycles. IAI: L1 901L

**BIOL 250 Genetics**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

An introduction to the principles of Mendelian and non-Mendelian genetics, immunogenetics and population genetics. Genetic technology, genetic diseases and genetic counseling are also discussed. IAI: L1 906

**BIOL 251 Genetics Laboratory**

*1 cr.; 0 lecture hours; 2 lab hours per week.*

*Prerequisite: Completion of or concurrent enrollment in BIOL 250.*

Laboratory course accompanying BIOL 250 to satisfy general education requirements in life science. This course will cover fundamental principles in genetics including chromosome structure and function, inheritance, population genetics, DNA structure and function and biotechnology. Completion of or concurrent enrollment in BIOL 250 is required. IAI: L1 906L

**BIOL 261 Microbiology**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week.*

*Prerequisite: BIOL 105 or 145 or instructor consent.*

The study of microorganisms including historical background, morphology, physiology, growth, identification, genetics, control, immunology, and diseases. Laboratory is stressed.

**Business Administration**

**BA 110 Introduction to Business**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Basic course introducing major kinds of business organizations and forms of ownership. Study of vocabulary and functions of activities such as financing, marketing, management, personnel administration, and international business.

**BA 111 Business Relations I**
*1 cr. hr.:* 1 lecture hour; 0 lab hours per week.
Orients students to the most acceptable modes of business dress and common business etiquette.

**BA 112 Business Relations II**
*1 cr. hr.:* 1 lecture hour; 0 lab hours per week.
Provides the basic elements of active participation in business meetings.

**BA 113 Business Relations III**
*1 cr. hr.:* 1 lecture hour; 0 lab hours per week.
Provides an orientation to typical service projects conducted by contemporary businesses.

**BA 118 Small Business Simulations**
*3 cr. hrs.:* 3 lecture hour; 0 lab hours per week.
This course provides an online simulation for establishing or purchasing a small business or franchise. This course is appropriate for beginning and would-be entrepreneurs.

**BA 121 Small Business Management**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Hands-on course designed to prepare the student for possible ownership of their own small business. Topics to be covered include market research, financing, organization structure, management skills, and marketing procedures. Also, skills and time requirements needed to own and operate your own business. Students will be provided an opportunity to produce a business plan that would fit their current or future business needs.

**BA 160 Business Math I**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Prerequisite: A minimum score of 32 on COMPASS pre-algebra test or a minimum score of 22 on ACT math.
A short review of basic math concepts and their application to actual business problems. Covers insurance, interest calculations, merchandising discounts, taxes, dividends and basic statistical measures.

**BA 170 Fundamentals of Accounting I**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Basic principles, procedures, and methods of accounting. Provides accounting theory and practice as applied to proprietorships. Stresses use of accounting data in business decisions. With BA 180, is designed for two-year career program students desiring to enter business occupations.

**BA 171 Fundamentals of Accounting Lab I**
*1 cr. hr.:* 0 lecture hours; 2 lab hours per week.

Prerequisite: BA 170 “C” or better or concurrent enrollment in BA 170.
An introductory course which provides a computerized learning environment to reinforce the basic principles, procedures, and methods of financial accounting. Provides accounting theory and practice as applied to proprietorships and partnerships. Stresses use of accounting data in business decisions. With BA 170, BA 180 and BA 181 is designed for two-year career program students desiring to enter business occupations.

**BA 180 Fundamentals of Accounting II**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Prerequisites: BA 170 “C” or better and BA 171 “C” or better; BA 160 recommended.
Continues study of basic financial accounting principles and procedures as applied to corporations, and partnerships. With BA 170, BA 171 and BA 180, is designed for two-year career program students desiring to enter business occupations.

**BA 181 Fundamentals of Accounting Lab II**
*1 cr. hr.:* 0 lecture hours; 2 lab hours per week.
Prerequisite: Concurrent enrollment in BA 180.
Continues study of basic accounting principles and procedures as applied to corporations, partnerships, and manufacturing, and merchandising businesses. With BA170, BA171, and BA180 is designed for two-year careerers program students desiring to enter business occupations.

**BA 200 Special Studies**
*1-3 cr. hrs.:* 1-3 lecture hrs.; variable lab hours per week.
Prerequisite: Department Chairperson consent.
Independent study or group study designed to fit the needs of individual students. Workshops, seminars and selected course work offered to a unique group of students may be offered within this course.

**BA 210 Financial Institutions and Markets**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Overview of relationships between financial institutions, markets and investments. Analyzes the relationships between institutions, markets, government regulation and business cycles.

**BA 215 Personal Investing**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
This is an introductory personal investment course which will introduce students to the financial markets, stocks, bonds, mutual funds, IRAs and money markets. Students will become familiar with investment and financial jargon, understand the basic tools of investing, and get practical experience in establishing, monitoring, and managing a personal portfolio via an online trading simulation.

**BA 220 Business Math II**
*3 cr. hrs.:* 3 lecture hours; 0 lab hours per week.
Prerequisite: BA 160 or instructor consent.
An advanced introduction survey of mathematics (basic algebra and statistics) as used in complex business problems and situations. The emphasis will be on problem identification analysis and the application of and use of quantitative tools and techniques to solve them.

BA 230 Principles of Marketing
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An in-depth analysis of major contemporary marketing concepts and practices. Covers marketing environments and trends, product development, pricing practices, distribution networks and relationships with advertising agencies and sales forces.

BA 236 Introduction to Advertising
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BA 110 and BA 230 or instructor consent. The role of advertising in a consumer-oriented market is intensively analyzed. Topics range from the development of advertising campaigns to actual preparation of a mini-campaign for a local business, industry or charitable organization.

BA 238 Salesmanship
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BA 110 and BA 230 or instructor consent. Analyzes activities and processes of the professional sales presentation including prospecting, approaching, demonstration, meeting objections, and closing a sale. Studies characteristics and attributes of successful sales professionals.

BA 240 Principles of Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: BA 110 recommended. A detailed study of the basic functions and processes of management in a typical organizational setting. Includes coverage of planning, organizing, directing, and controlling, with emphasis on communication, leadership, group dynamics, and motivation.

BA 241 Introduction to Supply Chain Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course will give students an overview of the field of logistics, as well as information and skills specific to computerized inventory management. Topics include an overview of supply chain management and related terminology, warehouse and transportation operations, typical warehouse management software, and warehousing technologies – including radio frequency and basic accounting and economic principles.

BA 242 Principles of Supervision
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Course deals with the responsibilities of the supervisor or leader in the industrial and administrative environment. Leadership qualities, human relations skills, motivation, communication, training techniques, and problem of the work group are discussed.

BA 243 Developing Team Skills
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A basic course introducing the team dynamics such as the formation of teams, stages of team development, strengths and weaknesses of teams and the practical application to team skills.

BA 245 Business Entrepreneurship
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A highly motivational hands-on course designed to prepare the beginning entrepreneur to establish, operate and maintain his or her own business with emphasis on each student’s personal needs. Students will do preliminary research, write a business plan, apply for financing, and prepare organization, managerial, and marketing plans.

BA 245A Purchasing the Small Business
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
This course provides preparation for decision making about purchasing a small business or franchise. Students will explore strategies for purchasing a small business or franchise.

BA 245B The Business Plan
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
This course provides preparation for decision making about purchasing a small business or franchise. Students will explore strategies for purchasing a small business or franchise.

BA 245C Financial Statement Analysis
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
This course provides skills used to understand and apply accounting principles in a small business environment. Students will explore, compile, evaluate, and analyze financial statements. Students will learn to read and interpret annual reports.

BA 247 Business Management Internship
1-4 cr. hrs.; 0 lecture hours; 5-20 lab hours per week.
Prerequisite: Department Chair consent. A supervised work experience providing on-the-job training in a business firm for students enrolled in various business career curricula of the Department of Business and Technology (QCC) or Department of Business and Technology (EC).

BA 249 Business Management Seminar
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: Concurrent enrollment in BA 247. Designed exclusively for Business Management and Marketing Interns enrolled in BA 247. Provides intensive review and evaluation of on-the-job experience.

BA 250 Human Resource Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BA 110 and BA 240 recommended.
Basic understanding of current practice in the field. Covers staffing, development, methodology, labor relations, and wage and salary administration.

**BA 251 Organizational Behavior**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Study covers individual, interpersonal and group behavior in organizations. Motivation, power, influence, communication, leadership development, evaluation systems in business and industry.

**BA 252 Pay and Benefits Administration**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Examination of the total compensation package including wages, executive salaries, pensions, insurance, cafeteria/multi-employer plans and other benefits. A look at historical perspective, current status and future trends in compensation management.

**BA 260 Business Financial Management I**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
*Prerequisites: BA 170 and BA 171.*  
Introductory course in financial management, stressing an understanding of business finance, allocation of funds within a business and raising of funds.

**BA 263 Accounting Specialist Internship**  
3 cr. hrs.; 0 lecture hours; 15 lab hours per week.  
*Prerequisites: Department Chair and instructor consent.*  
A supervised work-experience program providing on-the-job training in a business firm for students enrolled in the management curriculum.

**BA 264 Internship II**  
3 cr. hrs.; 0 lecture hours; 15 lab hours per week.  
*Prerequisites: Department Chair and instructor consent.*  
To provide the student with an opportunity to apply theories and skills learned in the classroom to an actual work environment.

**BA 266 Business Policy and Ethics**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
An introduction to ethical decision making in business. Special attention is given to making informed ethical decisions on a daily basis. Models of ethical and unethical decision making are analyzed.

**BA 270 Introduction to International Business**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course provides an overview and a basic understanding of current world activities, practices, and governmental aids and barriers to international trade. Exploration of various economic, geographic, political, and cultural differences affecting international trade.

**BA 272 International Marketing**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Students will learn of the challenges posed when marketing in the international marketplace and how marketers approach and solve them. Topics covered will include market entry strategies, effects of culture on marketing, product design, sales, and analysis of foreign markets. There will be a strong emphasis on exporting.

**BA 274 The Global Economy**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
A basic class which examines why nations trade, the effects of barriers to trade, trade policies, and the formation of trading arrangements between countries. The course also examines exchange rates, as well as the impact of developing countries and environmental factors on international trade and finance.

**BA 276 International Internship**  
1-3 cr. hrs.; 0 lecture hours; 15 lab hours per week.  
*Prerequisites: Concurrent enrollment in BA 278 and instructor consent.*  
A supervised work-experience program providing on-the-job training in a business firm for students enrolled in the international business program.

**BA 278 International Seminar**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
*Prerequisites: Concurrent enrollment in BA 276 and instructor consent.*  
Discussion of internship activities.

**BA 280 Introduction to E-Commerce**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course presents a comprehensive summary of the nature and environment of electronic commerce. Topics include designing the digital enterprise, customer empowerment, e-Commerce models, the e-Commerce business plan, e-Commerce trends, governmental influences, and defining a cyber community.

**BA 282 Documentation for International Business**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
This course provides the student with a working knowledge of the wide variety of documents necessary to conduct international trade. Documentation requirements for both import and export transactions will be explored, U.S. customs documents, transportation documents, financial documents, and insurance documents will be covered.

**BA 284 Marketing for E-Commerce**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course provides an awareness of marketing issues, trends, and barriers in a digital environment. Web page design, trends, and practices will be explored. Students will design a digital marketing plan for a business and design web pages for simulated small businesses.

**BA 286 Managerial Strategy for E-Commerce**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Students will develop web page strategies, develop web pages, develop digital managerial policies for simulated
digital businesses, and evaluate web pages for firms in multiple cultures.

**BA 287 International Business Cultures**  
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course explores non-Western business cultures, focusing on the business cultures of South America, Africa, Eastern Europe, and Asia; focusing on communication patterns, perspectives of work, and decision-making processes in business and how they differ from business practices and protocol found in the U.S. and Western Europe.

**BA 288 The U.S. Business Culture**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course acquaints students with the U.S. business culture. Topics include gender issues, organized labor, rewards and punishments, promotions, legal issues, attire, employee rights, and nonverbal communication.

**BA 290 Payroll Accounting**  
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.  
Prerequisites: Concurrent enrollment in BA 170 and BA 171; or instructor consent.  
This course primarily covers payroll systems, completion of payroll forms (federal/state/local), and payroll laws/regulations.

**Business Education**

**BE 100 Work Environment Orientation**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
This course is intended to introduce the facts, skills, strengths, and career goals necessary for the business work environment necessary for success in the Business Education curricula.

**BE 101 Office Accounting**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Designed as an introductory accounting course for business students with emphasis on the accounting cycle and small business transactions in a user-oriented environment for students with little computer experience.

**BE 106 Records Management**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Management of records using ARMA rules. Emphasis is on current business practices, systems, supplies, and computers in records control, retrieval, disposal, and database management.

**BE 110 Data Entry Applications**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
This course is designed to teach data entry skills, to help the student develop dexterity and accuracy in keyboarding numeric and alphanumeric characters, and to help the student become familiar with common data entry procedures.

**BE 112 Document Editing/Proofreading**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Development of proofreading and editing skills with focus on accuracy and excellence in written communication.

**BE 120 Technology Tools**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
This course will allow students hands-on knowledge of technology tools and digital imaging currently used in business.

**BE 122 Administrative Support Systems**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: BE 141 or 145.  
Discussion of attitudes, ethics, professional conduct, global market awareness, and effective procedures for encouraging teamwork and discouraging workplace harassment. Emphasis on telecommunications, meeting planning, time management, organizational tools for electronic offices, and methods to research information for business use.

**BE 127 Microsoft Outlook**  
1 cr. hrs.; 1 lecture hour; 0 lab hours per week.  
This course will prepare students for the Microsoft Office Specialist certification exam in Outlook. Topics include managing the Outlook environment, creating and formatting content, working with tasks, notes, and journal entries, and managing e-mail, contacts, and calendar objects.

**BE 140 Basic Keyboarding**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
Keyboard mastery; speed and accuracy development. Taught on microcomputers.

**BE 141 Computerized Keyboarding I**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Keyboard mastery and document formatting using a current word processing software package.

**BE 142 Computerized Keyboarding II**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: BE 145 “C” or better; or BE 145A, BE 145B, and BE 145C “C” or better; or instructor consent.  
Speed and accuracy building in producing business documents.

**BE 143 Keyboarding Speed & Accuracy**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
For students who wish to increase keyboarding speed and improve accuracy.

**BE 144 Concepts of Information Processing**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Introduction to information processing history and current emphasis on current terminology. An understanding of why computers are essential components in the business
world and society. Hands-on activities with use of the World Wide Web as a media of the latest information.

**BE 145  Microsoft Word**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Students learn word processing software most commonly found in area offices.

**BE 145A Microsoft Word I**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Students learn word processing software most commonly found in area offices.

**BE 145B Microsoft Word II**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Students learn word processing software most commonly found in area offices.

**BE 145C Microsoft Word III**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Students learn word processing software most commonly found in area offices.

**BE 146 Microsoft Excel**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Use of current spreadsheet software on microcomputers.

**BE 147 Intro to Microsoft Office**  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Mastery of the Microsoft Office programs, including Word, Access, Excel, and PowerPoint.

**BE 151 Legal Terminology and Procedures**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Emphasis is on definitions, spelling, and pronunciation of legal terms. Law procedures are studied.

**BE 153 Warehouse Management Systems**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
*Prerequisites: BE 110 and BE 141 or instructor consent.*  
This course will introduce the students to software used in warehouse operations. Topics include functions and capabilities of Warehouse Management System (WMS) software, WMS software selection, and hands-on use of WMS software.

**BE 160 Machine Transcription**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
*Prerequisite: BE 141 “C” or better or instructor consent.*  
Development of machine transcription and proofreading skills using computer word processing software.

**BE 161 Introduction to Microsoft Windows**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Includes the skills necessary to use the Windows operating system. Includes a working knowledge of the Windows environment, as well as file management and Windows Environment.

**BE 162 Introduction to Spreadsheets**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Includes features of current Windows-based spreadsheet software.

**BE 163 Microsoft PowerPoint**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Includes features of current Windows-based presentation graphics software.

**BE 164 Introduction to Database Management**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Includes features of current Windows-based database management software.

**BE 165 Internet**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Study of the resources, complexities, and the distinctive culture of the Internet. Examines the most widely used tools for accessing the Internet. Guides students in fulfilling research needs and develops job seeking skills.

**BE 166 Web Page Development**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Using HTML and other development tools to create and maintain web documents.

**BE 167 Integrating Windows Applications**  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Integration of Microsoft Office Professional applications.

**BE 168 Introduction to MS Office Professional**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Includes the basic features of MS Windows and Microsoft Office Professional.

**BE 171 Web Software Development Tools**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course will provide the students with an understanding of HTML/XHTML code. It will also include the use of an HTML editor such as Adobe Dreamweaver and/or other current editing software. Students in this course will be able to design, post, and make changes to web sites using the software application.

**BE 180 Business Communications**  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
*Prerequisite: Appropriate placement score.*  
Techniques of effective written communications for business. This will include psychology of communicating with customer service emphasis, focus on international communications, and accuracy and conciseness needed for in-house e-mail.

**BE 243 Computerized Keyboarding III**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
*Prerequisite: BE 142 “C” or better; or instructor consent.*  
Skill building and integration of production work typically found in today’s offices.
BE 245 Information Processing Applications
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Prerequisite: BE 141 “C” or better or instructor consent.
May consist of any of the following: Windows programs (i.e., Microsoft Office - Excel, Access, Word, PowerPoint; WordPerfect for Windows), Macintosh programs. Check your local campus offerings.

BE 245A Word Processing I
1 cr. hr.; 1 lab hour; 0 lab hours per week.
Prerequisite: BE 141 “C” or better or instructor consent.
Basic features of current Windows-based word processing software.

BE 245B Word Processing II
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: BE 141 “C” or better and BE 245A “C” or better or instructor consent. Includes intermediate features of current Windows-based word processing software.

BE 247 Advanced Information Processing Applications
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BE 145; or BE 145A, B, and C and BE 146; or instructor consent.
Use of software that can be integrated to perform applications which may include word processing, spreadsheets, databases, and presentation programs.

BE 248 Desktop Publishing
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BE 145 “C” or better or BE 145A, B, and C “C” or better or instructor consent.
Use of current software to produce a variety of documents incorporating desktop publishing features and principles of layout and design.

BE 248A Desktop Publishing I
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: BE 145 “C” or better or BE 145A, B, and C or instructor consent.
Use of current software to produce a variety of documents incorporating desktop publishing features and principles of layout and design.

BE 248B Desktop Publishing II
1 cr. hr.; 1 lecture hours; 0 lab hours per week.
Use of current software to produce a variety of PDF documents incorporating desktop publishing features and principles of layout and design.

BE 248C Desktop Publishing III
1 cr. hr.; 1 lecture hours; 0 lab hours per week.
Prerequisite: BE 145 “C” or better or BE 145A, B and C or instructor consent.
Use of current software to produce a variety of documents incorporating desktop publishing features and principles of layout and design.

BE 253 Legal Transcription
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: BE 151 and BE 142.
Transcription of legal documents. Emphasis on accuracy of transcription, formatting, and proofreading.

BE 260 Office Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Study of information management and work flow. Principles of management as applied to the business office. Keyboarding is not required.

BE 261 Seminar
1 cr. hr.; 2 lecture hour; 0 lab hours per week.
Prerequisites: Concurrent enrollment in BE 265 and instructor consent.
Discussion of internship activities.

BE 264 Microsoft Access
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Use of current software to produce a variety of documents incorporating desktop publishing features and principles of layout and design.

BE 265 Internship
3 cr. hrs; 0 lecture hours; 15 lab hours per week; 0 times repeatable.
Prerequisites: Concurrent enrollment in BE 261 and instructor consent.
Supervised field program providing work experience in offices for students enrolled in office careers.

BE 270 Virtual Office Administration
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Identification and evaluation of various topics that should be addressed when creating a virtual office and providing/marketing virtual services.

BE 275 Virtual Assistant Internship
3 cr. hrs.; 0 lecture hours; 15 lab hours per week.
Prerequisites: Instructor consent and student has met program requirements.
Supervised field program involving work experience in a virtual office setting for students enrolled in the administrative virtual assistant certificate.

BE 299 Independent Study
1-4 cr. hrs.; 1-4 lecture hours; 0 lab hours per week.
Prerequisite: Instructor consent.
Designed to fit the needs of individual students or groups.

Business Law

BL 201 Business Law I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: BA 110 recommended.
A general survey of the basic principles, systems and practices of American law including government agencies and regulation, alternative dispute resolution, torts, employment law, bankruptcy, international law, and consumer protection.
BL 202 Business Law II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: BL 201 recommended.
An intensive analysis of law as used in business. Topics include contract law, commercial paper, sales law, partnership and corporation law, and real property transfers.

Chemistry

CHEM 101 General Chemistry I
4 cr. hrs.; 3 lecture hours; 3 lab hours per week.
Prerequisite: One year of high school chemistry or CHEM 110 or the completion of MATH 112 “C” or better, Math 118 “C” or better, or Math 123 “C or better, or by Algebra assessment.
Fundamental principles of stoichiometry, periodicity, atomic structure and thermochemistry with applications to gases, liquids, solids and solutions.
IAI: P1 902L; CHM 911

CHEM 102 General Chemistry II
4 cr. hrs.; 3 lecture hours; 3 lab hours per week.
Prerequisite: CHEM 101.
Continuation of CHEM 101. Equilibrium calculations, electrochemistry, acid-base theory, coordination compounds, inorganic chemistry. IAI: CHM 912

CHEM 110 Introduction to Chemistry
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Introduction to the fundamental principles of chemistry with applications to gases, liquids, solids and solutions. Also includes nomenclature of inorganic compounds. Credit for this course will not be counted toward graduation if the student also completes CHEM 101.
IAI: P1 902L

CHEM 111 Principles of Organ Biochemistry
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: CHEM 101 or CHEM 110 or 2 semesters of high school chemistry or instructor’s consent.
Fundamental principles of structure and reactions of organic chemicals, sources and uses. Structures and reactions of biochemicals, and metabolism. IAI: P1 904L

CHEM 115 Concentrated General Chemistry
6 cr. hrs.; 5 lecture hours; 3 lab hours per week.
Prerequisite: MATH 091 or equivalent.
This course is primarily for Pre-Chiropractic students. It combines the basic principles taught in CHEM 101 and 102. Students must earn graduation credit for either CHEM 101 and 102 or CHEM 115.

CHEM 201 Quantitative Analysis
5 cr. hrs.; 3 lecture hours; 4 lab hours per week.
Prerequisite: CHEM 102.
Gravimetric, volumetric, spectrochemical and potentiometric analysis, equilibria of solutions.

CHEM 202 Organic Chemistry
3-5 cr. hrs.; 3 lecture hours; 0, 2, 4 lab hours per week.
Prerequisite: CHEM 101 or instructor consent.
This course covers the chemistry of aliphatic and aromatic organic compounds, nomenclature, structure, sources and reactions.

CHEM 203 Organic Chemistry I
5 cr. hrs.; 4 lecture hours; 3 lab hours per week.
Prerequisite: CHEM 101.
Topics include structure, bonding, molecular properties, reactivity and nomenclature of alkanes, cycloalkanes, alkenes, and alkynes; stereochemistry, alkyl halides, reaction mechanism, nucleophilic substitution and elimination, conjugated dienes, benzene, aromaticity and electrophilic and nucleophilic aromatic substitution.
IAI: CHM 913

CHEM 204 Organic Chemistry II
5 cr. hrs.; 3 lecture hours; 6 lab hours per week.
Prerequisite: CHEM 203.
Continuation of CHEM 203. Topics include mass spectrometry; IR, NMR, and UV spectroscopy, bonding, molecular properties, reactivity and nomenclature organometallic compounds, alcohols, phenols and ethers, aldehydes and ketones, carboxylic acids and derivatives, dicarbonyl compounds, amines, carbohydrates, amino acids and proteins, heterocyclic compounds and nucleic acids. IAI: CHM 914

CHEM 206 Basic Biochemistry
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: CHEM 202 or 203 or 215 or instructor consent.
Introduction to structure and chemistry of proteins, carbohydrates, lipids, nucleic acids and enzymes, metabolism and related areas of nutrition, drugs, genetics, and tissue interaction.

CHEM 207 Basic Biochemistry Laboratory
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Co- or Prerequisite: CHEM 206.
Selected experiments to supplement CHEM 206. Instrumental methods using the pH meter and spectrophotometer are introduced in the biochemical data gathering process.

CHEM 215 Concentrated Organic Chemistry
6 cr. hrs.; 5 lecture hours; 3 lab hours per week.
Prerequisite: CHEM 101, CHEM 102 or CHEM 115.
An accelerated study of organic chemistry, primarily intended for students wishing to meet the entrance requirements for pre-chiropractic. Will cover same topics as CHEM 203 and 204 except for spectroscopic topics (No credit for both CHEM 203/204 and CHEM 215).

CHEM 295 Research in Chemistry
1-3 cr. hrs.; 0 lecture hours; 3-9 lab hours per week.
Prerequisites: CHEM 101 “C” or better, prior consultation with instructor, completed contract and consent of a majority of the Chemistry faculty.

Provides experimental exploration of an authentic scientific research topic under the supervision of a faculty member. This laboratory course is designed to teach the principles and practice of modern experimental chemistry. Before registering, students must submit to the Department of Natural Sciences and Engineering a contract with the instructor for accomplishing a defined research task. Credit is contingent on the submission of a final report.

Child Development

CD 100 Introduction to Early Childhood
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
General overview of the history, the present and future outlook of early childhood education. Students study types of early childhood programs, develop techniques and observational skills of working with young children and families, and investigate early childhood career paths. 10 hours of observation in an early childhood setting are required.

CD 102 Role of Teacher Assistant
1-2 cr. hrs.; 1-2 lecture hours; 0 lab hours per week.
This course outlines the duties and responsibilities of the paraeducator in the educational setting. Topics include: instructional strategies, behavior management, working in a variety of educational settings, professionalism, and ethics.

CD 115 Infant/Toddler Development
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course focuses on the physical, social, emotional, cognitive, language, and literacy development of infants and toddlers. Knowledge of typical and atypical development is fundamental for implementing best practices in infant-toddler care and education. Observation is required.

CD 200 Growth and Development of Young Child
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A foundation course in theory and principles of the developmental continuum, including an in-depth study of physical, social/emotional, cognitive, language, and aesthetic development; an examination of current research and major developmental theories; An exploration of child development within a socio-cultural context, such as gender, family, race, ethnicity, language, ability, socio-economics, religion, and society; an emphasis on the implications for early childhood professional practice.
*Encompassing birth through age eight and may include pre-adolescents. IA: ECE 912

CD 201 Health, Safety and Nutrition
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course provides an overview of the health, safety and nutritional needs of young children and early childhood practices to ensure children's health and well-being in group settings. Content includes roles and responsibilities of adults in meeting children's diverse needs, the promotion of healthy lifestyle practices, understanding common childhood illnesses and injuries, meeting health, nutrition and safety standards, and planning culturally and nutritionally appropriate meals in a variety of settings (classroom, center, and home).

CD 202 Observ/Guid/Assesmt Y. C.
3 cr. hrs.; 1 lecture hours; 4 lab hours per week.
Prerequisite: CD 200 “C” or better.
Studies observational techniques and guidance practices which facilitate the development of the young child. Theories are provided that support an analysis of child behavior as well as the development of guidance techniques. Students will develop an understanding of the relationship between careful observation, communication, and effective interaction with children. A current physical and TB test is required and background checks and/or fingerprinting may be required.

