Course Descriptions

Course Numbering System

090-099 Developmental courses that carry institutional credit only and do not apply toward graduation.

100-149 Freshman Career

150-199 Freshman University Parallel

200-249 Sophomore Career

250-291 Sophomore University Parallel

295-299 Field Trips, Seminars, Workshops, Independent Study, Co-ops
ACCOUNTING (ACCTG)

110 Applied Office Accounting 3 Credit Hours
Prerequisite: BSMTH 101 or MATH 121 or MATH 150
F, W
This introductory course is designed to provide an overview of accounting concepts and principles for non-accounting majors. Two mini practice sets provide students with real-world experience using the accounting cycle.

151 Accounting Principles 4 Credit Hours
Prerequisite: Completion of, or co-register in BSMTH 101, MATH 150 or higher, or achieve a score on the COMPASS or ACT which satisfies current college general education requirements for graduation.
F, W
The study of accounting theory and principles is applied to service and merchandising enterprises, including special journals and ledgers, adjusting and closing procedures, preparation of financial statements, promissory notes, inventory control and valuation, depreciation, payroll, and an introduction to cash control.

152 Accounting Principles 4 Credit Hours
Prerequisite: ACCTG 151
F, W
This course is a continuation of Accounting 151. The concepts and principles of partnership and corporate accounting: introduction to manufacturing and cost accounting; management analysis; and interpretation of financial data are covered in this course.

201 Microcomputer Accounting I 3 Credit Hours
Prerequisite: ACCTG 151 and CIS 109
F
This course is an introduction to computerized accounting emphasizing the application of accounting principles to microcomputers. Microcomputers will be used to maintain general and subsidiary ledgers.

205 Microcomputer Accounting II 3 Credit Hours
Prerequisite: ACCTG 152 and ACCTG 201
W
This course is a continuation of Microcomputer Accounting I. Using a software package, students will review and apply basic accounting principles, record transactions, and generate computer documents for various types of business organizations.

251 Intermediate Accounting I 4 Credit Hours
Prerequisite: ACCTG 152
F
This course is a detailed analysis of accounting problems as they relate to the valuation of assets. The course begins with a review of the fundamental accounting process and preparation of financial statements. The concept of present value is then introduced followed by a comprehensive study of the asset section of the balance sheet.

252 Cost Accounting 4 Credit Hours
Prerequisite: ACCTG 152
W
This course is an introductory course designed to provide a practical knowledge of cost accounting systems and procedures. The course begins with an overview of the nature and purpose of cost accounting, and follows with the basic concept that cost flow matches work flow. The major areas of cost accounting are covered including job order cost accounting, process cost accounting, budgeting, standard costs, direct costing, and nonmanufacturing costs.

254 Intermediate Accounting II 4 Credit Hours
Prerequisite: ACCTG 251
W
This course is a continuation of Intermediate Accounting I. The emphasis is on the liabilities and stockholders' equity sections of the balance sheet. Additional topics such as statement of cash flows, and analysis and interpretation of financial statements are also covered in detail.

255 Introduction to Taxation 3 Credit Hours
Prerequisite: ACCTG 152
F
This course deals with the broad concepts of taxation. Topics include a working definition of taxation and tax bases. Tax concepts for both individual and corporate taxation are covered. Since income tax laws are constantly changing, this course is not designed to teach individuals how to be tax accountants or prepare individual income tax returns. The emphasis will be on broad, general concepts, and on such topics as gross income deduction, credits and payments, expenses, capital gains, and tax planning.

ANTHROPOLOGY (ANTHR)

152 Introduction to Cultural Anthropology 3 Credit Hours
F
This course provides a foundation of knowledge and appreciation of the range and variety of human life styles on a global basis. It describes and seeks general understanding about human “customs” or “cultural behavior.” This course provides the conceptual tools to understand cultural diversity, and to help individuals to gain enlarged and enhanced perspectives on both their own lives as well as the lives of others.

155 Introduction to Archaeology 3 Credit Hours
F
This course is designed to provide a thorough introduction to the history, methods, and theories of archaeology. Emphasis will be on a North American perspective although examples of archaeological research/reasoning from around the world will be discussed, as appropriate. Case studies will be employed to illustrate major trends or concepts. Lectures, demonstrations, slide shows, hands-on-experiences, and exercises will be used to facilitate the learning experience.

ART (ART)

151 Art Fundamentals 3 Credit Hours
F, W
This is an introductory course for all art students, especially those who are interested in taking a basic art class. The student will be exposed to the elements of two-dimensional form structure, the principles of organization, art terminology, materials and techniques, and forms of artistic expression.

155 Art Appreciation 3 Credit Hours
F, W
The student will be exposed to the fundamental principles governing art in its various forms. Slide lectures, class discussions, presentations by visiting artists, films, and studio projects are designed to meet the needs of general students in understanding and appreciating the fine and applied arts.
158 Art for Elementary Teachers 3 Credit Hours F, W
This course is designed for the student who is pursuing a career in elementary education. It will focus on the various strategies that are required to produce a qualitative art program at the primary grade levels. Emphasis will be placed on teaching art production, writing instructional objectives for lesson planning, and reviewing the fundamentals of art.

160 Two-Dimensional Design 3 Credit Hours F
This course studies the principles of two-dimensional design for an understanding of its nature and expressive possibilities. It allows for the opportunity to develop a creative approach in working with its elements. Emphasis will be placed on developing an awareness of composition and the principles of organization involving creativity and intuition. This course is viewed as a continuation of Art Fundamentals.

165 Illustration Techniques 3 Credit Hours F
This course introduces the art student to the many drawing and painting techniques used by professional illustrators. The student will simulate the demands and deadlines faced in the advertising world. The exploration of ideas and images, recognition, media selection, step-by-step work-ups, and presentation of final work is of utmost importance and will be developed thoroughly by the student. This course is viewed as a continuation of ART 160.

170 Life Drawing 3 Credit Hours Prerequisite: ART 151 or ART 180
This is an introductory course in drawing the human figure from a live model. Numerous approaches, including varied media and drawing techniques as well as the examination of human anatomy and its structure, will be discussed and explored. Understanding of the various attitudes of the human form will be emphasized.

180 Drawing I 3 Credit Hours F, W
This is a comprehensive course covering the mechanics and techniques of drawing. The student will become aware of the various dry media used in drawing. Concentration on expressive line quality, mass, value, proportion, and visual awareness will be of primary concern.

181 Drawing II 3 Credit Hours Prerequisite: ART 180 F, W
In this course mixed media, self-expression, craftsmanship, composition, content, and subject awareness will be emphasized. The student will be placed in a situation where self-discipline, analysis of composition, and the development of creative imagery are of the utmost importance. This course is a continuation of ART 180.

190 Painting I 3 Credit Hours F, W, Sp, Su
This is an introductory course in painting. The selection of subject, composition, investigation of the many techniques (glazing, scumbling, dry brush, wet on wet, impasto, etc.), and preparation of painting surfaces will be explored thoroughly. Acrylic paint will be the media of choice in this class.

191 Painting II 3 Credit Hours Prerequisite: ART 190 F, W, Sp, Su
Emphasis is placed upon individual problems and the further development of techniques and approaches gained in Painting I. This course is a continuation of ART 190.

200 Watercolor Painting I 3 Credit Hours Prerequisite: ART 250 F, W, Sp, Su
This is an introductory course designed to familiarize the beginning student with the many technical and creative approaches to watercolor painting. Investigation of papers and watercolor tools, exploration of the medium, demonstrations, slide lectures, and critiques will give the student in this class a more than adequate understanding of waterbase media.

250 Watercolor Painting II 3 Credit Hours Prerequisite: ART 250 F, W, Sp, Su
Emphasis will be on composition and individual expression. This course is a continuation of ART 250.

251 Watercolor Painting III 3 Credit Hours Prerequisite: ART 181 or ART 191 or ART 251 F, W, Sp, Su
Studio Art is a non-transferable course for the student/artist who has completed all the art offerings in a given discipline but still wishes to utilize the studio space, facilities, and instructor’s expertise to gain further knowledge. This will be done with the permission and under the supervision of an instructor. The student receives “P” or “F” rather than a letter grade for the course since it is not intended to transfer.

270 Ceramics I 3 Credit Hours F, W
This course introduces the student to the nature of clay and how it can be formed. An emphasis will be placed on hand-building methods; coil and slab methods will also be investigated. The intent of the course is to develop techniques of the artist/craftsman in each student. Fundamentals of design and glazing are also covered.

271 Ceramics II 3 Credit Hours Prerequisite: ART 270 F, W
This course continues the study of clay and the methods of using it as an art form. The objectives will be to develop one’s skill in wheel throwing and to increase the student’s awareness of the aesthetic nature of good ceramics. This course is a continuation of ART 270.

272 Ceramics III 3 Credit Hours Prerequisite: ART 271 F, W
This course continues the study of clay and the methods of using it as an art form. The objectives will be to develop one’s skill in wheel throwing and to increase the student’s awareness of the aesthetic nature of good ceramics. This course is a continuation of ART 271.