CD 203 Curriculum for Early Childhood Programs
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The principles involved in planning, implementing and evaluating developmentally appropriate curriculum for young children. The course focuses on relationships among developmental theory, philosophy, and practice. Development of curriculum based on the needs and interests of young children including those who are culturally, linguistically, and ability diverse. The analysis of a wide range of early childhood curriculum models is emphasized.

CD 204 Child Development Practicum I
1-4 cr. hrs.; 0.5-2 lecture hours; 3-10 lab hours per week.
Prerequisites: CD 200 “C” or better and CD 202 “C” or better, and instructor consent.
This course emphasizes practical application of developmentally appropriate early childhood education principles, theories, and practices in a practicum setting. Students will work with young children and families in an early childhood setting under the supervision of a cooperating teacher and college instructor. Ten hours of lab work will be required each week along with a weekly one hour lecture. A current physical and TB test is required and background checks and/or fingerprinting may be required.

CD 205 Lang Develop & Activities for Young Child
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Techniques and methods of encouraging communication skills in young children. Overview of language development, children’s literature and developmentally appropriate language activities in the early childhood setting.

CD 206 Creative Activities for Young Children
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Introduces students to a wide variety of media suitable for use with the young child. Emphasis placed on creative activities: art, language, music, movement, math, and science.

**CD 209 Play and Rhythmic Activities**  
1-2 cr. hrs.; 1-2 lecture hours; 0 lab hours per week.  
Acquaints student with normal play and movements of young children.

**CD 211 Education of the Gifted Child**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Curriculum orientation and guidance practices for working with gifted students.

**CD 212 Survey of Children with Special Needs**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
A survey course that presents historical, philosophical and legal foundations of special education, as well as an overview of the characteristics of individuals with disabilities, the programs that serve them under the Individuals with Disabilities Education Act, and the diversity of the populations of individuals with disabilities. Includes overviews of State and Federal regulations.

**CD 214 Child Development Practicum II**  
2-4 cr. hrs.; 1-2 lecture hours; 5-10 lab hours per week.  
*Prerequisite: CD 204 “C” or better and instructor consent.*  
This course deals with the development, implementation, and evaluation of developmentally appropriate practice in the early childhood setting. Emphasis will be on curriculum and lesson planning, teaching, classroom management, guiding of children’s behavior, and professionalism. Students will work under the supervision of a cooperating teacher and college instructor. Ten hours of lab work will be required each week along with a weekly one hour lecture. A current physical and TB test is required and background checks and/or fingerprinting may be required.

**CD 215 Infant/Toddler Curriculum**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course details how to organize a high-quality early care and education program for infants and toddlers including: routines, activities, learning environment, guidance, health/safety issues, families and assessment. Observation is required.

**CD 220 Child Care Center/Early Childhood Admin**  
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.  
Examines the management processes of planning, staffing, record keeping, budgeting, purchasing, and monitoring for quality. Formulation of policy statements, philosophy, programming, planning, evaluation and working with parents will be included. Students will become familiar with computer usage, licensing standards, accreditation, community resources and professional organizations for early childhood programs.

**CD 222 Child, Family and Community**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course focuses on the child in the context of family, school and community. This course will examine the interplay of diverse cultures, lifestyles, language and communication with the role of the school and other community institutions. Students will gain and understanding of their professional role in supporting practices that strengthen respectful family/child relationships through effective use of community and family resources.

**CD 224 Methods of Guiding Children’s Behavior**  
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.  
Presents effective methods of discipline in the guidance of young children’s behavior through theory and practical application.

**CD 225 Math and Science for the Young Child**  
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.  
Introduces the theory and practice related to the curricular areas of math and science for young children. Emphasis will be placed on the development and evaluation of developmentally appropriate activities and instructional materials.

**CD 240 Special Topics in Child Development**  
1-4 cr. hrs.; 1-4 lecture hours; 0 lab hours per week.  
*Prerequisite: Instructor consent.*  
Designed to provide seminars on various topics as needed.

**CD 299 Independent Study, Workshops and Seminars**  
1-4 cr. hrs.; 1-4 lecture hours; 0 lab hours per week.  
*Prerequisite: Department Chair or instructor consent.*  
Designed to fit the needs of each student. Workshop and seminars may be offered for credit under CD 299.

**College Experience and Success**

**CES 100 College Experience and Success**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course is a general elective intended to serve students who wish to better understand the college systems which promote academic success. In addition, this course is designed to help students improve study skills and gain confidence in the areas of information retention, written expression and test taking. Finally, students will explore choices they need to make which impact college success, and assist in improving their personal motivation toward scholastic endeavors.

**Communications**

**COMM 100 Communication Skills**  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
For career program students only. COMM 100 and ENG 132 fulfill requirements for an associate’s degree in several career programs. Concentration on developing skills in writing, speaking and reading.
COMM 105 Essentials of English
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Reviews grammar, punctuation, usage and sentence structure and organizational principles of writing through a variety of tasks. COMM 105 is a required course in several career curricula.

Computer Networking

NETW 101 Information Security Awareness
1 cr. hrs.; 1 lecture hours; 0 lab hours per week.
This course provides a basic introduction to information security, using a non-technical approach. Content emphasizes data security concepts, types of threats to data security, data protection strategies, and legal, social and ethical issues affecting data security. In addition to students pursuing a Computer Information Technology degree or certificate, this course is also useful to any student who wishes to expand his/her knowledge of the topic, for career enhancement in business, health care, government or legal positions. Students should have a basic working knowledge of computers.

NETW 120 Basic Computer Networks
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
An introductory course in networking for the technical student. Includes basic network hardware, software, troubleshooting, and maintenance.

NETW 125 Cisco I
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
This course introduces the architecture, structure, function, components and models of the internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet, media and operations are introduced to provide a foundation for the curriculum. By the end of this course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

NETW 145 Cisco II
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: NETW 125 “C” or better.
This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.

NETW 160 Data Communications
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: NETW 120 “C” or better.
A study of TCP/IP on a network. Topics focus on how to configure TCP/IP, troubleshoot and install TCP/IP. Covers the different types and methods of name resolution.

NETW 166 Microcomputer Operating Systems II
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
An introduction to UNIX/LINUX operating systems. Topics include basic commands, file manipulation, file creation, shell script creation and execution, system administration duties and simple installation.

NETW 167 Scripting for Systems Administration
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: ITS 112 and CIP 101 or instructor consent.
The student will learn techniques for creating customized scripts in both the Linux and Windows environment. This course provides students with the skills to read, write, maintain, and debug Linux shell scripting and Windows scripting for Systems Administration.

NETW 170 Intro to Information Security
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: NETW 120 or NETW 125 “C” or better, or instructor consent.
An introduction to the topics, technologies and terminology associated with network information security. This course is a prerequisite for related courses of the Computer Information Technology program.

NETW 210 Windows Workstation
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
This course provides the knowledge and skills necessary to implement, administer, and troubleshoot information systems that incorporate Microsoft Windows Workstation.

NETW 215 Window Server
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: ITS 112 “C” or better or instructor consent.
This course provides the students with the knowledge and skills necessary to implement, administer, and troubleshoot information systems that incorporate Microsoft Windows Server.

NETW 216 Windows Network Environment
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: NETW 215 “C” or better or instructor consent.
This course covers installation, management, configuration and support of a Microsoft network infrastructure. Topics include TCP/IP, DNS, DHCP, NAT, Remote Access, etc. Content is aligned with the objectives of Microsoft network infrastructure certifications (MCSE, MCSA, MCTS, etc.).

NETW 217 Windows Directory Services
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: NETW 216 or instructor consent.
This course provides the skills necessary to install, configure, and troubleshoot the Windows Active Directory components, DNS for Active Directory, and Active Directory security solutions. The skills required to manage,
monitor, and optimize the desktop environment by using Group Policy, and troubleshoot information systems that incorporate Microsoft Windows Networking.

**NETW 219 Designing Directory Services**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
**Prerequisite: NETW 217 “C” or better or instructor consent.**

This course provides the skills to analyze the business requirements and to design a directory service architecture, including unified directory services such as Active Directory and Windows NT domains; connectivity between and within systems, system components, and applications; data replication such as directory replication and database replication; the skills required to analyze the business requirements for desktop management and design a solution for desktop management that meets business requirements.

**NETW 220 Windows Security Design**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
**Prerequisite: NETW 219 “C” or better or instructor consent.**

This course provides the skills required to analyze the business requirements for security and to design a security solution that meets business requirements. Security includes controlling access to resources, auditing access to resources, authentication, encryption, and troubleshooting information systems in a Microsoft Windows environment.

**NETW 221 Windows Network Design**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
**Prerequisite: NETW 220 “C” or instructor consent.**

This course provides the skills necessary to design a Microsoft network that encompasses typical network services and applications such as file and print, database messaging, proxy server or firewall, dial-in server, desktop management, and Web hosting, connecting individual offices and users at remote locations to the corporate network and connecting corporate networks to the Internet.

**NETW 250 Web Server Administration**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
A hands-on course in managing and maintaining an Internet Web server, with emphasis on security. Includes server configuration and customization, directory structure, content and user maintenance, server-side applications, performance monitoring and tuning, and security implementation.

**NETW 252 Mail Server Administration**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisite: NETW 215 “C” or better or instructor consent.**

A course on installing, configuring, supporting, and troubleshooting business email servers (especially Microsoft Exchange). The course provides hands-on as well as classroom experience. NETW 252 addresses topics included in the Microsoft certification exams for Exchange or similar certifications, and so helps prepare students for those exams.

**NETW 255 Advanced Networking/N+ Prep**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisite: NETW 120 or NETW 125 “C” or better or instructor consent.**

A capstone course on computer networking hardware and software, providing hands-on as well as classroom experience, with an emphasis on preparing the student for the Comp TIA Network+ certification exam. Students will take the CompTIA exam as a requirement for course completion.

**NETW 265 Cisco III**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisites: NETW 125, NETW 145 “C” or better.**

This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network.

**NETW 270 Computer Forensics**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisite: NETW 170 “C” or better.**

An advanced computer networking course with emphasis on usage of specialized forensics computer hardware and software, as well as basic civil and criminal computer investigative fundamentals.

**NETW 274 Ethical Hacking and Security**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisite: NETW 170 “C” or better or instructor consent.**

A course on the issues, procedures and techniques involved in “ethical hacking” and penetration testing, the process of testing a computer network for vulnerabilities for the purpose of strengthening its protections. This course also serves to prepare the student for the CompTIA Security+ certification exam. Students will take the CompTIA exam as a requirement for course completion.

**NETW 280 Network Defense**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
**Prerequisite: NETW 170 “C” or better or instructor consent.**

This course focuses on the utilization of hardware and software components to create a perimeter of defense around a local area network. Students will learn how to effectively identify security goals and create a security policy. Security components discussed include firewalls, packet filtering, authentication, proxy servers, encryption, bastion hosts, virtual private networks, log file maintenance and intrusion detection systems.
NETW 285 Cisco IV
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisites: NETW 125, NETW 145, NETW 265 “C” or better.
This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network.

NETW 290 Networking Internship
3 cr. hrs.; 0 lecture hours; 5-15 lab hours per week.
Prerequisites: ITS 116 and ITS 112 and NETW 120 “C” or better and instructor consent.
Supervised field program providing work experience directly related to the student’s area of concentration. On-the-job experience is required of all program graduates.

Computer Programming

CIP 101 Computer Logic and Design
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MATH 080 “C” or better or appropriate placement score.
An introduction to computational thinking. Students will learn to analyze problems and employ their use, apply the three basic programming structures – (sequence, decision, and repetition) – and top-down design to develop a solution. Students will also learn how information is stored including base 2 and hexadecimal numbering systems and how data is used in computing. Students will develop algorithms to solve a problem and write programs to implement.

CIP 104 Intro to Computer Programming
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: CIP 101 or concurrent enrollment in CIP 101 recommended.
This course teaches the student the use of key structured programming statements and the use of a programming language in writing microcomputer application programs. Proper programming design, structure, and logic are emphasized.

CIP 151 Adv Office Applications w/VBA
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 101 or CIP 104 and CS 100 or ENGT 105 or CIP 190 or instructor consent.
Students will learn to automate Microsoft Office applications using VBA (Visual Basic for Applications).

CIP 170 Web Page Development
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
The student will learn web site development with the three methods that have been used since web design first began: hand-coding HTML using a text editor; using a WYSIWYG editor; and using a Content Management System. The student will learn how to stay current on W3C standards for web development. Topics include: basic web design using HTML and Cascading Style Sheets, page-layout techniques, graphics, search engine optimization, and media. Students will create a multiple-page website.

CIP 170A Web Page Development I – HTML/CSS
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
The student will learn website development with how Web design first began: hand-coding HTML using a text editor. Students will also format web pages with cascading style sheets using a text editor. Topics include: design principles, formatting web pages with cascading style sheets, server-side vs. client-side technologies, testing web pages with multiple web browsers. In addition, the student will learn how to stay current on W3C standards for web page development.

CIP 170B Dreamweaver
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
The student will learn website development using Dreamweaver (an HTML Editor) and will learn the concept of maintaining a site using Content Management System software. Topics include: Dreamweaver views, CSS, Layout, Assets, and Behaviors in Dreamweaver. Students will learn how to create and manage a web site within Dreamweaver.

CIP 181 Advanced Web Page Development
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 170 or CIP 170A and CIP 170B.
This course introduces the student to HTML tools, Rich Internet Applications, using cascading style sheets to render in mobile and tablet, web content management systems and XML. The course also looks at the need to develop a strategy for Web Site organization and design.

CIP 182 JavaScript
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 170 or CIP 170A and CIP 101 or CIP 104; concurrent enrollment in CIP 185 recommended.
This course will provide students with the knowledge and skills needed to develop web applications using client-side scripting with JavaScript. Students will learn code placement, events and event handlers, functions and parameters, attributes, JavaScript objects, methods, and arrays additional topics covered include DOM, validation, objects, cookies and jQuery.

CIP 183 Intro to ASP.NET
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: CIP 101 or CIP 104 or instructor consent.
The student will use Microsoft’s Visual Web Developer to create interactive web applications with VB or C#. Topics
include: web forms, controls, site navigation, events and postback, validation, stylesheets, master pages, state management, testing and deployment. Students completing this course will have at least one fully functional ASP.NET web application for their portfolio.

CIP 185 XML (eXtensible Markup Lang.)
1 cr. hr.; 1 lecture hours; 0 lab hours per week.
The student will develop XML documents and learn the related technologies. Topics include: creating valid and well-formed XML documents, DTD’s, XML schemas, XML editors (software), XSLT and applications using XML.

CIP 186 Web Design
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: CIP 182
Students will study the process that goes behind planning and implementing a web site. HTML 5 and CSS3 will be used to develop a responsive web site for mobile, tablet, and desktop. Topics include creating a mockup, sitemaps, wireframes, layout options, graphics, search engine optimization and HTML Canvas, Geolocation, Web Analytics, and jQuery mobile.

CIP 190 Team MS Office/SharePoint
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
This course introduces Cloud computing applications with the Microsoft Office 365 documents, SharePoint, Outlook, and Lync creating and managing SharePoint web sites, creating and sharing documents created in Office 365.

CIP 201 Microsoft Project
1 cr. hr.; 1 lecture hours; 0 lab hours per week.
Prerequisite: Working knowledge of Microsoft Windows OS.
Develop an understanding of and ability to use Microsoft project in managing projects. Case studies will be Information Technology focused projects.

CIP 204 Visual Basic Programming
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: CIP 104 or instructor consent.
This course uses the latest version of the Visual Basic programming language to create GUI-based (Windows) applications applying effective development strategies based on object-oriented programming. Topics include: controls, methods, events, array processing, classes, text file processing, graphics and multimedia, working with multiple forms, creating a setup program, and defensive programming with error trapping.

CIP 205 Advanced Visual Basic
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: CIP 204.
This course provides the student with more advanced programming techniques using the latest version of Visual Basic. Topics covered: data controls, user-created controls, ADO.NET, multi-tier applications, classes, and MDI. Windows applications, console applications, and web applications will be developed.

CIP 206 AJAX and Web Services
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 104 or CIP 204 and CIP 182 or instructor consent.
This course teaches programming web pages for interactive content with AJAX (Asynchronous JavaScript and XML) and web services. Topics include: XML review, DOM (document object model), Google maps, and web services.

CIP 211A Intro to Flash
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
The student will create dynamic web content and animation using Flash. Topics covered include: creating vector graphics, creating animation, motion tweening, adding interactivity, sound and video.

CIP 211B Flash Programming
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisites: CIP 211A and CIP 101 or CIP 104 or CS 121 or instructor consent.
The student will create more advanced Flash applications. Actionscript programming will be used to enhance projects and add event handling. Other topics covered are OOP programming with Actionscript and using XML with Actionscript. Students completing this course will have at least one fully functional project to add to portfolio. Projects may include e-Learning projects, games, or Flash-based websites.

CIP 214 C# Programming
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisites: CS 101, CS 121 or CIP 104. Concurrent enrollment in CIP 227 or BE 264.
This course uses the C# programming language to create, GUI-based (Windows) applications, applying effective development strategies based on object-oriented programming. Topics include: forms and controls, input validation, dialog boxes, events, array processing, classes, text file processing, structures, enumerated lists, and applications with multiple forms.

CIP 217 Advanced C# Programming
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisites: CIP 214.
This course uses the C# programming language to create web applications (ASP.NET), Windows Store/Phone Apps (mobile development), and Xbox or Windows games. Topics in server-side ASP.NET applications include ASP.NET web and validation controls, user management and authentication, state management, and development of database-driven web applications. Topics in phone app development include XAML, sound and store test kit. Game development topics include understanding game loops, mouse and keyboard input, sprites, animation,
object behaviors, sound, scrolling, collisions detection, transformations and events.

CIP 227 Database Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Relational database concepts are introduced. Topics covered are data modeling using ER diagrams and normalization, database creation in Microsoft SQL Server. Students will use Structure Query Language (SQL) creating tables, views, stored procedures and triggers, and selection. Database Administration concepts include security, backup and restore. Students completing this course will be prepared to take the Microsoft Technology Associate Database Fundamentals Exam.

CIP 228 Web Database Programming
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 227 and CIP 182 or instructor consent.
Student taking this course will create dynamic, interactive web pages, incorporating data from a database. Topics include creating a simple database; connecting a server-side database to a web page; viewing, sorting, updating, and searching a database through the client-side interface; and maintaining site security through user logins. Students will build an e-commerce/shopping cart application to add to their portfolio. Students should get some experience in using API’s such as Google’s Maps API.

CIP 250 Java Programming Fundamentals
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 104 or instructor consent.
This course is designed to teach the student the fundamentals of the Java programming Language and Java programming for the Web. Students will create Java programs, containing fundamental control structures, event handling, objects, I/O and applet development.

CIP 260 Systems Design and Development
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Instructor consent.
This course is designed to guide the student through the five stages in the evolution of a system. Effective use of management sciences in meeting the needs of business systems through class projects and an off-campus project.

CIP 270 Field Project
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Instructor consent.
For CIP students in the last semester of the CIP program. Students obtain employment in an approved CIP position to gain on-the-job experience.

CIP 280 Intro to Game Programming
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: CIP 204 or CS 121 or instructor consent.
Students will learn introductory game programming concepts using an object-oriented approach VB or C# programming language and DirectX. Topics include: understanding game loops, mouse and keyboard input, sprites, animation, object behaviors, sound scrolling, collision detection, transformations and events. The student will develop several real-time, interactive gaming projects.

CIP 299 Independent Study
.5-3 cr. hrs.; 0.5-3 lecture hours; 0 lab hours per week.
Prerequisite: Department Chair or Lead Instructor consent.
Independent study or group study designed to fit the needs of the students.

Computer Science

CS 090 Basic Computer Skills
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Appropriate placement score or REA 093 “C” or better.
An introduction to computer usage: Windows, Internet, Word, Excel, PowerPoint, Access and other current applications. For students with little or no computer experience.

CS 100 Introduction to Computers
3 cr. hrs.; 3 lecture hours; 1 lab hour per week.
Prerequisite: Appropriate placement score or REA 093 “B” or better.
Introduction to computer concepts, computer applications, and the impact of computers on society. Applications include problem solving methods, word processing, spreadsheet, database and presentation graphics software. Basic Algebra or equivalent is recommended.

CS 101 Introduction to Structured Programming
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Appropriate placement score or MATH 086, 090 or 091 “C” or better.
An entry-level course in structured programming that includes branching and loops, functions, arrays, and text files. Not for computer science majors.

CS 105 Computer Science: Principles
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MATH 080 or appropriate placement score.
This course introduces students to the central ideas of computing and Computer Science, instills ideas and practices of computational thinking, and has students engage in activities that show how computing and Computer Science change the world. Students will learn that computing is both a creative and computational activity. Topics covered include abstraction, choosing computing tools to solve problems or express creativity, exploring patterns in “big data” in computer, developing algorithms to solve a problem and writing a program to implement an algorithm. This course is not programming-language specific. This course is an introductory course for both CS and non-CS-majors.
CS 121  Intro to Computer Science  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisites: Appropriate placement score or MATH 086, 090, 091 “C” or better. Prerequisite: CS 105 or instructor consent. Recommended co-requisite: MATH 112, MATH 118, MATH 124 or MATH 131.  
This course provides a disciplined approach to problem solving and algorithm development using a high level object-oriented language. Includes sequence, selection and repetition control structures; program design, coding, debugging, testing, and documentation; arrays, records, files and concepts in agile and test-driven development.  
IAI: CS 911

CS 141  Programming for Business with COBOL  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: CS 101 or CS 121 “C” or better.  
Structured programming with applications in accounting, economics, finance, and similar fields. Includes branching, arrays, files and subroutines. Language is COBOL.

CS 201  Advanced Applications Software  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: Appropriate placement score or MATH 086, 090, 091 and CS 100 “C” or better.  
Advanced problem solving using word processing, spreadsheet, database, and operating system software. The course includes application development in Visual Basic for Applications.

CS 210  Introduction to Educational Computing  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Introduction to the use of technology in K-12 education. Includes hardware concepts, software evaluation, Microsoft Office applications for education, Internet use and ethics, basic web page design, and state and federal learning and technology standards.

CS 225  Advanced Programming  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: CS 121 “C” or better.  
Topics include: software engineering; abstract data types; data structures- files, sets, pointers, lists, stacks, queues, trees; program verification and complexity; recursion; dynamic concepts - memory, scope, block structures; text processing; searching and sorting algorithms. Implementation is in a high level object-oriented language.  
IAI: CS 912

CS 227  Database Management Systems  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
Prerequisite: CIP 101 or CS 101 or CIP 104 or CS 105 or CS 121.  
This course provides the student with database system concepts. Topics introduced include: conceptual, logical and physical designs, Entity Relationship (ER), ER diagramming, ER mapping, normalization, SQL, core DBMS functions, transaction management, triggers, views, stored procedures, and indexes. Several types of database systems will be reviewed with the focus of study on relational database systems. Students will design and build databases using SQL Server.

CS 242  Computer Architecture  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
Prerequisite: CS 225 “C” or better.  
A study of the architecture of computer systems. Topics include combinational and sequential logic networks; computer arithmetic; memory hierarchy; CPU design; I/O architecture, hardware, and software; instruction sets and addressing modes; linking and loading.

CS 251  Programming for Science  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
Prerequisite: MATH 124 “C” or better.  
Structured programming with applications in mathematics, engineering, and the physical and biological sciences. Introduction to numerical methods and numerical analysis using a high level language as the language of implementation.

CS 252  Data Structures  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisites: CS 225 and MATH 161 “C” or better.  
Includes: various algorithmic paradigms, recurrence relations; complexity analysis; advanced algorithms for sorting, searching and string processing; advanced abstract data types - sets, graphs, heaps, hash tables; random number generation, object-oriented programming.

Criminal Justice

CRJU 104  Police Administration  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
To provide an analysis of accepted administrative methods as applied to police staff functions such as: Personnel Management, Budget Control, Internal Controls, Planning and Research, Records and Communications, Housing and Materials, Federal Assistance and Law Enforcement Planning, and Government Setting for Police Work.

CRJU 109  Police Community Relations  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
A study of the development of police community relations as both a tool for the street officer and on administrative philosophy of management. Included is an in-depth study of community oriented policing.

CRJU 151  Criminal Justice System  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
A comprehensive view of the criminal justice system in America today. IAI: CRJ 901

CRJU 152  Criminology  
3 cr. hrs.; 3 lecture hours; 0 lab hour per week.  
Prerequisite: SOC 101
Broad overview of the criminal justice system and a study of crime as a social phenomenon. IAI: CRJ 912

**CRJU 153 Survey of Corrections**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Overview of the development of corrections, correctional client, correctional process, community-based corrections. Effects of institutionalization and the future of corrections. IAI: CRJ 911

**CRJU 245 Applied Forensics**  
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
Applied Forensics Theory will be a hands-on course where basic crime scene techniques are taught. It will involve intensive, hands-on work necessary to meet lab requirement. An understanding of proper search and seizure techniques, rules and regulations, and Constitutional laws that govern crime scene investigations and evidence gathering will also be included.

**CRJU 247 Criminology and Juvenile Delinquency**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Prerequisite: CRJU 152  
This course attempts to deal with the complexity of the Juvenile Delinquency problem in the United States in a way that will give meaning and direction to the law enforcement practitioner that must deal with the problem every day. IAI: CRJ 914

**CRJU 253 Probation and Parole**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Prerequisite: CRJU 153  
To provide student with an overview of probation and parole; the decision-making process, the parolee and the Parole Board, evaluating parole. With the increasing prison population in our society, more emphasis in the future will be placed on increased use of probation and parole as the only viable solution. Any serious student studying the criminal justice system must gain a broad-based knowledge of the probation and parole process.

**CRJU 254 Criminal Investigation**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Introduction to various law enforcement investigation techniques emphasizing crime scene investigation.

**CRJU 255 Criminal Law**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Prerequisite: COMM 100 and POLS 122  
Study of development of the federal Constitution and the history of the Bill of Rights; includes in-depth study of first eight Amendments to the Constitution.

**CRJU 257 Police Ethics**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Prerequisite: CRJU 109 and COMM 100  
A study of ethics as it relates specifically to Law Enforcement, Police Science and the Criminal Justice process.

**CRJU 271 Internship in Criminal Justice**  
*3 cr. hrs.; 1 lecture hour; 10 lab hours per week.*  
Provides a supervised work experience in one or more of various agencies in the criminal justice system.

**CRJU 295 Topics in Criminal Justice**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Topics vary according to student interest and instructor availability. Examples of offerings include: Intro to court systems, policing special populations, police report writing, problem solving/critical thinking. Students may take up to six semester hours if the topic varies.

**Economics**

**ECON 150 Consumer Economics**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Study which leads to the understanding of financial management principles relating to individuals. Discusses receipts of income, personal goal setting, and budgeting. Also, individual spending in such areas as shelter, risk coverage, taxes and the investment of discretionary funds to further an individual’s asset holdings.

**ECON 221 Principles of Macro Economics**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Study of the basic macro economic principles of a capitalistic economy, its strengths and weaknesses including supply and demand, prices, role of government, national income measurement and determination, money, banking, monetary and fiscal policies, inflation and unemployment, international trade and payments. IAI: S3 901

**ECON 222 Principles of Micro Economics**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Study of the basic micro economic principles of a capitalistic economy emphasizing supply and demand, prices, elasticity, competitive forms in product and resource markets, government and business relationships, poverty, and agriculture. IAI: S3 902

**ECON 270 Introduction to International Business**  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
This course provides an overview and a basic understanding of current world activities, practices, and governmental aids and barriers to international trade. Exploration of various economic, geographic, political and cultural differences affecting international trade.

**Education**

**EDUC 101 Introduction to Education**  
*3 cr. hrs.; 2.5 lecture hours; 1 lab hour per week.*  
An overview of American education as both a professional and a public enterprise. Social, historical, and philosophical foundations give perspective to an examination of current issues, policies, and trends in the field of education, including cultural diversity. Includes
such topics as organization and structure, finance, and curriculum.

**EDUC 102 Diversity of Schools and Society**
**3 cr. hrs.**; 3 lecture hours; 0 lab hours per week.
Diversity of Schools and Society will focus on how schooling is shaped by the social contexts in which it occurs, particularly in the multicultural and global contexts.

**EDUC 202 Multicultural/Soc Found of Ed**
**3 cr. hrs.**; 3 lecture hours; 0 lab hours per week.
A study of the social, linguistic, and cultural factors that affect the educational experiences, practices, and environments in America. This course broadens students’ understanding of the diverse nature of the contexts that either enhance or negate one’s educational experiences. (Grade of “C” required for transfer into Ed programs, Field Experience: 10 hours required.)

**EDUC 210 The Exceptional Child**
**2 cr. hrs.**; 2 lecture hours; 0 lab hours per week.
A survey of characteristics of learners with diverse disabilities as delineated in the Individuals with Disabilities Education Improvement Act and the impact of these characteristics on their education.

**EDUC 235 Clinical Observation in Education**
**2 cr. hrs.**; 1 lecture hour; 2 lab hours per week.
Sophomore standing recommended. Clinical observation of learning in a variety of educational settings for those considering teaching as a career. Pre-teaching majors planning to transfer to state universities are strongly advised to enroll in this course to fulfill prerequisites for programs.

**Emergency Medical Services**

**EMS 100 Emergency Medical Technician Basic**
**8 cr. hrs.**; 6 lecture hours; 4 lab hours per week.
**Prerequisite:** At least 18 years of age and a high school diploma or GED. Concurrent enrollment in EMS 102.
Prepares individuals to provide basic emergency care at the scene of an accident or illness and to stabilize and transport the patient to a facility providing definitive healthcare. The course will include the treatment of common medical emergencies and trauma injuries as well as the roles and responsibilities of emergency medical technicians (EMT-B). Upon satisfactory completion of the EMS 100 and EMS 102 courses, the student will be eligible to take the state EMT-BT or the National Registry Exam.

**EMS 102 EMT – Basic Clinical**
**1 cr. hr.**; 0 lecture hours; 2 lab hours per week.
**Prerequisite:** Concurrent enrollment in EMS 100.
The student in this course will have clinical and field experiences under the direction of experienced preceptors. The student is required to complete a minimum number of hours and patient contacts. This includes twenty-four hours in the Emergency Department and twenty-four hours of ride time with an ambulance service. This course is designed to augment each phase of the didactic material presented in EMT-Basic (EMS 100).

**EMS 110 Paramedic Theory I**
**7 cr. hrs.**; 6 lecture hours; 2 lab hours per week.
**Prerequisite:** EMS 100 & 102 or equivalent. Current Illinois EMT Basic License or hold NREMT-Basic certification with eligibility for Illinois EMT Basic License. Current CPR card (Healthcare Provider). Concurrent enrollment in EMS 114.
Prepare individuals to complete preparation for paramedic certification. This eight-week course includes the roles and responsibilities of the paramedic, bloodborne pathogens, documentation & communication in EMS, medical records & HIPPA policies, Medical/Legal/Ethical considerations, anatomy and physiology of cells, tissues, muscular system, respiratory and cardiovascular systems, techniques for administration of medications and fluid resuscitation and an in-depth look at assessment and interventions for respiratory and cardiovascular conditions. Cardiac electrophysiology and EKG interpretation are also included.

**EMS 112 Paramedic Theory II**
**8 cr. hrs.**; 7 lecture hours; 2 lab hours per week.
**Prerequisite:** EMS 110 “C” or better and a current CPR card (Healthcare Provider). Concurrent enrollment in EMS 114.
Prepare individuals to complete preparation for paramedic certification. This eight-week course includes a variety of medical and surgical emergencies as well as emergency conditions related to the cardiac, respiratory, neurological, skeletal and integumentary systems. Advance Cardiac Life Support Certification will be included. Traumatic injuries including assessments, interventions and certification in International Trauma Life Support will be provided.

**EMS 114 Paramedic Clinical I**
**3 cr. hr.**; 0 lecture hours; 9 lab hours per week.
**Prerequisite:** Concurrent enrollment in EMS 110 and 112.
The student in this course will have field and clinical experiences under the direction of experienced qualified preceptors. The student is required to complete a minimum number of hours in assigned environments. This includes fifty-two hours in the Emergency Department, sixteen hours in a critical care/intensive care unit, four hours with cardiopulmonary/respiratory therapy staff, and twelve hours in the operating room/surgery, two hours in the Cardiac Cath lab, two hours at the Burn/wound Center and 50 hours of field (ambulance) experience. This course is designed to augment each phase of the didactic material presented in EMS 110: Paramedic Theory I and EMS 112: Paramedic Theory II.

**EMS 210 Paramedic Theory III**
**7 cr. hrs.**; 6 lecture hours; 2 lab hours per week.
Prerequisite: EMS 110 and EMS 112 “C” or better, EMS 114 with a pass grade, and a current CPR card (Healthcare Provider). Concurrent enrollment in EMS 214.

Prepare individuals to complete preparation for paramedic certification. This eight-week course includes a variety of medical emergencies including assessment and management related to shock & resuscitation, fluid and electrolyte imbalance, hematology & blood disorders, endocrine disorders, immunology/anaphylaxis, gastrointestinal disorders, genitourinary disorders, toxicology/poisoning, infectious diseases, psychiatric/behavioral emergencies, drug and alcohol abuse, obstetrics, and newborn care.

EMS 212 Paramedic Theory IV
7 cr. hrs.; 6 lecture hours; 2 lab hours per week.
Prerequisite: EMS 210 “C” or better and concurrent enrollment in EMS 214.

Prepares individuals to complete preparation for paramedic certification. This eight-week course includes a variety of emergency responses and management related to neonatal resuscitation, the care of the pediatric patient, certification in Pediatric Advanced Life Support, adult lifespan development, care of the geriatric patient, sensory impairments, home care, domestic violence, abuse and assault of children and adults, care of patients with special challenges, EMS research, cultural care, hazmat awareness, workforce safety and wellness, stress management, multiple casualty incident, rescue triage, incident management, terrorism and disasters, and summative evaluations.

EMS 214 Paramedic Clinical II
4 cr. hrs.; 0 lecture hours; 12 lab hours per week.
Prerequisite: Concurrent enrollment in EMS 210 and EMS 212.

The student in this course will have field and in-hospital experiences under the direction of experienced preceptors. The student is required to complete a minimum number of hours of experience. This includes 52 hours in the Emergency Department, 16 hours in a critical care/ intensive care unit, 4 hours with cardiopulmonary/respiratory therapy staff, 12 hours in the operating room/surgery, 16 hours in Obstetrics and Neonatal units, 16 hours in the pediatric units, 16 hours in the psychiatric units, and 2 hours in the dialysis center and 50 field hours. This course is designed to augment each phase of the didactic material presented in EMS 110, 112, 210, & 212. This course is also designed to act as a continuum of clinical/field experience from EMS 114.

EMS 216 Paramedic Clinical III
5 cr. hrs.; 0 lecture hours; 15 lab hours per week.
Prerequisite: EMS 210 and EMS 212 “C” or better and EMS 214 with a pass grade.

The student in this course will have advanced field level experiences under the direction of qualified, experienced preceptors. During this course the student will continue field hours until a minimum of 300 hours has been reached within the program with an ambulance service under the direction of assigned preceptors. This course is competency based, and may result in the extension of clock hours to meet all clinical/field competencies & objectives.

Engineering Technology

ENGT 100 Engineering Technology Systems
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
An investigation into the operation, assembly and applications of engineering systems. Students will be introduced to block diagram representations of physical systems and common procedures for understanding and analyzing engineering systems of an electrical, mechanical, manufacturing, software and hybrid nature.

ENGT 101 Blueprint/Schematic Reading
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Course focuses on basic interpretation and understanding of architectural, electrical, hydraulic and pneumatic, mechanical, and welding drawing/schematics. Studies provide students with basic knowledge to decipher different types of symbols found on prints and schematics. (Class may be broadened to unique and specific fields of study depending on the student preference or career field.)

ENGT 102 Fundamentals of AutoCAD
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
This course provides a basic study of drafting terminology and graphic illustration techniques as used in various engineering and technology careers. Students will increase skill development using software such as Mechanical Desktop’s graphics, AutoCAD 2002 or newer. This course will focus on command/icon skills utilization in designing and modifying graphic illustrations. Students will demonstrate skills that range from basic to intermediate drawing menu/icon commands as used in varied industrial field drawing designs.

ENGT 103 Fundamentals of DC Circuits
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
This course is an introductory course in direct current (DC) circuit concepts. Topics include atomic theory, series, parallel and combination circuits, Ohm’s law, capacitance and inductance.

ENGT 104 Fundamentals of Machining
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
This course will expose engineering technology students to the activities within a machine shop. An overview of the various machines used in a typical manufacturing process will be discussed and demonstrated.

ENGT 105 PC Applications in Technology
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A course designed for developing computer communicating information skills in an Engineering Technology career environment. Course focuses on needed computer operator skills; usage of current computer
operating systems software and utilities; Microsoft’s Office application software Word, Excel, and Internet Explorer; Productivity software: Outlook; and Simulation software Automation Studio.

**ENGT 106 Sustainable Energy Systems I**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: Concurrent enrollment in MATH 123 and ENGT 103.  
This course investigates the currently available forms of alternative and sustainable/renewable energies. Power, conversion and efficiency are introduced and applied to solar, hydro, photovoltaic, tidal wind and bio energy generation processes. Integration of alternative energy generation to conventional systems is also included.

**ENGT 107 Blueprint Reading for Machinists**
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
This course presents basic math, lines, multi-view drawings, symbols, various schematics and diagrams, dimensioning techniques, section views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings.

**ENGT 120 Introduction to Nanomaterials**
2 cr. hrs.; 1 lecture hours; 2 lab hours per week.  
This is an introductory level course on nanotechnology and nanomaterials. Students learn about the structure and properties relationships, fabrication, applications, current roles in technology, and the future impact on the industry.

**ENGT 130 Introduction to Biomaterials**
2 cr. hrs.; 1 lecture hours; 2 lab hours per week.  
An introductory course designed to introduce students to the various classes of materials used in humans and other biological systems, relationships between structure, properties and functional behavior, manufacturing processes and material biocompatibility.

**ENGT 150 Hydraulics/Pneumatics**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: MATH 123 “C” or better or equivalent or instructor consent.  
This course is a study of hydraulic and pneumatic component systems and their use for power transmission and control purposes.

**ENGT 163 Fundamentals of AC Power**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisites: MATH 123 and ENGT 103.  
An intermediate circuit analysis course involving alternating current (AC) electrical concepts. Topics include AC voltage, phase and frequency considerations; transformers, residential and commercial power distribution; three-phase power and loads; power control components and frequency drives.

**ENGT 168 Logic Systems I**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
An introductory course on integrated and programmed logic components and related systems. Topics include number systems, conversions, Boolean algebra, K-maps, gates and inverters, counters and registers, memory and data acquisition circuits. Multisim software is used to assist the design and analysis of logic circuits.

**ENGT 170 Engineering Materials**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: MATH 123 “C” or better or equivalent or instructor consent.  
A course in basic materials of engineering which includes ferrous and non-ferrous metals, heat treatment of metals, plastics, rubber, and inorganic non-metallic materials used in industry.

**ENGT 172 AutoCAD I – 2D Graphics**
3 cr. hrs.; 1 lecture hour; 4 lab hours per week.  
Prerequisites: ENGT 101 and ENGT 102 “C” or better or instructor consent.  
A course in graphical illustration applications directed to the intermediate and advanced study of 2D mechanical illustrations, terminology, and techniques using Mechanical Desktop’s graphics computer aided drafting software AutoCAD 2002 or newer. Studies progress from basic three view orthographic drawings to more advanced aux views, section views, true shape, and basic descriptive geometry.

**ENGT 180 Basic Manufacturing Processes**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: ENGT 104 “C” or better or instructor consent.  
This is the introductory machine shop course. Topics will include shop safety, proper care and usage of hand tools, setup and usage of saws and drill presses, basic layout procedures, and the correct application of rules, calipers, and micrometers.

**ENGT 186 Introductory CNC**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: ENGT 104 “C” or better or instructor consent.  
This is the first course in a three course sequence in computerized numerical control. The principles, techniques, and elementary applications of CNC will be explored. Some programming and laboratory experience will be obtained. Machine safety issues will be addressed.

**ENGT 187 Basic CNC Operation**
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
Prerequisites: ENGT 186 or concurrent enrollment.  
This course teaches the basic setup processes involved in the operation of CNC machines which include, among others, the use of wiggles, set blocks, feelers, set bars and other devises to establish the accurate location of the part, changing cutter offsets to accurately modify the machining to hold tight tolerances, the correct use of digital probes for tool setting on a CNC lathe and mill, and the unique safety
features on the CNC machines and how and why they can be safely bypassed during setup.

**ENGT 190 Engineering Tech Practicum**

*2 cr. hrs.; 2 lecture hours; 0 lab hours per week.*

*Prerequisite: Successful completion of first year courses in the electrical engineering track of ENGT.*

An internship course to be performed during or between the freshman and sophomore years and upon completion of the first year degree requirements. Students are expected to locate and materially participate in an employment environment related to their chosen field of study. The internship requires periodic discussions of text, student journals, employment experiences and problem-solving concepts. Eighty hours of intern employment equals one academic credit hour.

**ENGT 206 Sustainable Energy Systems II**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisite: ENGT 106.*

Follow-up course to Sustainable Energy Systems I. Sustainable Energy Systems II investigates alternative renewable energies. Power, conversion and efficiency are reviewed and applied to tidal, wind and geothermal energy processes. Biomass products and processes are explored, and integration of alternative generation to conventional systems is considered.

**ENGT 210 Mechatronics I**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisites: MATH 123 and ENGT 103.*

This course is an introduction to the components and concepts of industrial instrumentation, closed-loop control, engineering mechanisms and measurement of physical variables using conventional and contemporary technologies. Coursework is consistent with preparation for the ISA Certified Control System Technician (CCST) examination. Project and task-oriented lab experiments utilize LabVIEW software.

**ENGT 215 Experimental Testing Systems**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisites: MATH 123 and ENGT 163.*

This course is an investigation into the principles and procedures of experimental testing for function and reliability. Fixture design considerations, sensor specifications, data acquisition hardware integration, measurement system calibration and statistical data analysis topics are included.

**ENGT 218 Programmable Logic Controllers**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

An advanced logic systems course involving Programmable Logic Controllers (PLCs) for measurement, computation and control. Topics include hardware systems for the purposes of data acquisition, programmable control and micro controlling.

**ENGT 222 Auto CAD II – 3D Graphics**

*3 cr. hrs.; 1 lecture hours; 4 lab hours per week.*

**ENGT 224 Computer Programming**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisite: ENGT 172 or GE 101 “C” or better or instructor consent.*

A course in graphical illustration designed for studies which develop skills in illustrating 3D Mechanical drawings. Studies include intermediate and advanced skill development for 3D mechanical illustration, terminology and techniques using Mechanical Desktop’s graphics CAD software AutoCAD 2002 or newer. Studies progress from basic wire frame and surface models to solid modeling and rendering.

**ENGT 226 Professional Engineering I**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisite: ENGT 172 “C” or better or instructor consent.*

Beginning 3-D Modeling using Pro E, covering the areas of constraint based sketching, extruding, feature construction tools, revolved features, drawing and section views.

**ENGT 231 Lathe Operations**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisite: ENGT 180 “C” or better or instructor consent.*

In this manufacturing processes course, the student will learn about lathe operations. Topics include lathe geometry, spindle and quick change gearing, saddle controls and power feeds, cross slide and compound slide plus gibbing, backlash compensation, chucks and collets, turning, grinding, sharpening, honing, tool height and angle adjustment, and speeds and feeds.

**ENGT 232 Milling Operations**

*3 cr. hrs.; 2 lecture ours; 2 lab hours per week.*

*Prerequisite: ENGT 180 “C” or better or instructor consent.*

In this manufacturing processes course, the student will learn about vertical and horizontal milling. Topics include milling machine geometry, gear boxes and power feeds, correct use of spindle hand feed, correct cutter rotation for uphill milling and downhill milling and when to use each, spindle speeds and feeds, use of parallel vises, work piece clamping, alignment of vise with machine table, and backlash compensation.

**ENGT 236 Intermediate CNC**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

*Prerequisite: ENGT 186 “C” or better.*

This second course in CNC operations will expand to the student programming and operations of the CNC lathe and vertical milling machines. Topics will include
programming formats, canned cycles, cutter compensation, and auxiliary machine control functions.

**ENGT 256 Energy Systems Practicum**

*2 cr. hrs.; 2 lecture hours; 0 lab hours per week.*  
*Prerequisite: Successful completion of first year sustainable energy certificate courses.*  
This is an internship course to be performed upon or near graduation and to be completed during the senior year. Students are expected to locate and materially participate in an employment experience related to alternative or sustainable energy generation. The internship requires periodic discussions of student journals, employment experiences, problem solving experiences and system design or analysis applications. Forty hours of intern employment equals one academic credit hour.

**ENGT 260 Mechatronics II**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
*Prerequisites: MATH 223 and ENGT 210.*  
A continuation of the Mechatronics course offered in the second semester. This course involves a study of close-loop controllers, multi-loop systems, PLC’s and human-machine interfaces. The course focuses upon continuous control mode algorithms, multi-loop configurations and HMI/MMI using commonly available software. Loop analysis, tuning, and troubleshooting is emphasized during task-oriented lab experiments. The ISA-CCST emphasis is also continued from the previous course.

**ENGT 263 Topics in Engineering Tech**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: Instructor consent.*  
This is a study of new and evolving technologies in engineering. Current topics include locating and learning new technologies, technological trends, micro-electro-mechanical sensors (MEMS), nano-scale technologies, autonomous systems and alternative energies.

**ENGT 268 Engineering Technology Project**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
*Prerequisites: Instructor consent.*  
This is a final semester course involving the design, assembly and testing of an original engineering project. The student is expected to actively participate in a hands-on, team-oriented project design. The course requires a one-hour weekly team meeting.

**ENGT 270 Statics & Strength of Material**

*4 cr. hrs.; 4 lecture hours; 0 lab hours per week.*  
*Prerequisite: MATH 123 “C” or better or equivalent or instructor consent.*  
Study of static force systems, calculations of centroids, centers of gravity, friction, moments of inertia, shear moment diagrams, properties of materials. Determining stress and strain of materials when loaded in tension, compression, shear or torsion, and combined loadings.

**ENGT 272 Computer Aided Drafting I**

*2 cr. hrs.; 0 lecture hours; 4 lab hours per week.*  
*Prerequisite: ENGT 222 “C” or better or ENGT 226 “C” or better.*  
A projects course in specific and unique graphical illustration applications directed to the advanced study of 3D illustration terminology and techniques using Mechanical Desktop’s graphics computer aided drafting software AutoCAD 2002 or newer. Areas of studies will be determined by instructor and student depending upon the student’s chosen career field of expertise. Course may also be a continuation course for General Occupational Technical Studies students who have experience in a career-specific field who need further studies in drafting or in their related field.

**ENGT 274 Computer Aided Drafting II**

*3 cr. hrs.; 0 lecture hours; 6 lab hours per week.*  
*Prerequisite: ENGT 226 “C” or better.*  
A project course in specific and unique graphical illustration applications directed to the advanced study of 3D illustration terminology and techniques using Pro E/Wildfire computer aided drafting software. Areas of studies will be determined by instructor and student expertise. Course may also be a continuation course for students who have experience in a career specific field who need further studies in drafting or in their related field.

**ENGT 276 Professional Engineering II**

*3 cr. hrs.; 1 lecture hour; 4 lab hours per week.*  
*Prerequisite: ENGT 226 “C” or better.*  
The second course in the study of professional engineering with the addition of sheet metal, sweeps and assemblies.

**ENGT 280 Quality Issues in Machining**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
*Prerequisite: ENGT 180 “C” or better.*  
This manufacturing processing course will focus on the inspection, measurement, and quality control issues that arise during the manufacturing process. Descriptive statistics will be used, covered and applied to manufacturing processing applications.

**ENGT 283 Advanced Machining Operations**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
*Prerequisites: ENGT 231 and ENGT 232 “C” or better.*  
This course provides further instruction in the operation of lathes, mills, and inspection procedures. Topics include lathe and milling projects requiring heat treatment and post treatment grinding, setup and operation of surface grinders, inspection and measurement issues.

**ENGT 286 Advanced CNC with CAM**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*  
*Prerequisite: ENGT 236 “C” or better.*  
During this third course of CNC operations, the student will be acquainted with computer aided manufacturing programming. The students will define an object, determine the sequence of operations and cutter path, and produce the part.
ENGT 290 Engineering Tech Internship  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
An internship course to be performed upon or near graduation from the engineering technology program. Students are expected to locate and materially participate in an employment experience related to their chosen field of study. The internship requires periodic discussions of student journals, employment experiences, problem solving experiences and system design or analysis applications. Eighty hours of intern employment equals one academic credit hour.

**English**

ENG 091 Writing Fundamentals II  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: Appropriate placement score or ENG 081 “C” or better.*  
ENG 091 emphasizes strategies for organization and development of paragraphs and short essays.

ENG 101 Composition I  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: Appropriate placement scores in writing or ENG 091 “C” or better AND one of the following: appropriate placement score in reading or REA 098 “C” or better or concurrent enrollment in REA 098.*  
The first of two courses in the one-year composition sequence, English 101 introduces students to college-level writing as a process of developing and supporting a thesis in an organized essay. English 101 requires students to read and think critically, and it emphasizes using appropriate style and voice as well as the conventions of standard English and citation. IAI: C1 900

ENG 102 Composition II  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: English 101 “C” or better.*  
English 102 is the second of two courses in the one-year composition sequence. English 102 continues exposing students to college-level writing by developing and supporting a thesis in persuasive papers. English 102 requires students to read and think critically and to apply documentation and research skills to a multi-sourced academic research writing assignment. IAI: C1 901R

ENG 103 Advanced Academic Reading  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: Appropriate placement score or REA 098 “C” or above.*  
ENG 103 refines the reading skills necessary for success in college level textbooks and related reading, focusing on vocabulary, comprehension, critical reading, rate flexibility and study strategies.

ENG 132 Technical Writing I  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisites: COMM 100 and appropriate placement score or COMM 100 and COMM 105 or ENG 101 “C” or better or BE 180 or instructor consent.*  
ENG 132 includes correspondence, memo reports, formal reports, abstracts, fact sheets, instructions and proposals.

ENG 190 Introduction to Literature  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: Appropriate placement score or concurrent enrollment in REA 098.*  
This course offers an introduction to works of poetry, drama, and fiction in order to develop the reader’s interpretive skills. The course is designed to promote an awareness of excellence in literature as well as an appreciation of diversity. IAI: H3 900

ENG 205 Studies in Literature  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
Intensive study of a genre, topic, group of authors, or a single major writer. Images of Women in Literature, Psychology and Literature, Folklore, Science Fiction/Fantasy, Tragedy, Detective Fiction and Biblical Images in Literature are among offerings. May be repeated once.

ENG 206 Minority American Literature  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: ENG 101 “C” or better.*  
This course provides an introduction to the literary and cultural traditions of U.S. minority cultures – such as Native American, African American, Asian American, and Hispanic American – and to the general issues of cultural marginalization of minorities in the American experience. IAI: H3 910D

ENG 207 Introduction to Women Writers  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: ENG 101 “C” or better.*  
Students examine various types of literary works in the context of culture, society, and sexuality. Literatures of self-definition, identification, protest, and occupation may be included. IAI: H3 911D

ENG 208 Introduction to Poetry  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: ENG 101 “C” or better.*  
ENG 208 is an introductory course designed to expose students to poetry as a genre with an emphasis on reading, discussing and writing effectively about a range of poems. IAI: H3 903

ENG 210 Introduction to Fiction  
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*  
*Prerequisite: ENG 101 “C” or better.*  
Reading and discussion of representative short stories and novels from a range of literatures, with some attention to critical work on fiction. IAI: H3 901
ENG 213 American Literature I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A survey of representative works illustrating the development of American literature from its beginning to the Civil War with emphasis on major literary movements understood in relation to their intellectual, social and political contexts. IAI: H3 914

ENG 214 American Literature II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A survey of representative works illustrating the development of American Literature from the Civil War to the present, with an emphasis on major literary movements understood in relation to their intellectual, social, and political context. IAI: H3 915

ENG 215 Western Lit in Translation I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
Reading and analysis of representative works of Western Civilization from Homer through the Renaissance. IAI: H3 906

ENG 216 Western Lit in Translation II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
Reading and analysis of representative works of Western Civilization from Neoclassicism through symbolism and the modern school, from Moliere through Camus. IAI: H3 907

ENG 217 African and Caribbean Literature  
3 cr. hrs.; 3 lecture hours; 0 lab hours.  
Prerequisite: ENG 101 “C” or better.  
An introduction to the literature in English by writers from Africa and the Caribbean with an intellectual, social and political contexts of their works. Satisfies the non-western requirement. IAI: H3 908N

ENG 218 Latin American Literature in Translation  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
An introduction to the literatures in translation of Latin American countries including at least three of the following: Mexico, Peru, Colombia, Argentina, Puerto Rico, Cuba, Uruguay, Chile and Brazil. Emphasis on literature as an expression of culture. Satisfies the non-western requirement. IAI: H3 908N

ENG 219 Eastern Literatures in Translation  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
Reading and analysis of representative works of Eastern Literatures. Emphasizes one or more of these literatures: Asia, the Asian Subcontinent, the Middle East. Satisfies the non-western requirement. IAI: H3 908N

ENG 221 British Literature I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A survey of representative works illustrating the development of British Literature from its beginnings to 1800, with an emphasis on major literary movements understood in relation to their intellectual, social and political contexts. IAI: H3 912

ENG 222 British Literature II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A survey of representative works illustrating the development of British Literature from 1800 to the present, with an emphasis on major literary movements understood in relation to their intellectual, social, and political contexts. IAI: H3 913

ENG 223 Introduction to Shakespeare  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
An introduction to Shakespeare’s works by genre (comedy, history, tragedy and non-dramatic poetry). The course will focus on Shakespeare’s work in the context of his own time as well as our own. IAI: H3 905

ENG 231 Fiction Writing  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Students will understand the structure and elements of fiction and the writing process, produce fully-developed works of fiction, and demonstrate an understanding of the critical terminology of the creative writer.