273 Ceramics IV 3 Credit Hours Prerequisite: ART 272 F, W
This course emphasizes self-expression, craftsmanship, and studio practices. Glaze calculations and kiln firing procedures will also be covered. This course is a continuation of ART 272.

274 Studio Practices Ceramics 3 Credit Hours Prerequisite: ART 273 F, W
This is a non-transferable course for the artist who has completed all the art offerings in a given field but still wishes to use the studio space and instructor’s expertise to gain further knowledge. This will be done with the permission and under the supervision of an instructor. This course is not designed as part of a transfer program. The student receives “P” or “F” rather than a letter grade.
280 Art History: Prehistoric to Gothic 3 Credit Hours
This course examines the art of the ancient western world
beginning with pre-historic man and concluding with the
Medieval Gothic era. The periods covered include pre-
historic, Mesopotamian, Egyptian, Greek, Roman, early
Christian, Byzantine, and Gothic.

281 Art History: Renaissance to Baroque 3 Credit Hours
This course is an exploration of the artists and ideals
which mark the development of early Renaissance art and
its subsequent developments in Northern and Southern
European art to the nineteenth century. Focus will be
placed on the individual artists from the early Renaissance
period to the Baroque.

282 Art History: Neo-Classical to Early Modern 3 Credit Hours
This course traces the early movements of modern art,
showing the progression of thought and the change of
styles from the Neo-Classical period through the early
twenty first century. Focus will be placed on specific artists
who had leading roles in these developments.

ASTRONOMY (ASTRN)

151 Introduction to Astronomy 4 Credit Hours
A non-mathematical introduction to the principles of
the astronomical universe. A general education course
designed to be of interest to the individual without a
scientific background who wishes to study the interrelation
of the parts of the universe. Major areas of study include
historical overviews, stars, stellar evolution, galaxies,
cosmology and the solar system. Some laboratory work,
and day/evening outside observing may be required.

AUTOMOTIVE ENGINEERING TECHNOLOGY
(AUTO)

101 Internal Combustion Engines 4 Credit Hours
This course covers the operating principles and design
considerations of internal combustion engines typically
encountered in the transportation field. Included will be
two and four stroke-cycle gasoline and diesel engines, the
Wankel and gas turbine engines. Emphasis will be on four
stroke-cycle gasoline engines.

102 Automotive Electricity 4 Credit Hours
Prerequisite: ELEC 125
The practical application of electrical principles will
be studied and include theory of operation, design and
troubleshooting of starting motors, alternators, regulators,
and the complex electrical accessories found on modern
automobiles. Use of automotive electrical test equipment
will be stressed.

103 Fuel & Emission Control Systems 4 Credit Hours
This course covers the design theory, construction,
operation and maintenance of fuel pumps, fuel injection,
and emission control systems. Principles of fuel
distribution, manifolds, and carburetors are studied.
Students will develop skills in the use of diagnostic
equipment to test and calibrate fuel and emission control
systems.

104 Automotive Ignition Systems 3 Credit Hours
Prerequisite: ELEC 125
This course covers the operating principles of electronic
and computer controlled ignition systems. Dynamometers
are used to determine ignition timing curves for various
operating conditions. Diagnostic procedures and the use of
testing equipment will be stressed.

105 Automotive Transmissions 3 Credit Hours
This course covers the construction, operation, and
maintenance of standard and automatic transmissions
and overdrive units. Troubleshooting, adjustment, and
maintenance of the various transmissions is covered in
detail.

107 Automotive Chassis Units 4 Credit Hours
This course covers the design theory, construction,
operation and maintenance of basic chassis components.
Differentials, propeller shafts, springs, suspension,
alignment, and brake systems are studied. Use of road
simulators with accelerometers and load cells are used to
study vehicle dynamics.

109 Welding for Automotive Technicians 3 Credit Hours
This course is an in-depth introduction to the technical
concepts pertaining to the more common automotive
welding and cutting processes. Machine functions and
filler metal chemistry will be emphasized as well as
procedure requirements for stainless steel and aluminum.
Welding/cutting processes covered (including laboratory
applications) include: oxy-fuel cutting (OFC), plasma arc
cutting (PAC), gas tungsten arc (GTAW), and gas metal arc
(GMAW) welding.