ENG 232 Poetry Writing  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Students will understand the structure and elements of poetry and the writing process, produce fully-developed works of poetry, and demonstrate an understanding of the critical terminology of the creative writer.

ENG 240 Children’s Literature  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A study of formal and thematic elements of several genres of children’s literature (fables, fairy tales, nursery rhymes, picture books, novels, etc.). IAI: H3 918

ENG 242 Technical Writing II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: ENG 132 or instructor consent.  
Experience and skill in writing technical materials from proposals to research projects.

ENG 250 Film as Literature  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: ENG 101 “C” or better.  
A study of formal, thematic, and/or historical relationships between literary and cinematic forms, including examination of adaptations and influences that
demonstrate the strengths of each artistic medium. IAI: HF 908

**English as a Second Language**

**ESL 051 Foundations I**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week.*

This course is intended for the student who has limited ability in understanding and speaking English. Students will learn to function actively in situations involving daily life transactions. These will also include basic interactions that they will need to perform within the academic setting. All listening, and speaking activities will be taught in the context of situations. Students will also learn to pronounce correctly the basic vowel and consonant sounds of English. The material in this course will be correlated with the material taught in Foundations II.

**ESL 053 Foundations II**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week.*

This course is intended for the student who has limited proficiency in reading and writing English. Since the course takes the reading to write approach, the reading provides the ideas, vocabulary and language structure that students will use when they write. Basic reading comprehension, vocabulary skills and dictionary skills will be taught. The themes of the readings will progress from the everyday world of the student to the world in general. Students will learn to write sentences and guided and unguided paragraphs.

**ESL 061 Basic Sentence Structure**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This course given an overview of the structure of the simple English sentence; it concentrates on the noun phrase and the verb phrase. This course will help students understand the system of the English language and the rules that govern the system. Grammar will be taught in a holistic context. In other words, each grammar point will be taught within a thematic unit; students learn the vocabulary associated with the theme and practice the grammar through a series of written and oral projects that form part of each unit.

**ESL 062 Intermediate Grammar**

*1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This course gives an overview of the structure of the simple English sentence; it concentrates on the noun phrase and the verb phrase. This course will help students understand the system of the English language and the rules that govern the system. Grammar will be taught in a holistic context. In other words, each grammar point will be taught within a thematic unit; students will learn the vocabulary associated with that them and practice the grammar through a series of written and oral projects that form part of each unit.

**ESL 062A Intermediate Grammar Online**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This is the online component associated with ESL 062 Intermediate Grammar. This course, in conjunction with ESL 062 Intermediate Grammar, gives an overview of the structure of the simple English sentence; it concentrates on the noun phrase and the verb phrase. This course helps students understand the system of the English language and the rules that govern the system. Grammar is taught in a holistic context. In other words, each grammar point is taught within a thematic unit; students learn the vocabulary associated with the theme and practice the grammar through a series of online exercises and activities including quizzes and discussion boards. This course may be repeated three times.

**ESL 063 Reading I**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This course is designed to develop vocabulary and reading skills at the intermediate level. Students will improve skills at the intermediate level. Students will improve comprehension by learning to process sentence patterns that combine ideas, by reading for the main idea and the supporting details. Student will reinforce comprehensive and retention of ideas through outlining and summarizing. Students will also expand their vocabulary by learning to use context and by learning word families and affixation. An introduction to library resources is also part of this course.

**ESL 064 Intermediate Reading**

*1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This course is designed to develop vocabulary and reading skills at the intermediate level. Students will improve comprehension by learning to process sentence patterns that combine ideas, by reading for the main idea and the supporting details. Student will reinforce comprehensive and retention of ideas through outlining and summarizing. Students will also expand their vocabulary by learning to use context and by learning word families and affixation. An introduction to library resources is also part of this course.

**ESL 064A Intermediate Reading Online**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week. Prerequisite: ESL Program Coordinator consent.*

This course is the online component associated with ESL 064 Intermediate Reading. It is designed to reinforce the reading, vocabulary and research skills taught in ESL 064. Students will practice reading for the main idea, reading for specific information, and reading for comprehension. They will also practice the techniques needed to retain information from the reading by writing outlines and summaries. They will learn how to find the meaning of vocabulary through context. Students will practice online research skills and use PLATO to practice reading skills.
ESL 065 Writing I
4 cr. hrs.; 3 lecture hours; 2 lab hours per week. 
Prerequisite: ESL Program Coordinator consent.
In this course, students will master the paragraph and learn the structure of the essay. Since good writing results from working through a process that begins with exploration of ideas and ends with editing, students will learn the steps of process writing and also practice the mechanics that will produce an acceptable final product.

ESL 066 Intermediate Writing
1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week. 
Prerequisite: ESL Program Coordinator consent.
In this course, students will master the paragraph and learn the structure of the essay. Since good writing results from working through a process that begins with exploration of ideas and ends with editing, students will learn the steps of process writing and also practice the mechanics that will produce an acceptable final product.

ESL 066A Intermediate Writing Online
1 cr. hr.; 1 lecture hour; 0 lab hours per week. 
Prerequisite: ESL Program Coordinator consent.
This course is the online component associated with ESL 066. This course is designed to introduce the process of academic writing in English to advanced beginning and intermediate ESL students. Students will master different kinds of paragraph writing, learn the structure of the essay and practice the skills necessary for academic writing. Because good writing results from working through a process that begins with the exploration of ideas and ends with editing, students will learn all the necessary steps of process writing and will then practice the mechanics that produce an acceptable final product.

ESL 067 Listening/Speaking I
4 cr. hrs.; 3 lecture hours; 2 lab hours per week. 
Prerequisite: ESL Program Coordinator consent.
The principal objectives of this course are improve the listening and speaking skills of international students and non-native speakers of English so they can function effectively and comfortably in situations beyond the basic survival setting and to prepare them for the more specific listening and speaking tasks required in the academic setting. Students will learn to discuss topics important to well-educated people and to present persuasive opinions about them. Students will listen to lectures and learn how to take notes. They will engage in a wide variety of problem-solving activities that will help refine their analytical skills. Students will learn how to give informative, persuasive, and demonstration speeches. They will develop academic vocabulary related to the lecture themes and refine their pronunciation.

ESL 068 Intermediate Oral Skills
1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week. 
Prerequisite: ESL Program Coordinator consent.
The principal objectives of this course are improve the listening and speaking skills of international students and non-native speakers of English so they can function effectively and comfortably in situations beyond the basic survival setting and to prepare them for the more specific listening and speaking tasks required in the academic setting. Students will learn to discuss topics important to well-educated people and to present persuasive opinions about them. Students will listen to lectures and learn how to take notes. They will engage in a wide variety of problem-solving activities that will help refine their analytical skills. Students will learn how to give informative, persuasive, and demonstration speeches. They will develop academic vocabulary related to the lecture themes and refine their pronunciation.
their learning of colloquial English by visiting websites each week. They will prepare for conversations and speaking assignments through exploration of websites and online library resources. They will participate in online discussions through the course discussion board. May be repeated three times.

ESL 071 Complex Sentence Structure
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course continues to build the notion of language as a structure system and continues to teach the rules that operate within the system. Students will review the noun phrase and verb phrase of simple sentences, but will focus on how the English language shows relationships among idea units. Sentence types, clause types, sequencing of tenses, and connecting words are studied in detail. Students will continue to learn structures in context.

ESL 072 Advanced Grammar
1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course continues to build the notion of language as a structure system and continues to teach the rules that operate within the system. Students will review the noun phrase and verb phrase, but will focus on how the English language shows relationships among idea units. Sentence types, clause types, sequencing of tenses, and connecting words are studied in detail. Students will continue to learn structures in context.

ESL 072A Advanced Grammar Online
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course is the online component associated with ESL 072 Advanced Grammar. This course, in conjunction with ESL 072, continues to build the concept of language as a structured system and to illustrate the rules that operate within the system. Students will review the noun phrase and the verb phrase and will focus on how the English language shows relationships among the idea units. Sentence types, clause types, tense sequences, and connecting words are studied in detail. Students will learn structures in context. Students will complete online exercises, quizzes and online discussions to practice targeted structures. This course may be repeated three times.

ESL 073 Reading II
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course is designed to give students extensive practice reading unmodified college texts and essays. It continues to increase the length and complexity of reading required of students both inside and outside class. Particular attention is paid to text structure and organization. Students are required to participate in discussions in which they critically analyze the author’s approach to the articles they read. Students continue to develop vocabulary in much the same way as outlined in Reading I. They are particularly encouraged to develop a personal inventory of vocabulary based on extensive reading passages.

ESL 074 Advanced Reading
1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course is designed to give students extensive practice reading unmodified college texts and essays. It continues to increase the length and complexity of reading required of students both inside and outside class. Particular attention is paid to text structure and organization. Students are required to participate in discussions in which they critically analyze the author’s approach to the articles they read. Students continue to develop vocabulary in much the same way as outlined in Reading I. They are particularly encouraged to develop a personal inventory of vocabulary based on extensive reading passages.

ESL 074A Advanced Reading Online
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This course is the online component associated with ESL 074 Advanced Reading. It is designed to reinforce the reading, vocabulary and research skills taught in ESL 074. Students will practice reading unmodified college texts and essays. The length and complexity of reading required of students will continue to increase. Students will pay particular attention to text structure and organization. Students will participate in online discussion in which they critically analyze authors’ approaches to their topics. These online discussions will also analyze various aspects of the novel read in ESL 074. Students will develop a personal inventory of vocabulary based on extensive reading. Students will increase their online database and Internet research skills, and test-taking skills.

ESL 075 Writing II
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
In this course, students will acquire the level of writing they need to succeed in their studies in college. By the end of the course, students should be able to write well-organized essays that are largely free of errors common of non-native speakers. Students will continue to work through the writing process, and learn how to write the research paper.

ESL 076 Advanced Writing
1-4 cr. hrs.; 1-3 lecture hours; .5-2 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
In this course, students will acquire the level of writing they need to succeed in their studies in college. By the end of the course, students should be able to write well-organized essays that are largely free of errors common of non-native speakers. Students will continue to work through the writing process, and learn how to write the research paper.

ESL 076A Advanced Writing Online
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: ESL Program Coordinator consent.
This is the online component associated with ESL 076 Advanced Writing. This course is in conjunction with ESL 076 prepares the student to write at the College level. Students will write well-organized essays that are mostly free of errors typical of non-native speakers of English. Students will learn how to work through the writing process. In addition, students will learn how to write a research paper and to become proficient in word processing. Students will also use Internet resources to practice editing skills and to work through the drafting process. This course may be repeated three times.

**ESL 077 Listening/Speaking II**

*4 cr. hrs.;* 3 lecture hours; 2 lab hours per week.  
*Prerequisite: ESL Program Coordinator consent.*  
This course is designed to teach international students and non-native speakers of English the listening/speaking skills and strategies needed to participate fully and successfully in the college classroom. Students will practice listening strategies to help them understand and recall lectures. Speaking activities include small group discussions, role-playing simulation, games and debates, and speeches. Special activities include films, video taping of activities and guest speakers. Students will continue to work on pronunciation.

**ESL 078 Advanced Oral Skills**

*1-4 cr. hrs.;* 1-3 lecture hours; 0.5-2 lab hours per week.  
*Prerequisite: ESL Program Coordinator consent.*  
This course is designed to teach international students and non-native speakers of English the listening/speaking skills and strategies needed to participate fully and successfully in the college classroom. Students will practice listening strategies to help them understand and recall lectures. Speaking activities include small group discussions, role-playing simulation, games and debates, and speeches. Special activities include films, video taping of activities and guest speakers. Students will continue to work on pronunciation.

**ESL 078A Advanced Oral Skills Online**

*1 cr. hr.;* 1 lecture hour; 0 lab hours per week.  
*Prerequisite: ESL Program Coordinator consent.*  
This course is the online component associated with ESL 078 Advanced Oral Skills. This course is designed to teach non-native speakers of English the listening and speaking skills needed to participate fully and successfully in the college classroom. Students will practice listening strategies to help them understand and recall lectures. They will listen to reports and lectures online. They will learn to predict information to be found on tests. Speaking activities will include small group discussions, role-plays, simulations, debates and speeches of varying lengths. They will develop online research skills to help them prepare for these class activities. Students will continue to work on pronunciation through appropriate software. May be repeated three times.

**Equine**

**EQ 101 Introductory Equine Seminar**

*1 cr. hr.;* 1 lecture hour; 0 lab hours per week.  
A study of equine industry. Special reports on select current topics. Part of class time will be utilized by visiting lecturers. Occasionally a dinner meeting may be held. Required of full-time equine students.

**EQ 102 Horse Science Work Experience Seminar**

*1 cr. hr.;* 1 lecture hour; 0 lab hours per week.  
Continuation of EQ 101 with special emphasis on developing the work-education experience program.

**EQ 109 Equine Work Experience**

*1-8 cr. hrs.;* 0 lecture hours; 40 lab hours per week.  
*Prerequisites: Completion of 22 semester hours in Equestrian/Horse Science curriculum (that includes EQ 161 & EQ 151) or consent of instructor and concurrent enrollment in EQ 102.*  
Eleven weeks of supervised training in an approved equine business. Reports by the student and satisfactory job performance required for credit.

**EQ 120 Western Show Team**

*2 cr. hrs.;* 1 lecture hour; 2 lab hours per week.  
*Prerequisite: EQ 161 “C” or better or instructor consent.*  
A continuation of technical development of western horsemanship skills for competitions in intercollegiate Horse Show Association events. Emphasis will be on Regional through National Level competitions.

**EQ 151 Horse Production and Management**

*4 cr. hrs.;* 3 lecture hours; 2 lab hours per week.  
An introductory course on equine reproduction. Emphasis will be on dentistry, genetics, stallion and mare reproductive anatomy and physiology, foaling and foal care and general breeding farm management.

**EQ 152 Farm Machinery Operations**

*1 cr. hr.;* 1 lecture hour; 0 lab hours per week.  
This course is designed to provide individual machinery operation instruction to students that desire to increase their knowledge and improve their skills operating machinery commonly used on a horse farm/ranch.

**EQ 154 Horse Equipment and Facilities**

*3 cr. hrs.;* 3 lecture hours; 0 lab hours per week.  
Students will learn principles of planning for equine facilities, design and construction. Students will also learn to recognize, evaluate and select a variety of horse equipment.

**EQ 158 Horse Evaluation I**

*1 cr. hr.;* 1 lecture hour; 0 lab hours per week.  
Provides students an opportunity to gain experience in evaluating horses. There will be time spent on developing and presenting oral reasons.
EQ 159  Horse Evaluation II
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: EQ 158 or instructor consent.
Provides students an opportunity to gain experience in evaluating horses. Time will be spent on developing and presenting oral reasons. Continuation of EQ 158.

EQ 161  Western Horsemanship
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: Consent of instructor.
The principles and methods of western horsemanship will be studied including developing communication between rider and horse, proper positioning of the rider, process of aids and cues, and equitation guidelines.

EQ 167  Colt Training
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: Satisfactory completion of 15 credit hours in horse/Horse Science curriculum or instructor consent.
Fundamentals of horse handling and training will be covered, including stall maintenance and daily care, grooming, ground work, principles of breaking, and basic training techniques under saddle.

EQ 168  Horsemanship Lessons
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: EQ 161 and instructor consent.
Small group riding lessons developed to improve horse and rider communication, balance, strength, and relaxed concentration.

EQ 201  Advanced Equine Work Experience Seminar
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: EQ 102 and 109.
A study of the equine industry. Special reports on select current topics. Part of class time will be utilized by visiting lecturers. Occasionally a dinner meeting may be held. Required of full-time equine students. Special emphasis on preparing for advanced training for final supervised work education experience and career planning.

EQ 209  Advanced Horse Science Work Experience
5 cr. hrs.; 0 lecture hours; 48 lab hours per week.
Prerequisites: EQ 102 and 109 and concurrent enrollment in EQ 201.
Similar to EQ 109 with emphasis on developing advanced skills in the equine industry.

EQ 220  Western Show Team II
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Prerequisite: EQ 161 “C” or better or instructor consent.
A continuation of technical development of western horsemanship skills for competitions in Intercollegiate Horse Show Association events. Emphasis will be on Regional through National Level competitions.

EQ 253  Horse Health Care
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
A study of the methods of prevention and control of typical equine diseases and parasites. Also included will be treatment of common injuries and congenital disorders.

EQ 254  Stable Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A study of horse laws, taxes, advertising, buying and selling, insurance, accounting and records as related to the horse industry. Emphasis will be placed on how to achieve a profitable and functional operation in the horse industry as a breeder, trainer or stable manager.

EQ 258  Horse Evaluation III
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: EQ 158 and 159.
Provides students an opportunity to gain experience in evaluating horses. Time will be spent on developing and presenting oral reasons.

EQ 259  Horse Evaluation IV
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: EQ 158 and 159.
Provides students an opportunity to gain experience in evaluating horses. Time will be spent on developing and presenting oral reasons.

EQ 261  Western Horsemanship II
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: EQ 161 or instructor consent.
A second level course in western horsemanship. Students will advance their foundation horsemanship skills by incorporating dressage and advanced riding maneuvers into event specific disciplines in the western horse industry.

EQ 262  English Equitation
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: EQ 161 or instructor consent.
The principles and methods of hunt seat equitation will be studied including developing communication between rider and horse, proper positioning of rider, process of aids and cues, and equitation guidelines.

EQ 263  Methods of Teaching Horsemanship
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Prerequisites: EQ 161, EQ 262, or instructor consent.
Methods of Teaching Horsemanship is an introduction to the theory of teaching horsemanship. Analysis of objectives and the development of lesson plans for youth and adult beginning, intermediate and advanced riders will be removed.

EQ 264  Show Horse Training
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisites: EQ 161, EQ 262, instructor consent.
Students will use procedures learned in all previous equitation courses to select, prepare, train and compete on a horse in Horse Show events.
EQ 266 Horse Show Preparation and Management
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Prerequisite: EQ 161 or instructor consent.
Complete preparation of the horse for the show ring, consisting of grooming, mane pulling, braiding mane and tail, clipping and bandaging. Basic leather care and correct appointments will also be explained.

EQ 267 Farrier Science
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
A study of equine industry. Special reports on select current topics. Part of class time will be utilized by visiting lecturers. Occasionally a dinner meeting may be held. Required of full-time equine students. Comprehensive study of the horse’s foot, its function, anatomy, care, shoeing, related problems and techniques of corrections.

EQ 268 Intermediate Horse Training & Development
3 cr. hrs.; 2 lecture hours; 2 lab hours.
Prerequisites: EQ 161 and 262 or instructor consent.
The study of early training of a horse beginning with groundwork and translating it into riding. Emphasis is placed on developing a knowledge and use of transition training and developing the horse through body control and resistance free training.

EQ 269 Performance Horse Training
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: EQ 161, EQ 262, or instructor consent.
Students will use procedures learned in all previous equitation courses to select, train and compete in performance events.

Fire Service Officer

FSO 112 Command Officer Management I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Acquaints student with the role of Company Officer and provides an introduction to basic management theories, practices, and functions.

FSO 114 Fire Prevention Principles
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Course is designed to meet the needs of individuals who are expanding their knowledge about fire department operations, specifically fire prevention.

FSO 115 Tactics and Strategies I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to basic principles and methods associated with fire ground tactics and strategy as required of the Fire Service Company Officer.

FSO 118 Fire Service Instructor I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Course provides basic information about human relations in the teaching-learning environment, methods of teaching, and proper method of writing lesson plans.

FSO 212 Command Officer Management II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: FSO 112 or instructor consent.
Presents the principles of communication and group dynamics as they relate to the Company Officer.

FSO 215 Fire Fighting Tactics and Strategies II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: FSO 115 or instructor consent.
Advanced principles and methods associated with fire ground strategies and tactics required of the Multi-Company Officer or Fire Service Chief Officer.

FSO 218 Fire Service Instructor II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: FSO 118 or instructor consent.
Continuation of Instructor I; human relations, methods of teaching, and method of writing lesson plans.

FSO 224 Command Officer Management III
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: FSO 112 and FSO 212 or instructor consent.
Provides management principles and techniques used by mid-level Managers and Chief Officers in the fire service.

FSO 225 Command Officer Management IV
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: FSO 224 or instructor consent.
Study of management principles of public relations, lab relations, administrative liability, and personnel management used in the fire service.

French

FREN 101 Elementary French I
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
First course of a two semester sequence in elementary French with emphasis on speaking, listening, comprehension, reading, writing, and culture.

FREN 102 Elementary French II
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: One year of high school French “C” or better or one semester of college French “C” or better.
Second course of a two semester sequence in elementary French with emphasis on speaking, listening comprehension, reading, writing, and culture.

FREN 201 Intermediate French I
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: Two years of high school French “C” or better or two semesters of college French “C” or better.
First course of a two semester sequence in intermediate French with emphasis on oral proficiency, grammar review, composition, literary readings and study of Francophone culture and civilization.

FREN 202 Intermediate French II
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: Three years of high school French “C” or better or three semesters of college French “C” or better.
Second course of a two semester sequence in Intermediate French with emphasis on oral proficiency, grammar review, compositions, literary readings, and study of the Francophone culture and civilization. IAI: H1 900

FREN 253 Advanced French I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Four years of high school French “C” or better or four semesters of college French “C” or better.
First course of a two semester sequence in advanced French with emphases on both the spoken and written language. Students become familiar with classical and modern literary pieces, newspaper articles, films, etc. IAI: H1 900

FREN 254 Advanced French II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Four years of high school French “C” or better or four semesters of college French “C” or better.
Second course of a two semester sequence in advanced French with emphases on both the spoken and written language. Students become familiar with classical and language. Students become familiar with classical and modern literary pieces, newspaper articles, films, etc.

General Engineering

GE 100 An Introduction to Engineering
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to the field of engineering and necessary computational skills.

GE 101 Engineering Graphics and Geometry
3 cr. hrs.; 1 lecture hour; 4 lab hours per week.
Prerequisite: Math 124 or concurrent enrollment in Math 118, or instructor consent.
Introduction to basic graphing concepts including use of equipment, orthographic projection, geometric construction, and pictorial representation. Applications of orthographic projection of the engineering design process, introduction to computer-aided graphing using personal computers. IAI: EGR 941

GE 102 Engineering Graphics and Geometry
3 cr. hrs.; 1 lecture hour; 4 lab hours per week.
Prerequisite: GE 101 or equivalent.
Advanced graphics and descriptive geometry.

GE 201 Analytical Mechanics Statics
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: PHYS 201 or instructor consent.
Vector and calculus approach to principles of statics. IAI: EGR 942

GE 202 Analytical Mechanics Dynamics
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: GE 201.
Vector and calculus study of the displacement velocity and acceleration of particles and rigid bodies. IAI: EGR 943

GE 205 Elementary Mechanics of Deformable Bodies
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: GE 201.
The study of the stress and strain of deformable bodies due to external loading. Such stresses include tension, compression, torsion, transverse buckling, bending, combined loading and deflection. IAI: EGR 945

GE 271 Electrical Circuits
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: Phys 202 and Math 226
An introduction to engineering circuit analysis and design including basic laws and concepts of linear circuits, the resistor, the capacitor and inductor, AC circuits, and the operational amplifier.

General Technology

GT 200 Independent Study
1-3 cr. hrs.; 0 lecture hours; 3-9 lab hours per week.
Prerequisites: Sophomore standing and permission of instructor.
Experiences in open laboratory setting. Development of peer teaching, technical communication, and lab analysis skills.

Geography

GEOG 101 Physical Geography
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
A study of earth orbital factors affecting time, tides and seasons; climate, weather, soils and vegetation; interaction between man and the natural resources; map reading. IAI: P1 909L

GEOG 102 Physical Geography
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
The changing earth’s crust and surface; how natural forces such as rivers, streams, glaciers, weathering, earthquakes and volcanism affect the surface and composition of the earth; man’s interactions with his environment; fundamental map concepts. IAI: P1 909L

GEOG 105 Introductory Regional Geography
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A study of the world’s cultural, economic, historical, political, environmental and physiographic features. The regions examined and discussed include Europe, North America, South America, Africa, Asia and the Pacific. IAI: S4 900N

GEOG 106 Introductory Meteorology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to atmospheric science leading to a better understanding of day-to-day weather, including frontal systems and severe storms. IAI: P1 905
GEOG 107  An Introduction to Geography  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
For the non-science major. Study of selected regions of the world showing the complex interrelationship of man, culture and environment.

Geology

GEOL 101  Physical Geology  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
The study of the earth’s composition and forces which affect it; minerals, rocks, weathering, erosion, volcanism, structure, earthquakes and plate tectonics. IAI: P1 907L

GEOL 102  Historical Geology  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Study of the origin and evolution of the earth as interpreted from the evidence in rock sequences and fossils. IAI: P1 907L

GEOL 170  Chemistry of the Earth  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Examines earth’s physical environment from geological and chemical standpoints; economically important earth materials, and man’s interaction with the environment.

GEOL 201  Mineralogy  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: GEOL 101.  
Introductory study of minerals, their crystallography, chemical properties, recognition and occurrence.

GEOL 202  Invertebrate Paleontology  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
Prerequisite: GEOL 102.  
Introduction to major fossil invertebrate phyla, especially those with major stratigraphic significance.

German

GERM 101  Elementary German I  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
First course of a two semester sequence in elementary German with emphasis on speaking, listening comprehension, reading, writing and culture.

GERM 102  Elementary German II  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: One year of high school German “C” or better or one semester of college German “C” or better.  
Second course of a two semester sequence in elementary German with emphasis on speaking, listening comprehension, reading, writing and culture.

GERM 201  Intermediate German I  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: Two years of high school German “C” or better or two semesters of college German “C” or better.  
First course of a two semester sequence in intermediate German with emphasis upon oral proficiency, grammar review, compositions, literary readings, and study of German culture and civilization.

GERM 202  Intermediate German II  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: Three years of high school German “C” or better or three semesters of college German “C” or better or equivalent.  
Second course of a two semester sequence in intermediate German with emphasis on oral proficiency, grammar review, compositions, literary readings, and study of German culture and civilization. IAI: H1 900

GERM 253  Advanced German I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: Four years of high school German “C” or better, or four semesters of college German “C” or better or equivalent proficiency.  
First course of a two semester sequence in advanced German with emphases on both the spoken and written language. Students become familiar with classical and modern literary pieces, newspaper articles, films, etc.

GERM 254  Advanced German II  
3 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: Four years of high school German “C” or better, or five semesters of college German “C” or better.  
Second course of a two semester sequence in advanced German with emphases on both the spoken and written language. Students become familiar with classical and modern literary pieces, newspaper articles, films, etc.

Health

HEAL 102  Living in a Changing World  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Focuses on wise health practices and consumer health service information.

HEAL 123  Drug Use and Abuse  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
A comprehensive and in-depth study of the use and abuse of drugs in our society.

HEAL 200  First Aid  
1-3 cr. hrs.; .5-2 lecture hours; 1-2 lab hours per week.  
Methods and skills of emergency care for the ill or injured victim. May be repeated twice. Variable credit as follows: 1.0-Cardio-Pulmonary Resuscitation and Standard First Aid; 3.0-Cardio-Pulmonary Resuscitation, Advanced First Aid and Emergency Care Red Cross certification upon successful completion of course.