114 Auto Instrumentation/Testing 4 Credit Hours
Prerequisite: AUTO 101 and AUTO 103 and AUTO 104
This course is designed to further develop students'
understanding and ability to set up and conduct laboratory
investigations applicable to automotive research and
development. Emphasis will be placed on defining the
scope of a project, evaluation of investigation procedures,
setting up and conducting tests, gathering and analyzing
data, and the production of final reports. Hardware and
procedures will include computerized data collection,
application of thermocouples, pressure transducers,
strain gauges, and similar devices applied to components
undergoing tests on chassis and engine dynamometers,
flow benches, and related equipment.

201 Automotive Digital Electronics 3 Credit Hours
Prerequisite: ELEC 125
W or Su
An introduction to digital theory, components, circuitry and
systems as they relate to automotive applications. Topics
covered are: basic microprocessor theory, the address bus,
the data bus, control lines, memory, output systems, input
systems, inherent instructions, extended instructions and
applications.
**BIOLOGY (BIOL)**

**152 Biological Science** 4 Credit Hours
This course is designed to cover selected biological topics which should help the student gain an understanding and appreciation of basic life functions, man’s relationship to the environment, and the application of biological data to effective decision making. Units in modern cell biology, chemistry, metabolism, genetics, ecology, and the taxonomy and evolution of major phyla. Course requires laboratory work.

**154 Introduction to Environmental Science** 4 Credit Hours
A non-mathematical introduction to ecology and environmental science stressing fundamental concepts and principles of ecology/ecosystems, population dynamics, resources, and pollution. Topics include land use, food resources, mineral resources, energy, and air and water, and the causative interrelationships between human values, socio-economic, political, and environmental problems. This course is open to both science and non-science majors.

**155 Allied Health Anatomy/Physiology** 4 Credit Hours
Prerequisite: CHEM 150 or high school Biology or Chemistry
A one semester course which surveys the fundamental concepts of cellular structure and human body organization. Basic anatomy and physiology of the ten body systems is integrated with laboratory exercises using models and microscope slides to illustrate human anatomy. This course cannot be used to meet the anatomy and physiology requirements of the nursing or respiratory therapy associate degree programs. Course requires laboratory work.

**157 Anatomy & Physiology I** 4 Credit Hours
Prerequisite: BIOL 152 or CHEM 150 or high school Biology and Chemistry within the last 5 years
Fundamental concepts of cellular structure and human body organization. Emphasis on cellular structure and function, and anatomy and physiology of the following human organ systems: integumentary, skeletal, muscular, nervous, and special senses. Integrated principles of chemistry, biology, and embryology. REQUIRED for all students in the Health Sciences curriculum. Course requires laboratory work.

**158 Anatomy & Physiology II** 4 Credit Hours
Prerequisite: BIOL 157
A continuation of Biology 157. Anatomy and physiology of the human endocrine, circulatory, respiratory, digestive, renal, and reproductive systems. This course is REQUIRED for all students in the Health Sciences curriculum. Course requires laboratory work.

**160 Biology of Aging** 3 Credit Hours
This course presents the essential biological changes which occur as part of the aging process, in particular, those pathological conditions which are common in later life. It includes current theories of biological aging with special attention to the implications of those changes in serving the needs of older adults. It is designed to meet the needs of students preparing for careers in working with older adults.

**251 Elements of Botany** 4 Credit Hours
Prerequisite: BIOL 152
A detailed study of plant forms from the primitive groups to the higher seed plants. Morphology and physiology, taxonomy, evolution, ecology, and economics will be studied. Course requires laboratory work.

**252 Elements of Zoology** 4 Credit Hours
Prerequisite: BIOL 152
A detailed study of invertebrate and vertebrate animals. Emphasis is placed on morphology and physiology, taxonomy, evolution, economics, and ecology. Some of the more important cases under these topics will be discussed and explored. This course requires field work outside of the normal laboratory hours throughout the semester.

**259 Introduction to Pathophysiology** 4 Credit Hours
Prerequisite: BIOL 158 and BIOL 260
A study of the fundamental mechanisms and manifestations of disease. The course covers basic principles of human pathophysiology, including infectious disease, immunology, congenital and hereditary disorders, and neoplasia. Disorders of the major organ systems are emphasized: cardiovascular, respiratory, nervous, endocrine, renal, urologic, and gastrointestinal/biliary pathophysiology. Designed for students in occupational programs relating to the health sciences.

**260 General Microbiology** 4 Credit Hours
Prerequisite: BIOL 152 or CHEM 150 or NURS 105
An introductory course designed to present the basic concepts, techniques, and applications of microbiology. Detailed discussion of the characteristics of bacteria, fungi, algae, protozoa, helminthes, and viruses in terms of morphology, chemical and biological properties, control techniques, disease, and applications. Course requires laboratory work.