Health Information Management

HIM 147  Medical Assisting Clinical Techniques I  
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.  
Prerequisite: Admission to Medical Assistant program.  
This course presents a basic introduction to the profession of Medical Assisting and to the healthcare environment.
Specifically, this course will introduce the student to basic aseptic technique, gloving and gowning, vital signs, height/weight, Snelling vision screenings, patient interviewing and positioning and injections (intradermal, intramuscular, and subcutaneous).

HIM 148  Beginning Medical Transcription  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: BE 141 or equivalent skill.  
Introduction to transcription of medical reports.

HIM 156  Introduction to Health Insurance  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Introduce students to health insurance industry; present step-by-step procedures for generating, processing, and submitting health insurance claims to commercial, private, and governmental health insurance programs.

HIM 200  Advanced Medical Terminology  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: BIOL 150 “C” or better.  
Building a strong medical vocabulary, emphasis on extensive medical specialties anatomy, diagnostic and treatment procedures, progress of student from word recognition to usage in medical reports.

HIM 245  Medical Scribe Procedures  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: HIM 200 and HIM 252  
Medical scribes are individuals trained in medical documentation who assist a physician. This course will provide students with an understanding of the daily procedures performed by a medical scribe.

HIM 247  Medical Assisting Clinical Techniques II  
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.  
Prerequisite: HIM 147 “C” or better.  
This course presents advanced Medical Assisting skills including urinalysis, electrocardiography, basic blood collection methods (syringe, vacuum tube, capillary puncture).

HIM 249  Management of Health Info  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Create an understanding of management principles as they apply to various health information management settings. The student will see the health information manager job as that of a broker-including data capture, analysis, integration, and information dissemination in the health information area. Each major management function is addressed: planning, organizing, leading, and controlling.

HIM 250  Advanced Medical Transcription  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisites: BIOL 150, HIM 148, and BE 141 “C” or better.  
Machine transcription of medical reports. Emphasis on punctuation, spelling, and proofreading.

HIM 251  Medical Office Procedures  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: BIOL 150 “C” or better.  
Administration of the medical office; insurance, professional and business records.

HIM 252  Pharmacology Terminology  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Emphasis is on spelling, abbreviations, pronunciation, drug names and references and bodily effects of drugs. Drug classifications.

HIM 254  Law Liability and Medical Ethics  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
A careful examination of health legislation and health policy implementation. Student will become aware of legal aspects of handling information and ethics involved in management of medical information. Case studies will be used to provide problem solving.

HIM 255  Management of Electronic Health Records  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: Concurrent enrollment in HIM 251 and 200.  
Administration of the medical office work flow using electronic medical record simulation. Hands on computer experience with simulated electronic medical record applications via internet access. Students will gain knowledge and understanding of how accounts receivable, billing, collections and medical office work flow are electronically performed.

HIM 257  Procedure and Diagnosis Coding I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: BIOL 150 or concurrent enrollment.  
Coding (CPT-4) (ICD-9/10) is the translation of diagnoses, procedures, services, and supplies into numeric/alphanumeric components for statistical reporting and reimbursement.

HIM 258  Procedures & Diagnosis Coding II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: BIOL 150 “C” or better, HIM 257 “C” or above, or instructor consent.  
Advanced coding (CPT-4) (ICD-9/10) including surgical, in-patient, out-patient, multiple diagnoses, and procedures.

HIM 259  Procedures & Diagnosis Coding III  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisites: HIM 257 and HIM 258  
Coding (CPT-4, ICD-10 and HPCPS) is the translation of diagnoses, procedures, services, and supplies into numeric/alphanumeric components for statistical reporting and reimbursement. This course will address APC and DRG coding for the inpatient setting.

HIM 261  Seminar  
1 cr. hr.; 1 lecture hour; 0 lab hours per week.  
Prerequisite: Concurrent enrollment in HIM 265.  
Discussion of internship activities, challenges, team opportunities and problems.
HIM 265 Internship
3 cr. hrs.; 0 lecture hours; 40 lab hours per week.
Prerequisites: Instructor consent and concurrent enrollment in HIM 261.
Supervised field program, providing work experience in offices for students enrolled in Health Information Management.

History

HIST 105 History of the United States to 1877
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Surveys the history of the United States from the discovery of America through 1865, including settlement and westward expansion, the development of the American government, the growth of the American economy, the evolution of an American style of life and thought, and the development of sectionalism culminating in the Civil War. IAI: S2 900

HIST 106 History of the United States Since 1877
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: HIST 105 not required for enrollment.
Examines history of the United States from close of the Civil War through the present, including the rise of the U.S. as a major world power, the continued growth and development of the federal government, efforts to improve the status of minorities and women, the growth of the economy, and the changing pattern of American life. IAI: S2 901

HIST 125 Western Civilization I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Surveys the foundations of Western civilization in the ancient near east and the Greco-Roman world, and traces the transmission of ideas from these early cultures to the Medieval world, from the first feudal monarchies to the Protestant Reformation. Among the cultures studied are those of Mesopotamia, Egypt, Greece, Rome, North Africa, the Middle East and Europe. IAI: H2 901

HIST 127 Western Civilization II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: HIST 125 not required for enrollment.
Surveys expansion of Western civilization since the 17th century. Examines the age of kings, the French Revolution and Napoleon, the development of nationalism and industrialism, and the rising tide of violence in the 20th century. Particular emphasis is given to the spread of Western ideas and institutions throughout the world. IAI: H2 902

HIST 141 History of Asia I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Surveys the foundations of Eastern civilization beginning with its origins in the River Valleys of India and China. Particular emphasis is given to the development of major Asian societies, noting the creation of stable political and economic systems, and the stimulation of significant cultural achievements. Among the cultures studied are those of India, China, and Japan. IAI: S2 908N

HIST 142 History of Asia II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Surveys the continued development of Eastern civilization in the modern period, noting not only the richness of its cultural achievements, but also the impact of and the responses to the Western imperial presence. Particular emphasis is given to the gradual transformation of Asian societies and the variety of influences which led to political independence in the 20th century. Among the cultures studied are those of India, China, and Japan. IAI: S2 909N

HIST 151 History of the Middle East Since 1700
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Surveys Middle Eastern civilization with an emphasis on the period between 1700 and the present. Includes an examination of political, economic, social and religious development and the current condition of the Middle East. IAI: S2 919N

HIST 190 A History of American Labor
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course is a survey of the lives and work of American working people, from the colonial era to the present, and includes an examination of the origins and development of labor unions in the United States.

HIST 200 African American History
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: HIST 105 or HIST 106 recommended.
Surveys African-American experience and contributions, including analysis of leading personalities, ideologies, and enduring institutions, that have shaped the nature and direction of American life and culture.

HIST 205 Topics in History
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Intensive study of particular topics in history. Topics will vary and will be announced in advance: history of presidential greatness, survey of crime and punishment, the holocaust, Vietnam conflict. This course may be repeated once (up to 6 hrs.) provided that different topics are considered.

HIST 210 Directed Study in History
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisite: Instructor consent.
Offers serious student an opportunity to probe more deeply into an area of history in which there is a particular interest. Offered in conjunction with a regularly scheduled class and meets for one additional hour per week.

HIST 222 Comparative Religions
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course compares and contrasts the great religions of the world from the scholarly point of view as they emerged
in Asia and developed throughout the world; the course focuses on their beliefs, practices, and work of inspiration.

IAI: H5 904N

**HIST 231 History of England to 1688**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Explores history of England until 1688 and examines development of royal power, challenge of the feudal aristocracy, evolution of a national church, and rise of parliament.

**HIST 232 History of England Since 1688**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Surveys English history since the glorious revolution. Analyzes evolution of parliamentary government, development of a complex commercial and industrial society, emergence of democratic trends in political and social life, and the growth of an overseas empire.

**HIST 253 American Revolution**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Prerequisite: HIST 105 recommended.
A review of the political, social and economic causes of the American Revolution coupled with a survey of the events, personalities, and outcomes of the war itself.

**HIST 254 American Civil War**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Prerequisite: HIST 105 recommended.
A survey of the political, social, economic and military events associated with the American Civil War.

**HIST 255 History of Illinois**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Explores history of Illinois from the earliest times to the present. Examines evolution of the Indian cultures of the area, development of European colonization and settlement, organization of Illinois as a territory and state, and emergence of a complex agricultural and industrial society.

**HIST 256 American Westward Expansion**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Study of westward expansion and the influence of the frontier in American history from colonial times to the end of the 19th century.

**HIST 265 World War II**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Surveys the origins, development, and consequences of World War II from the end of World War I to the establishment of the Cold War.

**Horticulture**

**HORT 190 ID of Landscape Plant**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
The identification of shrubs used in landscaping. Discussion of cultural requirements, insects, and diseases found on these plants along with emphasis on pruning, transplanting, and design use.

**HORT 191 Beginning Floral Design**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
The principles of design using flowers and foliage are discussed with emphasis on how these principles of design impact everyday life.

**HORT 192 Landscape Design**
*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*
The basic appearance, presentation, and placement of ornamental horticulture plants in the landscape. Concepts of balance, form, harmony, and focal points as they relate to commercial and home landscape are emphasized.

**HORT 193 Trees/Aboriculture**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
The identification, care and use of nature and introduced trees. Special emphasis on techniques such as cabling and pruning.

**HORT 194 Identification of Horticultural Plants**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
This course includes the study of structures, physiology, reproduction and the identification of common horticulture plants. Basic horticultural practices are emphasized.

**HORT 195 Vegetable Production**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Designed to give the garden grower general knowledge regarding common vegetable crops. Emphasis is on growing conditions and proper care of vegetables.

**HORT 196 Perennials and Ground Cover**
*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
Provides a working knowledge of herbaceous perennials such as irises, peonies, lilies, and many others with respect to diseases, insects, propagation, and design.

**HORT 198 Turf and Lawn Management**
*1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*
The management and care of various turf grasses and their related problems. Emphasis is placed on practical equipment instruction, weeds, insects and diseases as they relate to golf courses, parks, sod production and home lawns.

**HORT 203 Horticulture Research Internship**
*.5-2 cr. hrs.; 0 lecture hours; 2.5-10 lab hours.*
Study of special problems or research in the areas of horticulture. Experience of facilities such as the Quad City Botanic Garden.

**HORT 210 Horticulture Work Experience**
*5 cr. hrs.; 0 lecture hours; 40 lab hours per week.*
Eight weeks of supervised training in an approved horticulture business. Reports by the student and job satisfactory performance required for credit.
HORT 284  Intro to Horticultural Science
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An introduction to the principles and practices involved in the development, production and use of horticultural crops (fruits, vegetables, greenhouse, turf, nursery, floral and landscape). IAI: AG 905

HORT 292  Greenhouse Crops
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Designed for study of major greenhouse crops normally produced in the fall/spring or year around. Light, water, fertilization, disease and insect control, use of chemical growth regulators, crop scheduling and cost accounting, and marketing theory are emphasized.

HORT 293  Small Fruits and Viticulture
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The study of bramble fruits (red and black raspberries, blackberries, blueberries, and others), and grapes and their production. Emphasis is on growing conditions, cultural practices and production of small fruits.

HORT 294  Greenhouse Management
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Emphasis on greenhouse equipment, maintenance, installation and design. Special topics include: fertilizer injectors; pesticide spraying equipment; steam sterilization systems; and heating, cooling, and CO2 units. Methods of energy conservation in the greenhouse, crop fertilization and watering practices.

HORT 295  Landscape Const Maint & Operation
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Techniques and uses of materials as they relate to construction of various features. Emphasis is on using surveying instruments and concrete and paving materials and many other landscape components.

HORT 296  Horticulture Business Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The study of retail and wholesale horticulture business management. Field trips include local nurseries, greenhouses, garden centers, seed and equipment dealers. Emphasis is on financing, tax records, land purchase, and purchase, advertising, ownership and small business practices. The course will include a case-study of a horticulture related business of student interest.

HORT 298  Golf Course Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Designed to provide advanced establishment skills of turf areas pertaining to golf courses. Additional study of irrigation systems, equipment maintenance, tees, and bunker development. Strong emphasis on fertilization, drainage, mowing and control of weeds, diseases and insects.

Humanities

HUM 101  Humanities I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to key concepts, major characteristics, and outstanding works in Western art, architecture, music, philosophy, theater, literature, and history from the Graeco-Roman world to the present. IAI: HF 900

HUM 102  Humanities II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to key concepts, major characteristics, and outstanding works in art, architecture, music, philosophy, theatre, literature and history from several cultures, Western and non-Western. IAI: HF 901

Independent Study

INDEPENDENT 299  Independent Study
1-4 cr. hrs.; 1 lecture hour; 10 lab hours per week.
Prerequisites vary among departments.
Designed to serve as a capstone for an instructional program for students with unusual interests and abilities and to include special educational projects that cannot normally be obtained in another course or in the classroom. Students work individually with a faculty member to plan and carry out a project that requires self-directed study. Enrollment requires prior permission.

International Studies

IS 205  Topics in International Studies
.5-5 cr. hr.; 0.5-5 lecture hour; 0 lab hours per week.
Independent study or group study designed to fit the needs of an individual student or a group of students.

IS 215  Topics/Issues in Business
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Seminar on a specific topic or current issue in one or more business fields. No topic/problem seminar can be offered more than twice within three years. (Topic to be listed on the student's permanent academic record.)

IS 220  Global Issues
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course introduces students to contemporary global issues and international relations. These diverse, complex issues stem from the synergistic interaction of economic, socio-cultural, and political factors. This course examines various influences that impact global issues, such as nation-states, governmental and non-governmental organizations as well as issues relating to gender, ethnicity, and power. The course also explores causes of conflicts and reviews potential solutions to contemporary global crises. IAI: S5 904

IS 250  American Culture and Civilization
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
This course is an interdisciplinary exploration of the contemporary culture and civilization of the United States.
Readings, lectures, videos and activities focus on the trends and issues that reflect American lifestyles and values. This course is intended for international students and for American students who seek a deeper understanding of American culture.

**Information Technology Support**

**ITS 110 Basic Electronics**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

A course in basic electronics for students pursuing the Computer Information Technology degree or IT support Technician AAS degree or Certificate. Includes fundamental DC and AC concepts, common electronic components and basic circuits, with an emphasis on their application in PCs and peripherals.

**ITS 112 Operating Systems**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

This is a course on Computer Operating Systems. The two operating systems of focus are Windows and Linux. Each will be explored independently in a comparative fashion with a primary focus on the usage of the command-line interfaces.

**ITS 116 Computer Hardware**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

This course is an introduction to computer hardware components, from a technician’s perspective. Content includes motherboard, CPU, memory, storage devices, and I/O devices, etc. Emphasis is on installation and repair, as well as hardware/software interaction. Not an A+ Certification prep course, but provides a foundation for future pursuit of this credential.

**ITS 118 Computer Troubleshooting**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

Prerequisite: ITS 116 “C” or better.

This course provides an introduction to computer support, troubleshooting methodologies, and routine computer maintenance and repair.

**ITS 124 Internship**

*1-3 cr. hrs.; 0 lecture hours; 5-15 lab hours per week.*

Prerequisites: ITS 112 and 116 with a “C” or better and instructor consent.

Structured work experience in computer maintenance and repair or other activity related to the student’s major. Designed to reinforce and supplement second semester coursework. May be repeated 2 times.

**ITS 125 IT Professional Skills**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week.*

This course is designed to enhance students’ professional skills, especially those of value in the Information Technology field. Topics include discussion of workplace issues, development of job-seeking strategies, and enhancement of interpersonal skills.

**ITS 180 Desktop Application Support**

*3 cr. hr.; 2 lecture hours; 2 lab hours per week.*

Prerequisites: CS 100 and NETW 120 “C” or better, or instructor consent.

A course on supporting, configuring and troubleshooting common desktop PC application programs, providing hands-on as well as classroom experience. Content covers Microsoft Office, Internet Explorer, Outlook, etc., in a networked office environment. Students should be familiar with current Microsoft operating systems, basic network operation, and desktop applications from a user standpoint.

**ITS 216 Advanced PC Hardware/A+ Prep**

*3 cr. hrs.; 2 lecture hours; 2 lab hours per week.*

Prerequisites: ITS 116 and ITS 112 and NETW 120 or instructor consent.

An advanced capstone course in computer hardware installation, troubleshooting and repair, with an emphasis on preparing the student to take the CompTIA A+ Certified Technician certification exams. Students will take the CompTIA exams as a requirement for course completion.

**Journalism**

**JOUR 221 Introduction to Mass Communications**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Study of the communications process. Newspapers, magazines, books, radio, television, and motion pictures. IAI: MC 911

**JOUR 222 Beginning Reporting**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Instruction in the mechanics of reporting and writing a news story.

**JOUR 225 Advanced Reporting**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Prerequisite: JOUR 222.

Experience in more difficult assignments and stories. Principles and practices of developing interpretative articles, features and editorials for the news media.

**JOUR 230 Newspaper Production**

*2 cr. hrs.; 0 lecture hours; 6 lab hours per week.*

Laboratory experience in the design, assembly and publishing of the college newspaper. Designed to give instruction and experience in all phases of production: editing procedures, rewriting, composition, heading and cutting.

**Latin**

**LAT 101 Elementary Latin I**

*4 cr. hrs.; 4 lecture hours; 0 lab hours per week.*

First course of a two-semester sequence in elementary Latin. Includes vocabulary, grammar, translation, readings and introduction to the ancient Roman culture and civilization.
LAT 102  Elementary Latin II  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
*Prerequisite: One year of high school Latin “C” or better or one semester of college Latin.*  
Second course of a two-semester sequence in elementary Latin. Includes vocabulary, grammar, translation, readings, and introduction to the ancient Roman culture and civilization.

**Liberal Studies**

LIB 240  Prior Learning Portfolio  
1 cr. hr.; 1 lecture hours; 0 lab hours per week.  
*Prerequisites: Competence in basic writing skills and instructor consent.*  
Survey of the history, theory, and processes of experiential learning and writing, documentation, and self-assessment techniques necessary for student preparation of a portfolio for the assessment of prior experiential learning. Each student prepares a portfolio. Intended for adults with significant life or work experience.

LIB 250  Field Study  
1-4 cr. hrs.; 0.5-2 lecture hrs; 2.5-18 lab hrs per week.  
*Prerequisite: Instructor consent.*  
For the student with a special interest or educational need that is related to a job or a work setting and who wishes to complete a practicum within the area. A weekly seminar meeting is included.

LIB 260  Internship  
2-5 cr. hrs.; 2 lecture hours; 20 lab hours per week.  
*Prerequisite: Instructor consent.*  
For the student with a special interest or educational need that is related to a job or a work setting and who wishes to complete supervised work experience in preparation for future employment.

**Logistics and Warehousing**

LW 100  Beginning Logistics/Warehousing  
2.5 cr. hrs.; 2.5 lecture hours; 0 lab hours per week.  
This is an introductory course in the field of logistics and warehousing. Logistics is defined as “getting the right thing to the right place at the right time and in the right condition.” There are many jobs in this field, and this course will highlight the industry with emphasis on terms and theories of successful warehousing and distribution. Economics, business planning, customer service, quality products, and employee contributions will be covered.

LW 105  Plant Safety in Warehousing  
2.5 cr. hrs.; 2.5 lecture hours; 0 lab hours per week.  
This course will cover personal safety in the warehouse as well as OSHA standards and requirements and Manufacturers Safety Data Sheets (MSDS). There is an optional opportunity to receive experience in forklift driving and OSHA certification.

LW 110  Warehousing Workplace Skills  
2.5 cr. hrs.; 2.5 lecture hours; 0 lab hours per week.  
This course will prepare students for the job market by covering important workplace skills such as sustainable problem solving, thinking systematically, work ethic, managing personal and organizational change through the application of proven techniques and world-class process, self-management and interpersonal communications. Students will receive tips on preparing for the job market with resume and interviewing skills.

LW 115  Logistics/Warehousing Technology  
2.5 cr. hrs.; 2.5 lecture hours; 0 lab hours per week.  
Because accuracy and timeliness are critical to the logistics field, this course will introduce students to current technology and recent practices that contribute to success. Students will be introduced to: RFID (radio frequency identification), Excel and Access computer programs, bar codes and scanning, Electronic Data Interchange (EDI), Material Requirements Planning (MRP), and Enterprise Resource Planning (ERP).

**Manufacturing Technology**

MT 114  Basic Precision Measurement  
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.  
Measuring techniques required for machine operations in industry.

**Massage Therapy & Bodywork**

MASG 100  Therapy Theory I  
10 cr. hrs.; 10 lecture hours; 0 lab hours per week.  
*Prerequisites: Minimum COMPASS reading score of 65 and instructor consent.*  
This class will instruct students on technical skills, attitudes and behaviors necessary to function as a professional massage therapist; history of massage therapy; massage and medical terminology; indications and contraindications for massage; hygiene, sanitation, and safety; pre-massage procedures; basic Swedish massage techniques; the dynamics of the fiduciary relationship; effective communication with clients; hands-on experience through trades with peers in the classroom; and the design of a massage therapy session.

MASG 102  Musculoskeletal Anatomy + Kinesiology  
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.  
*Prerequisites: Minimum COMPASS reading score of 65 and instructor consent.*  
Kinesiology is the study of movement of the human body. This course will familiarize students with the anatomy of the body that allows for movement; the skeletal system; the joints; and the muscular system.

MASG 103  Human Anatomy/Physiology  
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.  
*Prerequisites: MASG 102 “C” or better and instructor consent.*  
This course will present the eleven basic systems of the human body. The various structures, functions and
pathologies of these systems will be introduced. The emphasis of the class will be on the relation of the systems to massage therapy.

**MASG 106 Pathology for Massage**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: MASG 103 “C” or better and instructor consent.
The eleven basic systems of the human body and their pathologies will be discussed. Students will study the structure and function of the body in health and disease with an emphasis on how these relate to massage therapy.

**MASG 109 Therapy Theory & Practice**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: MASG 100 and MASG 102 “C” or better and instructor or academic advisor consent.
Students will continue with study and application of theories and techniques learned in the previous massage theory courses. Students will learn about business practices common to the massage therapy field including operating, marketing, and managing a practice. Students will continue to fine tune their hands-on applications. Review and preparation for licensure examination will be covered in great detail.

**MASG 110 Massage Therapy Clinical**
4 cr. hrs.; 0 lecture hours; 4 lab hours per week.
Prerequisites: Healthcare Provider CPR, criminal background check, MASG 100 “C” or better, or instructor consent.
Students wishing to graduate from the Black Hawk College Massage Therapy and Bodywork Program will participate in this clinical opportunity which will provide real life experience for the student and meet professional standards for clinical requirements.

**MASG 111 Massage Techniques/Practices I**
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.
Prerequisites: MASG 100 and MASG 102 “C” or better and instructor consent.
Students will learn advanced massage therapy and bodywork techniques through lecture and hands on experience through trades with peers in the classroom. Students will be introduced to a number of massage therapy complimentary bodywork modalities and ethical studies.

**MASG 112 Massage Techniques/Practices II**
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.
Prerequisite: MASG 111 or instructor consent.
Students will continue learning advanced massage therapy and bodywork techniques through lecture and hands on experience through trade and peers in the classroom. Students will be introduced to a number of massage therapy complimentary bodywork modalities. Students will participate in a mock clinic in preparation for MASG 110.

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**Materials Science Technology**

**MAST 101 Intro to Materials Science**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
This is an introductory course to materials science and technology involving the basic science and demonstration of the characteristics of solids, atomic structure and arrangement of atoms, classification of materials into metals, ceramics and polymers, and differences in the structures and properties of different materials.

**MAST 102 Metal Casting Technology**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MAST 101 and concurrent enrollment in or successful completion of CHEM 101 or instructor consent.
The course introduces student to the theory and practice in metal casting principles using green sand, shell, permanent, investment, centrifugal, and loss foam processes. Students will learn the principles of pattern design, molding, melting, filling and process analysis using a variety of materials and production techniques.

**MAST 105 Heat Treatment of Metals**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MAST 101 or instructor consent.
The purpose of this course is to provide learners with knowledge of the relationship between the structure and properties of metals. It introduces students to physical and mechanical properties, strengthening methods, failure modes, and structure modification through thermal processing in ferrous and non-ferrous alloys.

**MAST 201 Ceramics and Glass Technology**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MAST 101 or instructor consent.
This is an introductory course to the structures and properties of ceramics and glasses. Students also learn the applications and manufacturing processes used for ceramics and glass products.

**MAST 203 Ferrous and Non-ferrous Metals**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MAST 101 or instructor consent.
The course introduces students to some of the important engineering alloys in terms of their compositions, properties, applications and fabrication techniques. Students learn about the ferrous and non-ferrous alloys, their mechanical properties, strengthening methods, and heat-treatment processes.

**MAST 204 Metallurgy of Casting/Welding**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: MAST 101 and MAST 102 or instructor consent.
The course introduces students to the metallurgical concepts involved with metal solidification in casting and welding processes. Students learn the basic theory of metal solidification, microstructures in castings and welded joints, casting and welding defects, and their remedies.
MAST 205  Polymer & Plastics Technology  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week. 
Prerequisite: MAST 101 and concurrent enrollment in or successful completion of CHEM 101 or instructor consent. 
This course develops an understanding of the molecular and crystal structures of polymers. Students learn the relationships between structure and some of the physical and chemical properties, along with typical applications and forming methods.

MAST 206  Composite Materials Technology  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week. 
Prerequisite: MAST 205 or instructor consent. 
This course introduces students to the structures, properties and processing of composites materials. The topics cover particle-reinforced composites, fiber-reinforced composites and structural composites.

MAST 207  Statistical Quality Control  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week. 
Prerequisite: ENGT 105 and MATH 223 or instructor consent. 
The course involves the application of quality concepts to manufacturing environment using statistics, sampling techniques, probability, and control charts. Students learn how to develop and use statistical techniques to collect and analyze data to control quality and produce meaningful conclusions about processes.

MAST 209  Failure Analysis and Corrosion  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week. 
Prerequisite: MAST 101 or instructor consent. 
This course introduces students to the principles of corrosion and failure analysis which includes electrochemistry nature of corrosion, types of corrosion, corrosion rates, corrosion behavior of ferrous and non-ferrous metals, high-temperature corrosion, corrosion testing and control, methodology of materials failure analysis, common types of metallic failures, and failure analysis case studies.

MAST 220  Electronic Materials Tech.  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week. 
Prerequisite: MAST 101 or instructor consent. 
The course introduces students to the science of electronic materials. Students learn about the relationships between the internal structure, chemistry and physics of semiconductors, magnetic, and photonic materials to their electronic and optical properties, applications, and methods of device fabrication.

MAST 230  Non-destructive Testing  
2 cr. hrs.; 1 lecture hours; 2 lab hours per week. 
Prerequisite: MAST 101 or instructor consent. 
Students are introduced to the methods, procedures, and equipment associated with non-destructive testing of materials. The course will include the principles involved in visual inspection, dye-penetrant testing, magnetic flux testing, ultrasonic testing, radiographic testing, and eddy current testing techniques.

Mathematics

MATH 070  Topics in Developmental Math  
1-5 cr. hrs.; 1-5 lecture hours; 0 lab hours per week. 
This course is for mathematical remediation. Designed to allow students the structured opportunity to review arithmetic through algebra topics with the intent of placing into a higher level of math and ideally a college level math course.

MATH 080  Basic Mathematical Skills  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score. 
Review of basic computational skills including operations with fractions, decimals, percent, ratio and proportion, English and metric measurement, and formulas for area, perimeter and volume.

MATH 081  Basic Algebra  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 080 “C” or better. 
Introductory algebra includes: properties of real numbers; operations with rational numbers; monomials and polynomials; solving first degree equations and an introduction to linear functions and their graphs.

MATH 085  Plane Geometry  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 081, 086 or 094 “C” or better. 
Includes construction techniques, congruency, angles and triangles, similar polygons, parallel lines and planes, areas and volume, logic, and formal proofs.

MATH 086  Fundamentals of Algebra  
5 cr. hrs.; 5 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 080 “A”. 
This is a combination of elementary and intermediate algebra. Topics covered include real number concepts, linear equations and inequalities, exponents and polynomials, factoring rational expressions, linear systems, roots and radicals, and quadratic functions.

MATH 090  Intermediate Algebra  
5 cr. hrs.; 5 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 081 “C” or better. 
Extension of basic algebraic properties and techniques. Includes polynomials, factoring, rational expressions, logarithm, and exponents, first and second degree equations and inequalities, determinants, functions, and graphing.

MATH 091  Intermediate Algebra Review  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 081 “C” or better.
Extension of basic algebraic properties and techniques. Includes polynomials, factoring, rational expressions, logarithm and exponents, first and second degree equations and inequalities, determinants, functions, and graphing.

MATH 092 Math Literacy for College I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Appropriate placement score or MATH 080 “C” or better.
This is the first of two courses that are designed to be an alternative developmental mathematics path for students who plan to take general education mathematics and/or general education statistics. This course focuses on developing mathematical maturity through problem solving, critical thinking, data analysis, and the writing and communication of mathematics.

MATH 094 Math Literacy for College II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Appropriate placement score or MATH 081 or MATH 092 “C” or better.
This is the second of two courses that are designed to be an alternative developmental mathematics path for students who plan to take general education mathematics and/or general education statistics. This course focuses on developing mathematical maturity through problem solving, critical thinking, data analysis, and the writing and communication of mathematics.

MATH 100 Math for Elementary Teachers I
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: An appropriate algebra placement score, or MATH 086, 090, or 091 “C” or better and MATH 085 “C” or better or appropriate geometry placement score.
First course in a two-course sequence designed for elementary education majors. Topics in this course include sets, whole numbers, functions, numerical and computational methods, number theory, integers, rational numbers, decimals, proportions, percents, real numbers, and mathematical reasoning. General education credit is given only to students in curricula leading to state certifications for elementary teachers and/or special education teachers.

MATH 103 Essentials of Technical Math
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.
Prerequisite: Appropriate placement score.
This course includes a thorough review of arithmetic, an in-depth study of plane geometry concepts, an introduction to the metric system, and an introduction to trigonometry.

MATH 108 Statistics for General Education
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: Appropriate placement score or MATH 086, 090, 091 or 094 “C” or better.
Statistics for General Education focuses on mathematical reasoning and the solving of real-life problems, rather than on routine skills. This course consists of descriptive methods (frequency distributions, graphing, measures of location, and measures of variation), basic probability theory (sample spaces, counting, factorial rule, combinations, permutations, and probability laws), probability distributions (normal, binomial, and the Poisson distributions), statistical inference (interval estimation and hypothesis testing), correlation, simple linear regression, and analysis of variance. IAI: M1 902

MATH 110 Mathematics for General Education
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: Appropriate placement score or MATH 086, 090, 091 or 094 “C” or better.
A course designed to contribute to the general education of any college student. Contemporary problems will be investigated and solved using the mathematical concepts of sets, logic, counting techniques, probability, statistics, and financial formulas involving exponential and logarithmic expressions. IAI: M1 904

MATH 112 College Algebra
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisites: Appropriate initial placement score (within the last 6 months) or MATH 086 or 090 or 091 “C” or better and MATH 085 “C” or better.
Includes theory, graphs, and applications of polynomial, rational, exponential, and logarithmic functions (including symmetry and translations); inequalities, radicals, complex numbers, conics, systems of equations and matrices. Maximum credit for students taking any combination of Math 112, 116 and 118 is 7 credit hours.

MATH 113 Technical Algebra and Geometry
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.
Prerequisite: MATH 103 “C” or better or technical math assessment.
Topics include a review of basic algebraic operations, geometric concepts, functions and graphs, trigonometric functions, systems of linear equations, factoring polynomials, and quadratic equations.

MATH 116 Trigonometry
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: Appropriate placement score or MATH 086, 090 or 091 “C” or better. Note: MATH 112 recommended or MATH 112 concurrent enrollment recommended.
Includes circular functions, identities, conditional equations, right triangle trigonometry, solution of oblique triangles, inverse functions, complex numbers, and polar coordinates. Maximum credit for students taking any combination of Math 112, 116 and 118 is 7 credit hours.

MATH 118 PreCalculus
5 cr. hrs.; 5 lecture hours; 0 lab hours per week.
Prerequisites: Appropriate placement score or MATH 086 090 or 091 “C” or better. Note: If a student has not previously completed a course in trigonometry, enrollment in the separate courses MATH 112 and MATH 116 is recommended.
Includes field axioms, polynomial, rational, exponential, logarithmic, and circular functions with graphing, analytic trigonometry, polar coordinates, conics, systems of
equations, matrices, complex numbers, and mathematical induction. Maximum credit for students taking any combination of Math 112, 116 and 118 is 7 credit hours.

**MATH 123 Technical Algebra/Trigonometry**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 103 “C” or better or appropriate placement score.

Review of basic algebra and geometric relationships, graphing functions, trigonometric definitions, linear equations with solutions, factoring and fraction manipulations, vector relationships, and practical analytic solutions to problems.

**MATH 124 Calculus I with Analytic Geometry**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisites: Appropriate placement score or MATH 118 or MATH 112 and MATH 116 “C” or better.

First semester calculus including analytic geometry, with emphasis on functions, limits, continuity, derivative and some of its applications, differentials, antiderivatives, and the definite integral. IAI: M1 900-1, MTH 901

**MATH 131 Finite Mathematics**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 112 “C” or better.

This course applies the concepts of algebra to problems found in economics, business, and non-physical sciences. The emphasis is on applications. Topics include linear systems and programming, matrix algebra, mathematics of finance, and an introduction to probability and Markov Chains. IAI: M1 906

**MATH 132 Calculus for Bus/Soc Sciences**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 112 “C” or better.

A calculus course which includes differential and integral calculus as applied to business, economics, sociology and natural science. Topics include functions, limits, derivatives, applications of the derivative, and integration. IAI: M1 900-B

**MATH 161 Discrete Mathematics**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 112 “C” or better.

Includes the study of sets, functions, relations, logic and proof, mathematical induction, counting techniques, graph theory, trees, networks and recurrence relations. IAI: M1 905; CS 915

**MATH 200 Math for Elementary Teachers II**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 100 “C” or better.

Second course in a two-course sequence designed for elementary education majors. Topics in this course include statistics, probability, geometric figures, measurement, geometric transformations, and constructing geometric figures. General education credit given only to students in curricula leading to state certification as elementary teachers and/or special education teachers. IAI: M1 903 (Must take Math 100 and Math 200 for IAI use.)

**MATH 210 Math for Teaching and Learning**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
A mathematics course for elementary and middle school teachers examining numeric, algebraic, geometric reasoning, and measurement; featuring problem solving, applications, and concrete and visual representations. This course is designed for students pursuing a degree in education.

**MATH 223 Technical Calculus**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 123 “C” or better or appropriate placement score.

Graphs of trigonometric functions, exponents and radicals, exponential and logarithmic functions, complex numbers, plane analytical geometry, limits, and differential and integral calculus with emphasis on applications in science, engineering, and technology.

**MATH 225 Calculus II with Analytic Geometry**

4 cr. hrs.; 4 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 124 “C” or better.

Second semester calculus. Includes applications of the definite integral, transcendental functions, techniques of integration, sequences and series, polar coordinates and parametric equation. IAI: M1 900-2, MTH 902

**MATH 226 Calculus III with Analytic Geometry**

5 cr. hrs.; 5 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 225 “C” or better.

Includes vectors and vector-valued functions, surfaces in 3-space differential and integral calculus of multivariate functions, vector fields, line and surface integrals. IAI: M1 900-3, MTH 903

**MATH 228 Probability and Statistics**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Appropriate placement score or MATH 112 “C” or better.

This class discusses the descriptive and inferential methods of statistics. It includes measures of central tendency, dispersion, correlation, regression, analysis of variance, parameter estimation, hypothesis testing, distributions of random variables, and the use of computer packages for analysis of data. IAI: M1 902, BUS 901

**MATH 230 Linear Algebra**

3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: MATH 225 “C” or better.

Study of vector spaces with an emphasis on mathematical structure via definitions, theorems, and proofs. Topics include matrix representation of linear systems of equations, matrix equations and their solution space, linear
transformations, inverses of matrices, dimensions and rank, vector spaces and subspaces, eigenvalues and eigenvectors, and orthogonality. IAI: MTH 911

**MATH 235 Differential Equations**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
*Prerequisite: MATH 225 “C” or better.*
Study of ordinary differential equations, existence and uniqueness of solutions and related theorems. Topics include: linear equations of the first order, the general linear equation, linear equations with constant coefficients, variations of parameters, undetermined coefficients, linear independence, the Wronskian, exact equations, separation of variables, systems of linear differential equations, solution of Laplace transforms and applications. IAI: MTH 912

**Mechanics**

**MECH 102 Brake and Hydraulic Systems**
1-4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
Study of brake systems including anti-lock brake systems. An introduction to hydraulic systems will also be covered.

**MECH 103 Electrical Systems I**
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
Theoretical and practical aspects of electrical systems and components used on vehicles. Batteries, cranking, charging, ignition, accessory components and circuit wiring will be emphasized.

**MECH 104 Electrical Systems II**
1-4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
*Prerequisite: MECH 103 or Instructor consent.*
Study of electronics, regulation systems, ignition systems, components and accessories. Circuit understanding, troubleshooting, repair and service will be emphasized.

**MECH 105 Fuel Control Systems**
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
Basic fuel system principles of operation, (electronic feedback carburetion principles), and electronic fuel injection systems will be covered.

**MECH 108 Hydraulic Transmissions**
1-3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
The study of theory, operation, service and repair of hydraulic power and shift transmissions. Emphasis will be placed on current use transmissions. Student skill development in analysis and repair procedures will be stressed.

**MECH 109 Power Trains**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A working knowledge of the functions, designs, construction and service of various power trains. Course emphasis to be on various types of clutches, multi-speed manual transmissions, drive lines, rear axles and differentials.

**MECH 111 Engine Repair I**
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
An introductory course for the application and principles of operation of modern engines. Emphasis placed on measurement, engine machining, engine repair and general service to engines used in modern vehicles.

**MECH 112 Air Conditioning**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Fundamentals of operation and service of air conditioners and cooling units used on auto and agricultural applications.

**MECH 211 Engine Repair II**
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
*Prerequisite: MECH 111 or instructor consent.*
Application of theory to engine repair; analysis of engine failures, engine machining, service repair to engine systems. Emphasis on practical decision making and development of repair skills.

**MECH 213 Business Management**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
A course specially designed for Automotive Technology students, centering on organization and management of dealerships with emphasis on parts and service department operating procedures.

**MECH 215 Advanced Service I**
3 cr. hrs.; 0 lecture hour; 6 lab hours per week.
*Prerequisite: Forty-five or more hours completed in the Automotive program.*
A laboratory oriented course dealing with simulated field experience. Practical service procedures will be stressed.

**MECH 219 Diesel Engines**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A study of diesel engine systems. Emphasis will be given to service of the fuel systems and engine components peculiar to the diesel engine.

**MECH 290 Work Experience Internship Seminar**
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Course would serve as a counseling/training supplement for students on service internship. Among the topics covered are interpersonal relationships, job requirements, liability and legal concerns, tool and equipment needs and technical instruction on current problems.

**Montessori**

**MEC 100 Montessori Hist & Phil.**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This will be a general overview of Montessori’s principles and ideas, her view of the child and his/her place in society, with emphasis on Montessori’s concept of the child from birth through preschool. Also included will be the scientific analysis of how to nurture and assist the unfolding of the human personality; care of physical and
psychological needs; daily routines as curriculum; strategies for assistance; interactional techniques with children; positive communication with emphasis on personal development of the adult caregiver and the qualities of the adult based on Montessori’s view of the child; developmental assessment and record keeping.

MEC 101 Montessori Child Growth & Dev.
3 cr. hr.; 3 lecture hours; 0 lab hours per week.
This is an in-depth analysis of Montessori’s theory of child development along with an historical survey of the other influential psychologies of our time. Current research and issues in children development are emphasized.

MEC 102 Montessori Infant/Toddler Activ & Prog
3 cr. hr.; 3 lecture hours; 0 lab hours per week.
This course will focus on the Montessori philosophy for environmental design and education to accommodate infants and toddlers. It will also introduce the student to ways to develop mutual cooperation and support with families of infants and toddlers.

MEC 103 Montessori Program Leadership and Dev.
3 cr. hr.; 3 lecture hours; 0 lab hours per week.
This course will give the student an understanding of state, local and American Montessori Society standards and requirements in order to start understanding the administrative issues around Montessori programs. This course will also focus on the techniques of observation, documentation of observation, assessment and evaluation.

MEC 104 Montessori Early Childhood Activ & Prog
3 cr. hr.; 3 lecture hours; 0 lab hours per week.
This course will focus on the Montessori philosophy for environmental design and curriculum for early childhood. It will also introduce the student to ways to develop mutual cooperation and support with families of children in early childhood.

Music

MUSC 101 Instrumental Ensemble
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Standard instrumental literature as well as chamber music and other material as required. No auditions required. No more than 4 credit hours will apply toward a degree.

MUSC 102 Jazz Ensemble
1 cr. hr.; 0 lecture hours; 3 lab hours per week.
Preparation, exploration, and performance of jazz literature from a variety of stylistic eras. No more than 4 credit hours will apply toward a degree.

MUSC 103 Instrumental Chamber Ensemble
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Performance of selected chamber music according to the group instrumentation. No more than 4 credit hours will apply toward a degree.

MUSC 105 Vocal Ensemble: Opera
1 cr. hr.; 0 lecture hours; 3 lab hours per week.
Open to singers and accompanists. Opera production from musical standpoint is emphasized, climaxed by semester production.

MUSC 107 Choir
1 cr. hr.; 0 lecture hours; 3 lab hours per week.
Rehearsal and performance of sacred and secular choral literature from early Renaissance to the 21st Century. No audition required. No more than 4 credit hours will apply toward a degree.

MUSC 109 Chamber Singers
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Rehearsal and performance of vocal literature suitable for a chamber ensemble. A Cappella music is emphasized. Auditions required first week of class. No more than 4 credit hours will apply toward a degree.

MUSC 110 Fundamentals of Music
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Musical notation, scales and intervals, triads, seventh chords, sight-singing and fundamental keyboard skills. Recommended for music majors, elementary teaching majors, and other interested students.

MUSC 111 Theory of Music
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: MUSC 110 or placement examination or instructor consent.
Structure of music, notation, scales, intervals, harmonic progression, part writing, sight-singing, keyboard skills and composition.

MUSC 112 Theory of Music
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: MUSC 111 or instructor consent.
A continuation of MUSC 111, with an emphasis on part writing, harmonic progression, form, aural skills and keyboard proficiency.

MUSC 113 Exploring Music Literature
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: MUSC 110 and MUSC 111 or instructor consent.
Study of representative vocal and instrumental works illustrative of the principal forms and styles from the Medieval period to the present.

MUSC 114 Class Piano II
1 cr. hrs.; 0 lecture hour; 2 lab hours per week.
Prerequisite: MUSC 116 “C” or better.
Group piano instruction for non-keyboard music majors and MICP candidates. This is the second course in a four-semester sequence for non-keyboard music majors designed to develop the fundamental keyboard skills that will complement music major studies in music theory and
provide a foundation for performance in professional musical settings. Skills learned will directly correlate with those required to pass the piano proficiency exam.

MUSC 116 Class Piano I
1 cr. hrs.; 0 lecture hour; 2 lab hours per week.
Group piano instruction for non-keyboard music majors and MICP candidates. This is the first course in a four-semester sequence for non-keyboard music majors designed to develop the fundamental keyboard skills that will complement music major studies in music theory and provide a foundation for performance in professional musical settings. Skills learned will directly correlate with those required to pass the piano proficiency exam.

MUSC 118 Elements of Conducting
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Prerequisites: MUSC 110 and MUSC 111 or instructor consent.
Designed to develop the basic techniques for conducting music ensembles through baton use, understanding rehearsal techniques, score reading, listening projects, and observations.

MUSC 121 Elementary Voice
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied lessons available to all general students and non-vocal emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 123 Elementary Piano
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied lessons available to all general students and non-piano emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 125 Voice
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied major lessons available to all vocal-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 127 Piano
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied lessons in piano available to all piano-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 129 Organ
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied lessons in organ available to all students and organ-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 131 Brass Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied brass lessons available to all brass-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 133 Woodwind Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied woodwind lessons available to woodwind-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 135 String Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied lessons on a string instrument available to all string-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 137 Percussion Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Individualized applied percussion lessons available to all percussion-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 141 Elementary Brass Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied brass lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 143 Elementary Woodwind Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied woodwind lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 145 Elementary String Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied lessons on a string instrument available to all general students and non-string emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 147 Elementary Percussion Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Individualized applied percussion lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 153 Music Appreciation
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
For non-music majors only. Structure of basic elements, melody, harmony, form and rhythm. Emphasis is on listening and understanding the make-up of music. Outside listening is required.

MUSC 154 Music Appreciation
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
For non-music majors only. Study of literature of music emphasizing important composers and prevailing styles of various eras. Outside listening is required. IAI: F1 900

MUSC 158 Introduction to Non-Western Music
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to non-western culture through the study of music. IAI: F1 903N
MUSC 207  Music for Young Children  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Materials for singing, rhythmic activities, plus musical dramatizations and applications of basic classroom instruments. Provides basic musicianship needed to teach music in early elementary or pre-school. Not recommended for music concentration student unless approved by the music department full-time faculty.

MUSC 211  Theory of Music  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: MUSC 112 or instructor consent.  
Continuation of sight-singing, ear-training and dictation, with review of tonal harmony. Emphasis in harmony on analysis and composition in tonal harmonic styles using musical examples to the late 19th century.

MUSC 212  Theory of Music  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Prerequisite: MUSC 211 or instructor consent.  
Continuation of MUSC 211. Late 19th century and 20th century harmonic practices.

MUSC 214  Electronic Music I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Introduction to electronic music with emphasis on digital synthesis, microcomputer applications and music instrument digital interface (MIDI) standard. Includes principles of sound synthesis, digital recording and specialty designed computer software.

MUSC 215  Electronic Music II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 214 or instructor consent.  
A continuation of electronic music applications with emphasis on advanced topics in digital synthesis, microcomputer applications and musical instrument digital interface. Includes more involved methods of sound synthesis, digital recording and specially designed computer software.

MUSC 216  Class Piano III  
1 cr. hrs.; 0 lecture hour; 2 lab hours per week.  
Prerequisite: MUSC 117 “C” or better.  
Group piano instruction for non-keyboard music majors. This is the third course in a four-semester sequence for non-keyboard music majors designed to develop the fundamental keyboard skills that will complement music major studies in music theory and provide a foundation for performance in professional musical settings. Skills learned will directly correlate with those required to pass the piano proficiency exam.

MUSC 217  Class Piano IV  
1 cr. hrs.; 0 lecture hour; 2 lab hours per week.  
Prerequisite: MUSC 216 “C” or better.  
Group piano instruction for non-keyboard music majors. This is the fourth course in a four-semester sequence for non-keyboard music majors designed to develop the fundamental keyboard skills that will complement music major studies in music theory and provide a foundation for performance in professional musical settings. Skills learned will directly correlate with those required to pass the piano proficiency exam.

MUSC 221  Elementary Voice  
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 121 or instructor consent.  
Continuation of MUSC 121 in the sophomore year. Individualized applied lessons in voice available to all general students and non-vocal emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 223  Elementary Piano  
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 123 or instructor consent.  
Continuation of MUSC 123 in the sophomore year. Individualized applied lessons available to all general students and non-piano emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 225  Voice  
1-3 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 125 or instructor consent.  
Continuation of MUSC 125 in the sophomore year. Individualized applied lessons in voice available to all vocal-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 227  Piano  
1-3 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 127 or instructor consent.  
Continuation of MUSC 127 in the sophomore year. Individualized applied lessons in piano available to all piano-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 229  Organ  
1-3 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 129 or instructor consent.  
Continuation of MUSC 129 in the sophomore year. Individualized applied lessons in organ available to all students and organ-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 231  Brass Instrument  
1-3 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 131 or instructor consent.  
Continuation of MUSC 131 in the sophomore year. Individualized applied brass lessons available to all brass-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 233  Woodwind Instrument  
1-3 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
Prerequisite: MUSC 133 or instructor consent.
Continuation of MUSC 133 in the sophomore year. Individualized applied woodwind lessons available to all woodwind-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 235 String Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 135 or instructor consent.
Continuation of MUSC 135 in the sophomore year. Individualized applied lessons on a string instrument available to all string-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 237 Percussion Instrument
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 137 or instructor consent.
Continuation of MUSC 137 in the sophomore year. Individualized applied percussion lessons available to all percussion-emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 241 Elementary Brass Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 141 or instructor consent.
Continuation of MUSC 141 in the sophomore year. Individualized applied brass lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 243 Elementary Woodwind Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 143 or instructor consent.
Continuation of MUSC 143 in the sophomore year. Individualized applied woodwind lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 245 Elementary String Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 145 or instructor consent.
Continuation of MUSC 145 in the sophomore year. Individualized applied string lessons on a string instrument available to all general students and non-string emphasis music majors. Students will be required to pay a lesson lab fee.

MUSC 247 Elementary Percussion Instrument
1-2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: MUSC 147 or instructor consent.
Continuation of MUSC 147 in the sophomore year. Individualized applied percussion lessons available to all general students. Students will be required to pay a lesson lab fee.

MUSC 256 Introduction to American Music
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The study of the varied musical landscape of American music. Styles include: folk, bluegrass, country western, pop, jazz, rock, commercial, musical theatre, native American, ragtime, tin-pan alley, Latin, sacred and secular art music 17-19th century, concert music (late 19-21st century), cajun, zydeco, blues, gospel. Outside listening is required. IAI: F1 904

Natural Science

NSCI 101 Environmental Science I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduce scientific concepts underlying environmental processes and policies. This course will include topics such as methods of science, biological and physical science concepts and the history of environmentalism. Students wishing to use NSCI 101 as a general education science course must also complete NSCI 102. IAI: LP 900

NSCI 102 Environmental Science II
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.
Prerequisite: NSCI 101.
Extension of NSCI 101. Covers ecology and biodiversity, food and soil resources, air pollution and climate change, water cycles and water pollution, and energy resources. IAI: LP 901L

Nursing

NURS 105 Principles of Nursing/Self Enrichment
1 cr. hr.; 0 lecture hours; 40 lab hours per week.
Prerequisite: NURS 112 or RN status.
Offered during summer session only. This elective course is designed for the student desiring additional supervised clinical experience as a team member. This course does not fulfill the requirement of elective indicated in the curriculum path.

NURS 112 Nursing Concepts 1
10 cr. hrs.; 8 lecture hours; 6 lab hours per week.
Prerequisite: Admission to the Associate Degree Nursing Program
Nursing Concepts 1 is an introductory course focusing on the study and practice of principles and skills basic to the nursing of all ages. The nursing process is introduced as the basis for nursing care. Human needs basic to all individuals will be identified with an emphasis on the nursing process as it is used to assist persons to meet basic needs they are unable to meet themselves. Principles of assessment and care as they relate to concepts of stress, pain, immobility, infection and inflammation and pharmacology are also included.

NURS 112P LPN Transitions
8 cr. hrs.; 8 lecture hours; 0 lab hours per week.
Prerequisite: Current LPN license with 1,000 practice hours and admission to the Associate Degree Nursing Program
LPN Transitions course aligns with Nursing Concepts 1. This is an introductory course focusing on the study and practice of principles and skills basic to the nursing of all ages. The nursing process is introduced as the basis for nursing care. Human needs basic to all individuals will be identified with an emphasis on the nursing process as it is
used to assist persons to meet basic needs they are unable to meet themselves. Principles of assessment and care as they relate to concepts, stress, pain, immobility, infection and inflammation and pharmacology are also included.

**NURS 122A  Psychosocial Nursing Concepts**

*5 cr. hrs.; 3.5 lecture hours; 4.5 lab hours per week.*  
*Prerequisites: NURS 112 or NURS 112P, NURS 138, and BIOL 146 “B” or better.*  
Psychosocial Nursing Concepts is designed to assist students in developing clinical reasoning skills as they utilize the nursing process and nursing skills to plan and provide care for selected clients. This course will include the nursing care and management of pediatric, adolescent and adult patients with a focus on the nurse’s role in the care of individuals who experience difficulty with psychosocial adaptation.

**NURS 122B  Physiological Nursing Concepts**

*5 cr. hrs.; 3.5 lecture hours; 4.5 lab hours per week.*  
*Prerequisites: NURS 112 or NURS 112P, NURS 138, and BIOL 146 “B” or better.*  
Physiologic Nursing Concepts focuses on the problems of fluid and electrolytes, acid/base balance, metabolism, tissue perfusion, and altered protection. This course is designed to assist students in developing clinical reasoning skills as they utilize the nursing process and nursing skills to plan and provide care for selected patients. This course will include the nursing care and management of adult patients with fluid/electrolyte and acid/base imbalances, diabetes, peripheral vascular disease, cancer and problems of the immune system.

**NURS 130  Test Strategies for Nursing**

*.5 cr. hrs.; 0.5 lecture hours; 0 lab hours per week.*  
*Prerequisites: NURS 112 or NURS 112P*  
Test Strategies for Nursing is a course designed to maximize success in test taking by helping the nursing student develop a positive mental attitude. Students will be introduced to critical thinking, relaxation techniques, study methods, and test taking skills.

**NURS 138  Intro to Professional Nursing**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week.*  
*Prerequisites: Concurrent enrollment in NURS 112 or NURS 112P and BIOL 146. For transfer students, concurrent enrollment in NURS 122A, NURS 122B or NURS 216.*  
Introduction to Professional Nursing provides the Associate in Applied Science Degree Nursing students with a foundation for future classes and professional practice through increased understanding of the role and responsibilities of the Professional Registered Nurse and the current and projected practice environment. This course serves to synthesize prerequisite knowledge, and to prepare students for the rigors of the Associate Degree Nursing Program and practice subsequent to graduation and successful completion of the NCLEX-RN examination.

**NURS 142  Nurse Success Strategies**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week.*  
*Prerequisite: Below appropriate score for nationally-normed entrance exam for AAS-RN program or LPN program or instructor consent.*  
This course is designed to remedy any learning deficiencies in skills that are essential for success in the Associate Degree Nursing program or Practical Nursing program which are identified through nationally-normed standardized tests. This course focuses on the nursing-specific and pre-requisite content necessary for success in the program. Much learning will necessary for success in the program. Much learning will be individualized to address each student’s specific areas for improvement.

**NURS 150  Dosage Calculations**

*1 cr. hr.; 1 lecture hours; 0 lab hours per week.*  
*Prerequisites: Admission into the Associate Degree Nursing program.*  
This course is designed to remedy any learning deficiencies in skills that are essential for success in the Associate Degree Nursing program or Practical Nursing program which are identified through nationally-normed standardized tests. This course focuses on the nursing-specific and prerequisite content necessary for success in the program. Much learning will be individualized to address each student’s specific areas for improvement.

**NURS 152  Nursing Pharmacology Concepts**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week.*  
*Prerequisite: Instructor consent.*  
Nursing Pharmacology Concepts focuses on the common classes of medications nurses will administer in clinical practice, with emphasis on major drug classifications and specific medicinal agents and associated pharmacodynamics, pharmacokinetics, therapeutic uses, adverse reactions and precautions. This course is designed to assist students in developing clinical reasoning skills as well as developing a theoretical base of numerous medications.

**NURS 153  Clinical Reasoning in Nurs Sim**

*1 cr. hr.; 1 lecture hour; 0 lab hours per week.*  
*Prerequisites: NURS 112 or NURS 112P or PN 111 and PN 112 “C” or better.*  
A nursing course designed to incorporate the nursing process, QSEN (Quality and Safety in Education for Nurses), and clinical reasoning in a simulation environment. This course will allow students to practice in a “safe” environment, clinical skills and clinical reasoning.

**NURS 216  Nursing Concepts 3**

*10 cr. hrs.; 6 lecture hours; 12 lab hours per week.*  
*Prerequisites: NURS 122A, NURS 122B, BIOL 261, ENG 101 and PSYC 200 “C” or better.*  
Nursing Concepts 3 focuses on the nurse’s role in the care of infants, children, and adolescents; pregnant, laboring, or postpartum women, their newborn(s) and significant other(s); and individuals who experience difficulty with
aging, chronic illness and/or disability. The student will utilize the nursing process within the nurse-patient relationship in assisting patients and their families achieve or maintain their optimal level of wellness. This course is designed to assist students in developing critical thinking skills as they utilize the nursing process and nursing skills to plan and provide care for selected patients. This course will include the nursing care and management of patients during pre-pregnancy, antepartum, intrapartum, and postpartum; who are younger than 18 years; and across the lifespan who are coping with altered nutritional, mobility, or sensory status; gastrointestinal conditions; chronic conditions; and age related changes.

NURS 226  Nursing Concepts 4
10 cr. hrs.; 6 lecture hours; 12 lab hours per week.
Prerequisites: NURS 216 and SOC 264 “C” or better.
Nursing Concepts 4 focuses on the nurse’s role in the care of individuals who experience difficulty with oxygenation, fluid and electrolytes, mobility, sensation, cognition, regulation and metabolism, trauma and care coordination. Learning experiences are designed to foster increased depth and understanding of altered homeostasis and its effect on the client and their family. Emphasis is placed on experiences to enhance utilization of the nursing process and develop clinical reasoning techniques as they apply to the more seriously ill patient. Prototypes of health problems will be used to represent the selected concepts.

NURS 230  Transition into Practice
1 cr. hrs.; 1 lecture hours; 0 lab hours per week.
Prerequisites: NURS 216 and SOC 264 “C” or better.
The career aspects of nursing are explored on a seminar basis with the focus for discussion topics on successful functioning as a registered nurse. Content will build upon the concepts introduced in NURS 138, Introduction to Professional Nursing. Content will include issues and responsibilities in nursing, current trends in healthcare and implications for the registered nurse, legal implications of licensure as a registered nurse, moral and ethical responsibilities of the registered nurse; development through continuing education and participation in professional organizations, the responsibilities of the nurse as a contributing member of a community, and practice with NCLEX-RN style questions in preparation for taking the NCLEX-RN exam for licensure.

NURS 250  Nursing Practice Update
6 cr. hrs.; 4 lecture hours; 6 lab hours per week.
Prerequisite: Active RN license
Nursing 250 provides an overview of recent developments in nursing and health care. A review of basic skills will be provided. Nursing diagnosis and physical assessment skills will be discussed. The nursing process will be utilized by the student during their clinical experience while the student is caring for patients who have a variety of health needs.

NURS 270  Health Assessment
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisites: Completed first semester of ADN program and instructor consent.
This course is designed to develop the student’s understanding of a health history and physical examination. By completion the student will perform a detailed history and head to toe physical examination.

NURS 286  Train the Trainer for RNs
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: Registered Nurse, at least one year of applicable experience and two years licensure.
This lecture-format class prepares learners for employment as Illinois CNA instructors. The Alzheimer’s component is included. An IDPH Evaluator workshop will be offered in conjunction with some sessions.

NURS 295  Special Topics in Nursing
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: RN or instructor consent.
Designed to meet the special needs or interests of registered and student nurses. Topics will vary, but examples of course offerings include new concepts in diabetes care, fluid and electrolyte imbalances in hospitalized patients, cultural diversity in health care, and fetal monitoring.

Nursing Assistant

NA 100  Basic Nurse Assistant Training Program
8 cr. hrs.; 7 lecture hrs; 3 lab hrs per wk. (40 hrs clinical)
Prerequisite: Must be at least 16 years old and at least an 8th grade education.
This course provides the nurse assistant students with knowledge, understanding and skills to function as a responsible member of the health team. Students combine theory with practical application to various health care situations. Additional emphasis has been incorporated regarding the aging process, problems of the aged, and death and dying.

Orientation

OR 100  Introduction to College
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Topics of Introduction to College courses are designed to develop academic and personal skills that support student success in a learning-centered environment, including orientation to college, college study skills, and human potential. Students may take either OR 100 series for 1-3 credits or OR 101 for 3 credits, but not both OR 100 and OR 101.

OR 101  Becoming a Master Student
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Facilitates student success in a learning-centered college environment by covering such topics as college resources, processes, and procedures; academic integrity; information literacy; study skills; critical thinking; time management; academic goal-setting; and educational planning. Students
may take either OR 101 series for 3 credits or OR 100 for 1-3 credits, but not both OR 101 and OR 100.

**OR 110 Career Management for Everyone**

*2 cr. hrs.; 2 lecture hours; 0 lab hours per week.*

The focus of this course is on career goal-setting and strategies to achieve career goals for individuals who have made a career decision and/or are employed. Topics covered include decision making, time and stress management, strategic career planning, career management techniques, career success techniques and lifelong learning.

**Philosophy**

**PHIL 100 Logic**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Introduces the student to formal and informal logic. Examines logical fallacies that are found in everyday arguments as well as the basics of symbolic logic. IAI: H4 906

**PHIL 101 Introduction to Philosophy**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: Appropriate placement score or ENG 091 or REA 098 “C” or better.*

Some of the basic problems of philosophy. A consideration of the great philosophical systems dating from Socrates to the present. IAI: H4 900

**PHIL 103 Ethics**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: Appropriate placement score or ENG 091 or REA 098 “C” or better.*

Presents an introduction to the moral problems of society with an emphasis on concepts and systems. IAI: H4 904

**PHIL 205 Studies in Philosophy**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: Appropriate placement score or REA 098 “C” or better; ENG 091 “C” or better; one course in philosophy or instructor consent.*

Intensive study of one or more philosophical topics, philosophical traditions, or major philosophers. Philosophy of science and language, social and political philosophy, philosophy of law, rationalism, empiricism, analytic philosophy, Aristotle, Hume, Quine, metaphysics, philosophy of mind, and aesthetics are among the offerings.

**PHIL 206 Philosophy of Religion**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: Appropriate placement score or REA 098 “C” or better; or ENG 091 “C” or better.*

Discusses the intellectual problems of the religious experience. IAI: H4 905

**Physical Education**

**PE 101-122 Varsity Sports**

*1 cr. hr.; 0 lecture hour; 2 lab hours required per week*

*Prerequisite: Instructor consent.*

**PE 101 Golf (Freshman)**

**PE 102 Golf (Sophomore)**

**PE 103 Cross Country (Freshman)**

**PE 104 Cross Country (Sophomore)**

**PE 107 Basketball (Freshman)**

**PE 108 Basketball (Sophomore)**

**PE 113 Volleyball (Freshman)**

**PE 114 Volleyball (Sophomore)**

**PE 115 Softball (Freshman)**

**PE 116 Softball (Sophomore)**

**PE 119 Baseball (Freshman)**

**PE 120 Baseball (Sophomore)**

**PE 125 Physical Fitness I**

*1 cr. hr.; 0 lecture hours; 2 lab hours per week.*

This physical education course is open to all students. It is designed to accommodate each student’s fitness needs. Emphasis is placed on three areas of physical fitness: 1) an introduction to the holistic health concepts of physical fitness; 2) importance of regular exercise for all people; and 3) the systematic practice of fitness exercises in order to improve one’s strength, flexibility and endurance. Universal equipment is used in the laboratory phase of the course to develop more effectively one’s level of physical fitness.

**PE 126 Physical Fitness II**

*1 cr. hr.; 0 lecture hours; 2 lab hours per week.*

*Prerequisite: PE 125 or instructor consent.*

This physical education course is a continuation of PE 125 and is open to all students who have successfully completed PE 125. It is designed to teach intermediate level concepts and to accommodate each student’s needs. Emphasis is placed on intermediate concepts of fitness, strength, flexibility and cardiovascular endurance. Free weight and universal equipment will be used in the laboratory phase to develop one’s level of fitness.

**PE 127 Physical Fitness III**

*1 cr. hr.; 0 lecture hours; 2 lab hours per week.*

*Prerequisite: PE 125 and PE 126 or instructor consent.*

This physical education course is a continuation of PE 126 and is open to all students who have successfully
completed PE 125 & PE 126. It is designed to accommodate each student’s needs. Emphasis is placed on advanced levels of physical fitness, strength, flexibility and cardiovascular endurance. Free weight and universal equipment is used in the laboratory phase to develop more effectively advanced levels of physical fitness.

**PE 128 Physical Fitness IV**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
*Prerequisite: PE 127 or instructor consent.*

This physical education course is a continuation of PE 125, 126 and PE 127 and is open to all students who have completed PE 127. It is designed to provide advanced fitness concepts and skills based on individual needs. Emphasis is placed on advanced fitness levels of strength, flexibility and cardiovascular endurance. Free weights and universal equipment will be used in the laboratory phase of the course to develop more effectively advanced levels of physical fitness.

**PE 130 Soccer**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in soccer.

**PE 131 Touch Football**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in touch football.

**PE 132 Volleyball**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in volleyball.

**PE 133 Basketball I**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in basketball.

**PE 134 Softball**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in softball.

**PE 135 Conditioning**  
.5-4 cr. hr.; 0 lecture hours; 1-8 lab hours per week.  
Methods of attaining and maintaining physical fitness. Sections include figure control, weight training, Kosama, Pilates, yoga, jogging, swimming and other specific activities.

**PE 139 Beginning Skiing**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Analysis and learning of movement skills involved in skiing.

**PE 142 Martial Arts**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Judo, Karate, Tae Kwon Do, or Tai Chi Chuan martial arts. Special course may be offered for special populations such as women or seniors in specific techniques of self-defense. May be repeated three (3) times.

**PE 143 Fitness Assessment I**  
1 cr. hr.; 0 lecture hour; 2 lab hours per week.  
Introduction to an exercise program incorporating knowledge of exercise beneficial to the health of the individual.

**PE 144 Fitness Improvement II**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
*Prerequisite: PE 143 or instructor consent.*

Guided experiences in aerobic activities to improve physical well-being of the individual. May be repeated three (3) times.

**PE 145 Fitness Maintenance III**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
*Prerequisite: PE 144 or instructor consent.*

Guided experiences in aerobic activities to maintain selected level of health and fitness. May be repeated three (3) times.

**PE 148 Bicycling**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
Benefits of exercise and conditioning will be discussed for the beginning and avid bicyclist. Includes fundamentals of repair and maintenance, safety, and trip planning. A weekend bike trip to be included.

**PE 151 Archery**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Study of movement skills, rules and etiquette of target and field archery.

**PE 152 Golf**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Study of movement skills, rules and etiquette of golf. Driving range and green fees are the responsibility of the student.

**PE 153 Fencing**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Study of movement skills, rules and etiquette of foil fencing.

**PE 155 Weight Training**  
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.  
Proper design of weight training program and use of equipment for body development.

**PE 156 Social Dance**  
1 cr. hr.; 0 lecture hours; 2 lab hours per week.  
Students will learn different methods of Social Dance, which will enhance their ability develop their rhythmic movement.

**PE 157 Fundamentals of Basketball**
1 cr. hr.; 0 lecture hours; 2 lab hours per week. This course is designed for the physical education major student who will be teaching fundamentals of basketball. Includes analysis of movement skills and basketball drills.

**PE 160 Bowling**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
The purpose of this class is to acquaint students with the basic knowledge to participate in the game of bowling. It is essential that the student learn the fundamentals of bowling and consideration of basic skills, rules and strategies necessary for individual satisfaction. Fee: $6 facility and shoe use.

**PE 162 Tennis**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
Study of movement skills, rules and etiquette of beginning tennis. Student must furnish own equipment.

**PE 166 Intermediate Golf**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
Prerequisite: PE 152 or instructor consent.
Advanced skills, rules and etiquette of golf. Equipment, driving range and green fees are responsibility of student.

**PE 167 Intermediate Tennis**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
Advanced skills, rules and etiquette of tennis. Equipment is responsibility of student.

**PE 168 Advanced Weight Training**
.5-2 cr. hrs.; 0 lecture hours; 1-4 lab hours per week.
Prerequisite: PE 155 or instructor consent.
Advanced skills and techniques of body building.

**PE 173 Skiing II**
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Prerequisite: PE 139 or instructor consent.
Advanced instructional program for the intermediate to advanced skier.

**PE 190 Beginning Swimming**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
Introduction to movement skills of aquatic activities for the non-swimmer and beginning swimmer. May be repeated three (3) times.

**PE 191 Intermediate Swimming**
.5-1 cr. hr.; 0 lecture hours; 1-2 lab hours per week.
Analysis and practice of the five basic swimming strokes. May be repeated three (3) times.

**PE 193 Lifeguard Training**
1 cr. hrs.; 0.5 lecture hours; 1 lab hour per week.
Prerequisites: Must be at least 15 years old and successfully complete the pre-course session.
Lifeguard training provides entry-level lifeguard participants with the knowledge and skills to prevent, recognize and respond to aquatic emergencies and to provide care for breathing and cardiac emergencies, injuries and sudden illnesses until emergency medical services (EMS) personnel take over.

**PE 194 Water Safety Instructor**
1 cr. hrs.; 0.5 lecture hour; 1 lab hour per week.
Prerequisites: Must be 16 years old and successfully complete the pre-course session.
Train instructor candidates to teach water safety, including the Basic Water Rescue and Personal Water Safety course, six levels of Learn-to-Swim, three levels of Preschool Aquatics and two levels of Parent and Child Aquatics.

**PE 203 Sports Officiating**
1 cr. hr.; 0.5 lecture hours; 1 lab hour per week.
Instruction in techniques of officiating selected sports. Includes rules, interpretations, professional ethics, preparation for state certification, and practical experience. Separate courses maybe offered for individual sports. Repeatable 4 times.

**PE 210 Intro to Sports Management**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course will help students pursuing sport-related careers determine their interest in academic or professional sport management by providing a broad overview of the field. Topics will include the history of sports management; social, behavioral, organizational and managerial foundations of sports management; and selected functions of the field such as marketing, public relations, finance, and others.

**PE 211 Introduction to Community Recreation**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Provides beginning student with background, development, scope and status of community recreation, its organization and management.

**PE 212 Introduction to Physical Education**
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Survey course designed for the major student. Basic understanding of the function and purposes of physical education in public schools and in non-traditional settings.

**PE 213 Horseback Riding I**
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Instruction in horseback riding including general characteristics of the horse; equipment use and placement; horse care and grooming; walk, trot and canter; and tacking and untacking.

**PE 215 Leadership in Leisure Activities**
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.
Prerequisite: PE 211 recommended.
Examines all forms of leadership in the field of recreation and sport.

**PE 216 Selected Topics in Phys Ed**
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: PE major or instructor consent.
PE 216 is designed to meet the needs of students in the areas of physical education and sport through the identification of standard and controversial issues in those...
fields. Topics will encompass the social, legal, and philosophical aspects of physical education and sport. Topics will be researched by students using library resources.

**PE 217 Current Issues in Sports**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

This course is an in-depth look at the skills involved in four areas of sports management prioritized by local sport-related organizations: managing sport facilities, sport finance, sporting events, and risk management. Other issues will be examined, depending on time available, student interest, or timeliness of topic.

**PE 220 Sports Anatomy and Physiology I**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

Anatomical and anthropometrical components of human movement as they relate to exercise.

**PE 221 Sports Anatomy and Physiology II**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: PE 220.*

Physiological components of human movement.

**PE 230 Intramural Management**

*2 cr. hrs.; 1 lecture hour; 2-4 lab hours per week.*

Studies the organization and management of intramural and recreational activities. Each student is required to assist in officiating, supervising, and planning of activities.

**PE 241 Theory of Coaching**

*3 cr. hrs.; 3 lecture hour; 3 lab hours per week.*

This course is a comprehensive introduction to the coaching profession. Emphasis is placed on sport at the high school and serious club levels. Consideration is also given to coaching at other levels, such as youth, recreation, and intercollegiate sport programs.

**PE 251 Psychology of Sport**

*3 cr. hrs.; 3 lecture hour; 3 lab hours per week.*

This course takes an in-depth look at the principles of psychology that drive the emotions, motivation, expectations, self-worth, and relationships of athletes in order to better understand how athletes learn and how coaches teach them.

**PE 260 Physical Education, Grades 1-6**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

*Prerequisite: Education or Physical Education majors or instructor consent.*

Activities, materials and techniques for teaching physical education on the elementary school level.

**PE 270 Internship: Sports Management**

*3 cr. hrs.; 0 lecture hours; 15 lab hours per week.*

*Prerequisite: PE 210 or instructor consent.*

This course is designed to give the student an inside look at the day-to-day operation of businesses in the sports industry. Each student will gain practical work experience at an approved sports-related business of his or her choice.

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**Physical Science**

**PS 101 Introduction to Physical Science**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week.*

A conceptual overview of physical science intended for non-science majors, including elementary education. Topics will include the fundamentals of chemistry, physics, geology, astronomy, and meteorology. IAI: P9 900L

**PS 205 Issues in Science, Technology and Society**

*3 cr. hrs.; 3 lecture hours; 0 lab hours per week.*

An interdisciplinary course which considers the impact of science, technology and society. It will help the student understand the relevance of science, and technology as they relate to ethical, political, economic and historical decisions. The course will provide an introduction to the fundamental behavior of matter and relate topics in physical science to events taking place in our changing world. IAI: P9 900

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**Physical Therapist Assistant**

**PTA 100 Introduction to PTA**

*3 cr. hrs.; 3 lecture hour; 0 lab hours per week.*

*Prerequisite: Admission to PTA program.*

Study of historical background, professional ethics, and legal aspects of physical therapy practice. Overview of quality assurance and reimbursement issues, role of the PT and PTA in various settings and introduction to patient care.

**PTA 113 Physical Agents I**

*2 cr. hrs.; 1 lecture hour; 2 lab hours per week.*

*Prerequisite: Admission to PTA program.*

Study of indications, contraindications and application of cold and heat such as ultraviolet, paraffin, hot/cold packs, ice, whirlpool, contrast baths, ultrasound, short wave diathermy, and phonophoresis.

**PTA 201 Kinesiology**

*4 cr. hrs.; 3 lecture hours; 2 lab hours per week.*

*Prerequisites: Admission to the PTA program.*

Study of analysis of force systems and mechanics of muscle action, and production of movement.

**PTA 202 Physical Rehabilitative Techniques**

*3 cr. hrs.; 1.5 lecture hours; 3 lab hours per week.*

*Prerequisite: PTA 201 “C” or better.*

Study of basic rehabilitative techniques, such as goniometric measuring, patient positioning, range of motion exercise, transfer techniques, gait training, and chest physical therapy.

**PTA 203 Pathology**

*2 cr. hrs.; 2 lecture hours; 0 lab hours per week.*

*Prerequisites: PTA 100, PTA 113, PTA 201, BIOL 145 “C” or better.*
Study of the fundamental basis of disease. Emphasis on conditions treated through physical therapy procedures.

**PTA 204 Practicum I**  
3 cr. hrs.; 1 lecture hour; 6 lab hours per week.  
**Prerequisites:** PTA 100, PTA 113, PTA 201, BIOL 145 “C” or better.  
Practice of routine physical therapy assisting procedures with selected patients in a closely supervised clinical setting.

**PTA 205 Physical Therapy Science**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
**Prerequisite:** PTA 201 “C” or better.  
Discussion and study of medical conditions commonly referred for physical therapy such as cerebral palsy, multiple sclerosis, cerebral vascular accident, peripheral nerve injury, arthritis, and others.

**PTA 207 Massage**  
1 cr. hr.; 0.5 lecture hour; 1 lab hour per week.  
**Prerequisites:** PTA 100, PTA 113, PTA 201, BIOL 145 “C” or better.  
Study of scientific principles, indications, contraindications, and application of a variety of massage techniques.

**PTA 208 Therapeutic Exercise I**  
3 cr. hrs.; 2 lecture hours; 3 lab hours per week.  
**Prerequisite:** PTA 202 “C” or better.  
Study of fundamentals of exercise, theory and practice of basic exercises for individual muscles or muscle groups, breathing and postural exercises, manual muscle testing, and gait analysis.

**PTA 209 Therapeutic Exercise II**  
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.  
**Prerequisites:** PTA 205, PTA 208, PTA 214 “C” or better.  
Study of scientific principles of therapeutic exercise, including use of equipment, orthopedic and neurological exercise techniques.

**PTA 213 Physical Agents II**  
3 cr. hrs.; 2 lecture hours; 3 lab hours per week.  
**Prerequisite:** PTA 208 “C” or better.  
Study of physiological effects, indications, contraindications, and application of a variety of modalities including electrical stimulation devices, traction, and mechanical compression.

**PTA 214 Practicum II**  
3 cr. hrs.; 1 lecture hour; 6 lab hours per week.  
**Prerequisite:** PTA 201 “C” or better.  
The student will practice previously learned skills in a clinical setting, supervised by a physical therapist. The student will produce documentation pertinent to patient caseload at clinic site but not limited to daily notes, progress notes, and Medicare documentation.

**PTA 280 Clinical Internship I**  
4 cr. hrs.; 0 lecture hours; 40 lab hours per week.  
**Prerequisites:** PTA 209 and PTA 213 “C” or better.  
One of the final learning experiences in selected health care facilities with hands-on application of treatment techniques and theories.

**PTA 281 Clinical Internship II**  
4 cr. hrs.; 0 lecture hours; 40 lab hours per week.  
**Prerequisite:** PTA 280 “C” or better.  
A final learning experience in selected health care facilities with hands-on application of treatment techniques and theories and progression of patient care skills learned in Clinical Internship I.

**PTA 290 Clinical Seminar**  
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.  
**Prerequisite:** PTA 208 “C” or better.  
The course is designed to provide the students the opportunity to evaluate internship experience. It will also include a series of topics presented by experts in special techniques and subjects related to physical therapy.

**Physics**

**PHYS 101 College Physics I**  
5 cr. hrs.; 4 lecture hours; 3 lab hours per week.  
**Prerequisite:** MATH 112 or equivalent or instructor consent.  
For students majoring in a field other than pre-engineering, mathematics or physics. Theory of mechanics, heat and sound. Graduation credit not permitted for both PHYS 101 and 201. IAI: P1 900L

**PHYS 102 College Physics II**  
5 cr. hrs.; 4 lecture hours; 3 lab hours per week.  
**Prerequisite:** PHYS 101.  
Theory of magnetism, electricity, light and topics from atomic and nuclear physics. Graduation credit not permitted for both PHYS 102 and 202.

**PHYS 110 Introduction to Physics**  
4 cr. hrs.; 3 lecture hours; 2 lab hours per week.  
Basic principles of many branches of physics. Credit for this course will not be counted toward graduation if the student also completes PHYS 101 or 201 equivalent. IAI: P1 900L

**PHYS 115 Concentrated General Physics**  
6 cr. hrs.; 5 lecture hours; 3 lab hours per week.  
**Prerequisite:** MATH 091 or equivalent or instructor consent.  
An accelerated study of general physics, primarily intended for students wishing to meet the entrance requirements for pre-chiropractic. Will cover the same topics as PHYS 101 and 102. (No credit for both PHYS 101, 102 and 115.)
PHYS 120 Energy and Society
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
For non-science majors. A non-mathematical lecture-discussion course covering both finite and alternate energy sources.

PHYS 140 Practical Physics
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
For non-science majors. Presents in a conceptual format the basic principles of physics including motion, force, energy, electricity, and magnetism. IAI: P1 900

PHYS 200 Technical Physics
1-4 cr. hrs.; 2 lecture hours; 2 lab hours per week.
A class designed to help the student understand the physical laws that affect the machinery they deal with daily.

PHYS 201 General Physics
5 cr. hrs.; 3 lecture hours; 4 lab hours per week.
Prerequisite: MATH 124 or concurrent enrollment in MATH 124.
For students preparing to major in engineering, physics, chemistry or mathematics. Analytical study of the theory of mechanics, heat and sound. Graduation credit will not be permitted for both PHYS 101 and 201.
IAI: P2 900L; PHY 911

PHYS 202 General Physics
5 cr. hrs.; 3 lecture hours; 4 lab hours per week.
Prerequisite: PHYS 201.
For students preparing to major in engineering, physics, chemistry or mathematics. Analytical study of the theory of electricity, magnetism, and optics. Graduation credit will not be granted for both PHYS 102 and 202.
IAI: PHY 912

PHYS 214 General Physics (Quantum)
2 cr. hrs.; 1 lecture hours; 2 lab hours per week.
Prerequisites: PHYS 201 and PHYS 202.
For student preparing to major in engineering, physics, chemistry or mathematics. Analytical study of the theory of light, photons and quantum phenomena.

Political Science

POLS 122 American National Government
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Examines the development and operation of the U.S. national system of government; evolution of the Constitution; the organization, powers, and functions of the three branches of government; the practice and limitations of American politics; and the interrelationships with state and local governments. IAI: S5 900

POLS 191 Introduction to Political Science
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Introduction to the academic discipline of political science that focuses attention on the nature and scope of political science, the political process, political theories, and the interrelationships of various elements of a political system. IAI: S5 903

POLS 200 Introduction to Political Thought
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This course offers a survey of the major political philosophers and concepts in the history of political thought, focusing upon classical and modern theorists and emphasizing such concepts as justice, equality, power, liberty, and rights. The course is also fundamentally concerned with improving students’ abilities to think and write clearly, thoughtfully, critically, and analytically. The purpose is to move beyond the superficiality evident in the ordinary discourse of our society, and with an emphasis upon thinking deeply about basic moral principles. A significant portion of the course will be directed toward in-class discussion of the issues raised by the common readings and by the papers that each student will write.
IAI: PLS 913

POLS 252 State and Local Government
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Examines the organization and functions of state and local governments with an evaluation of their roles in the U.S. federal system of government. IAI: S5 902

POLS 258 Selected Studies in Political Science
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Prerequisite: Instructor consent.
Topics studied vary according to student interest and instructor availability. Typical course offerings include studies on the international, national, state and local political scene, and/or an internship experience. This course may be taken more than once if different topics are considered.

POLS 261 Intro to Comparative Govt: European
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Comparative analysis of selected European governmental systems emphasizing the similarities and differences between the selected European governments and the government of the United States. IAI: S5 905

POLS 262 Intro to Comparative Govt: Non-European
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Comparative analysis of the governmental systems of various non-western nation-states with emphasis on the similarities and differences between the selected governments and the government of the United States. IAI: S5 906N

POLS 271 International Relations
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Examines the basic principles and systems that govern relationships among nation-states as they attempt to cope with problems of the contemporary world.
Practical Nursing

PN 105 Pharmacology in Practical Nursing I
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: Admission to Practical Nursing Program.
Basic mathematics as it applies to medication administration is reviewed. The study of drugs and the techniques of medication administration are begun.

PN 106 Pharmacology in Practical Nursing II
1 cr. hr.; 1 lecture hour; 0 lab hours per week.
Prerequisites: PN 105 and PN 112 “C” or better.
Drug classifications are studied through the structure of the nursing process.

PN 110 Basic Anatomy and Physiology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: REA 093 or appropriate placement score.
Basic concepts of human anatomy and physiology.

PN 111 Foundations of Practical Nurs.
8 cr. hrs.; 6 lecture hours; 6 lab hours per week.
Prerequisites: Admission to Practical Nursing Program.
Within the framework of the nursing process, the course teaches the concepts basic to practical nursing. Dimensions of nursing, basic needs and special procedures are covered. With guidance, the nursing process is used in the care of patients with simple health problems.

PN 112 Older Adult Nursing
8 cr. hrs.; 6 lecture hours; 6 lab hours per week.
Prerequisite: PN 111 “C” or better.
This course covers normal aging and age-related changes in the older adult. It includes problems of mobility and circulation. It also includes concepts of mental health nursing and therapeutic communication.

PN 113 Adult Health Nursing
8 cr. hrs.; 6 lecture hours; 6 lab hours per week.
Prerequisites: PN 105 and PN 112 “C” or better.
Within the framework of the nursing process, theories of nursing care for patients with acute medical-surgical problems are discussed.

PN 114 Intergenerational Nursing
8 cr. hrs.; 6 lecture hours; 6 lab hours per week.
Prerequisites: PN 105 and PN 113 “C” or better.
Care of families through child-bearing, well children, ill children, and all family members through the lifespan. Concepts of growth and development, effects of illness on families, and care of clients in the hospital are also discussed.

PN 140 Licensure Review
1-5 cr. hrs.; 1-5 lecture hours; 0 lab hours per week.
Assists students who have graduated from a practical nursing program to prepare for NCLEX-PN. Review of principles of all areas of the body of nursing knowledge applicable to practical nursing will be presented. Lecture and discussion will be complemented by practice testing.

This course does not guarantee satisfactory results on NCLEX-PN.

PN 160 LPN Refresher
6 cr. hrs.; 3 lecture hours; 7 lab hours per week.
Provides a basic review and updating of skills and knowledge for practical nurses preparing to re-enter nursing practice. Satisfactory completion of this course will meet one of the requirements for restoration of license after 5 or more years of inactive status or 5 or more years of lapse of licensure.

PN 180 Intravenous Therapy
1 cr. hrs.; 0.5 lecture hours; 1.5 lab hours per week.
Prerequisite: Current nursing license or NURS 112 “C” or better.
A basic study of administration and regulation of intravenous infusions. Common intravenous solutions will be discussed. The technique of intravenous therapy will be taught and return demonstration will be done in the lab. Students will have the opportunity to have a clinical component which will allow them to practice in a real setting. This can be a variable entry course with an on-line component.

Psychology

PSYC 101 Introduction to Psychology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites for spring 2016 and after: College level reading scores on placement test or REA 098 and SBS 100 “C” or better.
Prerequisites for spring 2016 and after: College level reading scores on placement test required, or REA 093 and SBS 100 with a “C” or better, or REA 098 and SBS 100 with a “C” or better.
A survey of the field of general psychology without specific emphasis on any particular theory or model of human or animal behavior. Fundamental principles, methods, theories and issues in the field are discussed. Content areas may include learning, thinking, neuroscience, methodology, memory, perception, personality, intelligence, emotion, adjustment, and abnormality among others. IAI: S6 900

PSYC 105 Career Exploration and Planning
1-2 cr. hrs.; 1-2 lecture hours; 0 lab hours per week.
Students will increase self-awareness by examining interests, values and skills. Interest and personality inventories are administered. Students are assisted in evaluating this information to aid in directing their research of potential careers and to facilitate career and educational planning. This course may be taken once for credit.

PSYC 110 Human Relations
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Focuses on interpersonal relationships and the skills necessary to build and maintain them (e.g., assertion,
active listening, conflict resolution). No psychology background necessary.

**PSYC 119 Understanding Human Sexuality**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
Provides an integration of psychological, social, and biological components of human sexuality. Research methods, physiology, relationships, intimacy, communication, sexual techniques, sexual behaviors, conception, pregnancy, sexual dysfunctions and sexually transmitted diseases, and sexual variances are investigated. Diversity of race, ethnicity, gender, and orientation are stressed throughout the course to facilitate a non-judgmental approach. The student will be prepared by this course for understanding most general sexual issues as they relate to their own lives and in populations they will encounter professionally.

**PSYC 199 Psychology of Women**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
Examines the psychology of women from a feminist perspective, including such issues as violence against women, health psychology, work-family balance, development across the life-course, and sexist discrimination.

**PSYC 200 Human Growth and Development**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better, or formal admission into the Black Hawk College ADN program.**  
Explores the neurobiological, physical, cognitive, social, and emotional development of humans from conception through adulthood. Examines theories and principles of human development in light of contemporary research, emphasizing normal developmental stages and patterns of adjustment to differing life-time demands. IAI: S6 902

**PSYC 201 Industrial Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
This course explores current industrial/organizational psychology theory and research as related to such areas as research methods; personnel selection, placement, and training; job analysis and performance appraisal; job satisfaction and motivation; leadership; organizational decision making; and organizational development.

**PSYC 210 Personality Theories**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
Detailed analysis of major personality theorists in psychology from Freud to the present, emphasizing the examination of common threads in the evolution of personality theory as well as decided differences between and among individual theorists. The relationship between empirical and theoretical investigation and the reading of personality research are stressed.

**PSYC 212 Experimental Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
This course introduces students to scientific inquiry in psychology. Students will gain an understanding of the research process in psychology by exploring the history and ethics of research and by reviewing and critically evaluating empirical literature. They will also gain experience formulating testable hypotheses, using various research methods and designs, and collecting and analyzing data using descriptive and inferential statistics.

**PSYC 220 Applied Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
Applies psychological theories, principles, and research to the context of everyday life, including positive emotional states and processes, positive cognitive states and processes, prosocial behavior and relationships, understanding and changing human behavior, and positive environments (school, work, and communities).

**PSYC 230 Social Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
A systematic introduction to theory and research on the ways social factors influence individual and group behavior. Examines attitudes, social perception, the establishment of norms, conformity, leadership, group dynamics, and research methods, emphasizing their effects on the individual. IAI: S8 900, PSY 908

**PSYC 250 Abnormal Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
An introduction to abnormal behavior, psychodiagnostic methods, theories of causation, specific pathologies, and modes of treatment. IAI: PSY 905

**PSYC 260 Adolescent Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
Integrates theory and empirical research as related to adolescents’ biological, cognitive, and social development; and such related issues as school experience, career choice, the college experience, self-identity, adjustment, and the development of intimacy and sexuality.

**PSYC 262 Child Psychology**  
**3 cr. hrs.; 3 lecture hours; 0 lab hours per week.**  
**Prerequisite: PSYC 101 “C” or better.**  
Introduces theory and research on biological, physical, social, and cognitive development of the human child from conception through late childhood. Topics may include genetic factors, prenatal development, sensory and perceptual changes, motor system development, language acquisition, social learning, gender differences, atypical development, and such influences as the family, school, and sociocultural context. IAI: S6 903

**PSYC 264 Social Psychology of Aging**
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: PSYC 101 “C” or better.
Process and consequences of aging; interplay between 
social and psychological forces and the aging population; 
psychological dimensions of aging. IAI: S6 905

PSYC 266  Adult Development and Aging
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: PSYC 101 “C” or better.
Examines the research concepts, principles, and theories 
concerning the cognitive, physical, social, emotional, and 
personality development from early adulthood to old age, 
including such topics as career choice and development, 
mate selection and marriage, conventional and 
nonconventional families, theories of adult personality 
development, mid-and late-life transitions, aging and 
dying, death and bereavement.

PSYC 290  Educational Psychology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: PSYC 101 “C” or better.
The application of research-based psychological principles 
to education and teaching-learning processes. Special 
emphasis on understanding growth and development, the 
learning process, motivation, intelligence, evaluation, 
measurement, creativity and the impact of culture on 
learning styles.

PSYC 295  Special Topics in Psychology
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week. 
Prerequisite: Instructor consent.
Topics vary according to student interest and instructor 
availability. Examples of course offerings include: 
gerontology, psychology in literature, an internship 
experience, psychology of religion, and dream working. 
Students may take up to six credit hours if the topic varies.

Reading
REA 093  Academic Reading I
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Score of 31-64 on COMPASS reading test. 
Improvement of basic reading skills emphasizing 
vocabulary and comprehension. Students with scores of 
31-64 on the COMPASS reading test who are working 
toward an AA/AS degree are required to take this course. 
Certain career programs may also require this course.

REA 098  Academic Reading II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisite: Score of 65-82 on COMPASS reading test or 
REA 093 “C” or better.
Improvement of reading skills to prepare students for 
college level reading. The course emphasizes vocabulary, 
critical reading, and comprehension, especially in social 
science and natural science reading. Students with scores 
of 65-82 on the COMPASS reading test who are working 
toward an AA/AS degree are required to take this course. 
Certain career programs may also require this course.

Security
SECR 160  Introduction to Private Security
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
To provide the student with an overview of the history and 
development of the private security industry, the security 
function in business and industry, retail security, hospital 
security, cargo security, computer security, and general 
security services.

SECR 166  Physical Security Concepts II
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Study of assets protection and physical security in the 
private and public sectors. Emphasis placed on planning to 
meet anticipated security threats in the day-to-day 
operation of a security organization.

SECR 270  Management of Loss Prevention
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
To provide the student with an overview of the problem of 
internal theft, why employees steal, embezzlement and 
executive dishonesty, investigating internal theft, deterring 
internal theft, deterring internal theft, and shoplifting - 
prevention, investigation, and control.

SECR 272  Internship in Securities
3 cr. hrs.; 1 lecture hour; 10 lab hours per week. 
Prerequisite: Instructor consent.
Provides a supervised work experience in a licensed or 
proprietary security organization in a metropolitan area.

SECR 275  Principles of Security Management
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An overview of management techniques and practices 
relevant to modern security and loss prevention practices.

Social & Behavioral Studies
SBS 100  Social & Behavioral Sciences
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
This introductory interdisciplinary course is designed to 
give the students a foundation and overview of the 
disciplines of psychology and sociology. However, this 
course does not substitute for Psychology 101 or 
Sociology 101.

SBS 200  Psychology & Societies: Asia
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An interdisciplinary sociological and psychological 
examination of selected societies and psychologies of 
Asia.

Sociology
SOC 101  Principles of Sociology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week. 
Prerequisites: Appropriate placement score, or REA 098 
and SBS 100 “C” or better.
Scientific examination of human society and social 
behavior. Concentrates on human behavior and assumes
that it is largely shaped by the groups to which people belong and by the social interaction taking place in these groups. Acquire a basic sociological understanding and sensitivity to the issues of race, class, gender, and ethnicity. IAI: S7 900

SOC 102 Contemporary Social Problems
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Analysis of contemporary social problems and investigation of theories on social organization and conflict. Explores the genesis, significance, and amelioration of social problems. IAI: S7 901

SOC 210 Contemporary Urban Institutions
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: SOC 101 or instructor consent.
A survey of the structure and functions of urban communities.

SOC 222 Introduction to Social Work
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: SOC 101 or instructor consent.
Introductory survey of social work in the context of the social welfare services and policies, including their historical origins, conceptual framework, and contemporary foci. Overviews principal social work values, codes of ethics, practice methods, research considerations, and policy issues. Emphasizes the unique experiences of diverse and at-risk population groups facing various social challenges.

SOC 230 Sociology of Sex and Gender
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: SOC 101 or instructor consent.
Provides a framework for understanding the sources and consequences of gender and sex role in the economy, family, education, and other social institutions.

SOC 250 Minority Relations
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Examines racial, ethnic, and gender minorities. A comprehensive overview of major sociological theories regarding interaction between dominant and minority groups and an investigation of the experiences of minorities in the United States. IAI: S7 903D

SOC 251 Sociology of Families
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Survey of the contemporary family in historical and cross-cultural perspectives. Includes trends in mate selection, marriage, child-rearing, employment, gender roles, and communication within the family. IAI: S7 902

SOC 255 Social Statistics
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisites: SOC 101 or PSYC 101; Math 086 or 091 or college level math placement score.
Application and interpretation of basic statistics used in the behavioral sciences including descriptive statistics and an introduction to inferential statistics.

SOC 261 Deviant Behavior
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
The sociological study of the origins, causes, control and definitions of deviance and deviant behavior. Includes criminality, mental disorders, drug use, and sexuality.

SOC 264 Social Psychology of Aging
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Process and consequences of aging; interplay between social and psychological forces and the aging population; psychological dimensions of aging. IAI: S6 905

SOC 270 Sociology of Health
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: SOC 101.
Health care systems and issues in cross-cultural context; dimensions of wellness and illness including mental health, health providers, organizations, and institutions and their relations.

SOC 290 Studies in Sociology
1-3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.
Prerequisite: SOC 101.
Focuses on selected topics from a sociological perspective, including such topics as child maltreatment, addictions, juvenile justice, family violence, death and dying, and field studies.

Spanish

SPAN 101 Elementary Spanish I
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
First course of a two semester sequence in elementary Spanish with emphasis on speaking, listening comprehension, reading, writing and culture.

SPAN 102 Elementary Spanish II
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: One year of high school Spanish “C” or better or one semester of college Spanish “C” or better or the equivalent.
Second course of a two semester sequence in elementary Spanish with emphasis on speaking, listening comprehension, reading, writing and culture.

SPAN 103 Spanish for Near-Native Speakers
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Review formal structure and sound system of Spanish for near-native speakers with emphasis on accurate, fluent, and effective oral and written expression.

SPAN 201 Intermediate Spanish I
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.
Prerequisite: Two years of high school Spanish “C” or better or two semesters of college Spanish “C” or better or the equivalent.
First course of a two semester sequence in intermediate Spanish with emphasis on conversation, literary readings and composition and the culture and civilization of the Hispanic world.
SPAN 202  Intermediate Spanish II  
4 cr. hrs.; 4 lecture hours; 0 lab hours per week.  
Prerequisite: Spanish 201 “C” or better or equivalent.  
Continuation of Spanish 201 with additional work on oral proficiency, grammar review, composition, literary readings, and study of the Hispanic culture and civilization. IAI: H1 900

SPAN 253  Advanced Spanish I  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: Four years of high school Spanish “C” or better or four semesters of college Spanish “C” or better or the equivalent.  
First course of a two semester sequence in advanced Spanish with emphasis on conversation and composition with further study of literary pieces by Spanish-speaking authors. IAI: H1 900

SPAN 254  Advanced Spanish II  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: Four years of high school Spanish “C” or better or five semesters of college Spanish “C” or better or the equivalent.  
Second course of a two semester sequence in advanced Spanish with emphasis on conversation and composition with further study of literary pieces by Spanish-speaking authors. IAI: H1 900

Speech

SPEC 101  Principles of Speech Communication  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
The oral communication course combines communication theory with the practice of oral communication skills. The oral communication course: (1) develops awareness of the communication process; (2) provides inventive, organizational, and expressive strategies; (3) promotes understanding of and adaptation to a variety of communication contexts; and (4) emphasizes critical skills in listening, reading, thinking and speaking. IAI: C2 900

SPEC 111  Business and Professional Communication  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Promotes awareness and development needed to communicate competently within professional organizations. Focus is on interviewing, management styles, inter-office communication and professional presentations.

SPEC 114  Interpersonal Communication  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Examines skills needed in informal face-to-face communication; emphasizes self-concept and interaction with others.

SPEC 175  Intercultural Communication  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Promotes awareness, knowledge, and skills for communicating among persons of differing cultural backgrounds. Focuses on cultures with whom U.S. Americans interact.

SPEC 200  Communication Experiences  
3 cr. hrs.; 1-3 lecture hours; 0 lab hours per week.  
Prerequisite: SPEC 101 or instructor consent.  
Provides experience in identifying and improving communication skills. Specific content tailored to student need and interest. Repeatable up to a maximum of 3 hours.

SPEC 210  Public Speaking  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Prerequisite: SPEC 101.  
Examines the use of oral persuasion in our society. The theories of persuasion are studied, political speeches analyzed and persuasive skills developed through oral presentations.

SPEC 290  Leadership Development  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
This course will provide a basic understanding of leadership. Students will develop a personal philosophy of leadership, an awareness of the moral and ethical responsibilities of leadership, and an awareness of their personal styles of leadership.

Technical Math

TMAT 101  Technical Math I  
1-3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
To understand theory and develop skills in arithmetic, percents, powers, roots, ratios, proportions, measurements, algebra, geometry, trigonometry and graphs as applied to the field of mechanics.

Television

TV 212  History & Appreciation of the Motion Picture  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
Traces origin and development of the motion picture through lectures, reading and viewing of pertinent films. IAI: F2 909

Theatre

THEA 111  Introduction to Theatre Arts  
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.  
An introductory survey of theatre/drama as a performing art form that includes the student and analysis of historical, social, aesthetic and technical aspects of traditional and contemporary theatrical/dramatic expression. This course is designed to introduce students to theatre as a major fine art form and to examine the contributions of playwrights, actors, directors, designers, and technicians. IAI: F1 907

THEA 210  Fundamentals of Acting  
3 cr. hrs.; 2 lecture hours; 2 lab hours per week.  
This course concentrates on the fundamentals of acting: concentration, observation, playing action, voice and other basics are introduced through acting exercises,
improvisations, and scene study. Major acting approaches will be used as the basis for helping the actor acquire craft to create believable characters. IAI: TA 914

THEA 211 Acting Styles
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Development of the basics introduced in the Fundamentals of Acting (THEA 210), emphasizing an intensive approach to acting exercises, improvisation, and scene study; an introduction to style.

Veterinary Assisting

VA 147 Vet Asst Clinical I
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
Prerequisite: VT 100 or concurrent enrollment.
This course presents a basic introduction to the profession of veterinary assisting and to the healthcare environment. Specifically, this course will present aseptic technique, animal restraint, physical examination, anesthesiology, grooming, nutrition, and dentistry.

VA 247 Vet Asst Clinical II
4 cr. hrs.; 2 lecture hours; 4 lab hours per week.
Prerequisite: VA 147 or instructor permission.
This course presents advanced veterinary assistant skills and knowledge, including the pathogenesis/physiology of canine diseases, feline diseases, common treatments, parasites and treatments, urinalysis, blood collection, IV therapy, and vaccinations.

VA 261 Seminar
1 cr. hrs.; 1 lecture hours; 0 lab hours per week.
Prerequisite: Concurrent enrollment in VA 265.
Discussion of internship activities, challenges, team opportunities and problems.

VA 265 Internship
1-4 cr. hrs.; 2 lecture hours; 40 lab hours per week.
Prerequisite: Consent of instructor and concurrent enrollment in VA 261.
Supervised field program, providing work experience in offices for students enrolled in Veterinary Assisting.

Veterinary Technology

VT 100 Intro to Veterinary Technology
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
This course is an introduction to a profession in veterinary technology. Topics include the history of veterinary medicine, basic responsibilities and duties of veterinary technicians, veterinary hospital procedures and veterinary medical terminology. Students will be able to read and interpret medical charts and records as they develop a working knowledge of the verbal and written language of veterinary medicine.

VT 102 Interpersonal Communication
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: Enrollment in the veterinary assistant program.

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is on the communication process with clients and peers; issues addressed include perception, listening, self-disclosure, ethics, conflict management and nonverbal communication. Topics include understanding the human-animal bond and dealing with client and personal bereavement, and developing essential skills to open discussion lines, educate clients, negotiate during job hunting, resume building, and interview preparedness.

VT 160 Vet Tech Pharmacology
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
Prerequisite: VT 123 “C” or better or instructor consent.
Discussion of drug groups, mechanism of action and side effects. This course covers the regulations for prescribing, ordering, and dispensing pharmaceuticals; appropriate methods of drug administration and dispensing in a clinical setting; log book and lock box requirements for scheduled drugs; and overview of commonly used products in private and community practices.

VT 203 Vet Ethics and Critical Thinking
2 cr. hrs.; 2 lecture hours; 0 lab hours per week.
Prerequisite: Enrollment in the veterinary assistant program.
This course reviews current topics in veterinary medicine and surgery, and large animal production practices. Designed to assist students in developing life-long learning skills, participants will critically evaluate the internet and other reference media as a source of information (peer-reviewed or refereed information versus non-peer-reviewed materials). Emotions, opinions, debates and a brief introduction to laws and ethics in veterinary practice and animal agriculture will be explored.

Welding

WLD 101 Introduction to Arc Welding
.5 cr. hrs.; 0 lecture hours; 1 lab hour per week.
The study of arc welding processes that are most widely used in lead industry. Students will learn about shop equipment, safety, and housekeeping. Electrode selection and identification will be studied. These types of weld joints are thoroughly discussed.

WLD 102 Basic Arc Welding in the Flat Position
.5 cr. hrs.; 0 lecture hours; 1 lab hour per week.
Prerequisite: WLD 101.
This course is a continuation of WLD 101. Using the flat position, the student will weld three beads, tee-joints, butt joints, and outside corner to specifications given by the instructor. Shop safety will be stressed.

WLD 103 Arc Weld in the Flat & Horizontal Positions
2 cr. hrs.; 0 lecture hours; 4 lab hours per week.
Prerequisite: WLD 102.
This course is a continuation of WLD 102, using the flat position and horizontal welding position. Student will weld
using various electrode grades. A v-groove test must be passed. Shop safety will be employed.

WLD 105 Oxyacetylene Welding and Cutting
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
An introduction to gas welding, and cutting with emphasis on obtaining manipulative skills in each area.

WLD 109 Blueprint Reading for Welders
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
Reading welding prints using mathematics, interpreting welding symbols, gauges and inspection techniques.

WLD 110 Welding Testing and Preparation
1 cr. hrs.; 1 lecture hour; 0 lab hours per week.
This course prepares students for industry weld testing. Students review how to prepare coupons, select rod sizes, gases, and amperage; learn how to manage test anxiety by understanding mental preparation; create an ordered punch list; identify potential testing pitfalls; and visually identify needed weld corrections prior to test completion.

WLD 111 Welding Processes
3 cr. hrs.; 3 lecture hours; 0 lab hours per week.
An introduction to the history and roles played by welding. All major welding processes and their related skills are explained. Types of power supplies are also studied with emphasis on the proper selection for each job.

WLD 117 Arc Welding in the Vertical Position
2 cr. hrs.; 0 lecture hours; 4 lab hours per week.
Prerequisite: WLD 103. This course is a continuation of WLD 103 using the vertical and overhead welding positions. Students will weld using various electrode grades. A V-groove test must be passed. Shop safety will be emphasized.

WLD 118 Arc Welding in the Overhead Position
1 cr. hr.; 0 lecture hours; 2 lab hours per week.
Prerequisite: WLD 117. This course is a continuation of WLD 117 using the overhead welding position. Students will weld using various electrode grades on various materials. A V-groove test must be passed. Shop safety will be emphasized.

WLD 120 Introduction to GMAW
1 cr. hrs.; 0 lecture hours; 2 lab hours per week.
This course is designed to cover production methods and techniques in gas metal arc welding. This process will include spray transfer, short arc transfer and cored wires. Machine set-up, handling the gun, weld size, gun angle, wire feed and gas quantities will be studied. Good housekeeping practice and safety will be emphasized.

WLD 121 GMAW Spray Arc Process
3 cr. hrs.; 0 lecture hours; 6 lab hours per week.
Prerequisite: WLD 120. This course provides theory and welding experience in the flat, horizontal and vertical positions using various joint designs. Various fillet sizes and material thickness will be the welding lab experiences. Shop safety will be emphasized.

WLD 122 GMAW Short Circuit and Spray Arc
2 cr. hrs.; 0 lecture hours; 4 lab hours per week.
Prerequisite: WLD 121. Students will learn when welding with consumable wire electrodes that transfer of metal is achieved by three methods. The type of metal transfer that occurs will depend on electrode wire size, shielding gas, arc voltage, and welding current. Various lab exercises employ different processes with different joint types and various welding positions. Shop safety and housekeeping will be emphasized.

WLD 125 GTAW
2 cr. hrs.; 1 lecture hour; 2 lab hours per week.
This course will introduce gas tungsten arc welding (GTAW or TIG). Students will learn how to properly set up machine and weld in various positions with ferrous and non-ferrous material. A weld joint test will be passed. The student will learn how to regulate oxygen and acetylene for the oxyacetylene welding process. Student will weld various material thickness in different positions and pass a weld joint test. Shop safety will be emphasized.

WLD 151 Shielded Metal Arc Welding I
3 cr. hrs.; 0 lecture hour; 6 lab hours per week.
Students will study shielded metal arc welding processes that are most widely used in industry including electrode selection and identification and types of weld joints. Using the flat position, the student will weld three beads, tee-joints, butt joints, and outside corner to specifications given by the instructor. Students will also weld in horizontal welding position. Student will weld using various electrode grades. Students will learn about shop equipment, safety, and housekeeping. A V-groove test must be passed.

WLD 152 Shielded Metal Arc Welding II
5 cr. hrs.; 0 lecture hour; 10 lab hours per week.
Prerequisite: WLD 151 or WLD 103. This course is a continuation of WLD 151, using the vertical and overhead welding positions. Students will weld using various electrode grades on various materials. Also introduces gas welding, bronze welding, and cutting with emphasis on obtaining manipulative skills in each area. Shop safety will be emphasized in the course. A V-groove test must be passed.

WLD 210 Professional Seminar
1 cr. hrs.; 1 lecture hour; 0 lab hours per week.
Discussion of workplace issues, development of job-seeking strategies, and enhancement of interpersonal skills.

WLD 251 Introduction to GMAW
4 cr. hrs.; 0 lecture hour; 8 lab hours per week.
This course covers product methods and techniques in gas metal arc welding (informally known as MIG). This process will include spray transfer, short arc transfer and
cored wires. This will be done by studying machine set-up, handling the gun, weld size, gun angle, wire feed and gas quantities. In addition, theory and welding experience over the flat, horizontal and vertical positions using various joint designs is covered. Various fillet sizes and material thickness will be the welding lab experiences. Good housekeeping practice and safety will be emphasized.