**264 Fundamentals of Genetics** 4 Credit Hours
Prerequisite: BIOL 152
This course provides an introduction to the principles of the transmission of inherited characteristics and the underlying molecular mechanisms of the regulation of expression of genetic information. Topics will include: classical genetics, molecular genetics, biotechnology and genetic engineering, genetics of cancer, and population genetics.

**BUSINESS ADMINISTRATION (BUSAD)**

**151 Introduction to Business** 4 Credit Hours
F, W
This course surveys the field of business, focusing on problems, practices, and procedures. The scope includes environmental aspects, organization, marketing and sales promotion, production, personnel, labor relations, and finance. This course is required by most business curricula and should be taken in the first year. This course is also highly recommended for any non-business major who wishes to explore the field of business.

**BUSINESS LAW (BSLW)**

**251 Business Law** 4 Credit Hours
F, W
This course addresses various legal principles: law of contracts, agency, negotiable instruments, and banking. Some of the more important cases under these topics will be discussed and explored.
BUSINESS MACHINES (BSMCH)

106 Micronumeric Keypad 1 Credit Hour
F, W, Sp
Micronumeric Keypad teaches the touch operation of the microcomputer ten-key pad. This course is designed for the development of speed and accuracy in entering data on the microcomputer ten-key pad. Micronumeric Keypad is offered through the Regional Computer Technology Center and the Business Learning Lab on an individualized self-paced basis.

BUSINESS MANAGEMENT (BMGT)

122 Supervision I 3 Credit Hours
This course addresses the skills necessary for competent supervision. Extra emphasis is placed on proven techniques for working with people and handling work-related problems. Practical information is provided for direct application in the following areas: the supervisor's role identification, motivation, stress, leadership styles, union relationships, line-staff relationships, authority, self-understanding, accountability, responsibility, and the management functions as related to the job of the front-line supervisor.

124 Supervision II 3 Credit Hours
Prerequisite: BMGT 122
This course deals with more practical ways used by the supervisor to manage people. It is a continuation of the Supervision I course but much less theoretical. Tips and techniques used in actual situations will include decision-making, supervising for results, managing time, training, communicating, interviewing, handling problem employees, discipline, grievance appraisals, job analysis, and other topics of concern to the front-line supervisor. This is a good course for students who have had supervisory experience and want to find out how others handle similar problems.

201 Principles of Management 3 Credit Hours
F, W, Sp, Su
This course emphasizes the basic principles of management. The course topics include functions of management, decision-making, directing, communicating, controlling, planning, human resources, and organizing. Managerial functions are discussed within the framework of modern business organizations.

220 International Business 3 Credit Hours
Prerequisite: BMGT 201 and ECON 251
International Business introduces the process of globalization and its implications for business firms and their managers. Course content includes the social, political, and economic environments of the multinational firm, with emphasis on management strategies across cultural and national boundaries.

251 Human Resource Management 4 Credit Hours
Prerequisite: BUSAD 151 or BMGT 201
W
The focus of this course is on business organization and management, as they apply to the personnel functions of recruitment, selection, placement, orientation, and training. Attention is given to job analysis and evaluation, morale measurement and maintenance, union-management relationships, and employees’ economic and physical security.

295 Management Simulation 2 Credit Hours
Prerequisite: ACCTG 151
This course allows the student to apply the knowledge gained from basic business courses. Student teams will operate simulated business firms over several quarters in a competitive environment. Students will be making decisions based upon facts which deal with their firm and the economy. These facts will require decisions to be made about productive capacity, marketing, finances, and research and development. Decisions will be entered into a computer so that students will get immediate feedback about the company and the validity of their decisions.

BUSINESS MATH (BSMTH)

101 Business Mathematics 3 Credit Hours
F, W
This course covers practical application of addition, subtraction, multiplication, division, decimals, fractions, percentages, discounts, simple interest, compound interest, present value, discounting notes, interest on installment loans, and amortized mortgage loans, to the problems of everyday business and accounting.

CHEMISTRY (CHEM)

150 Fundamental Principles of Chemistry 4 Credit Hours
An introduction to the fundamental concepts and applications of general chemistry and description of chemical compounds. Detailed discussions include: measurement, atomic structure, nuclear change, the periodic law, bonding, nomenclature, chemical reactions, mass relationships, solutions, acids and bases, and other selected topics. The course is designed for majors in health, elementary education, and technical programs, and as an elective for non-science majors. Course requires laboratory work.

151 General College Chemistry I 4 Credit Hours
Prerequisite: MATH 151 or equivalent and CHEM 150 or one year of high school Chemistry
F
A study of the basic principles of general chemistry including classification and characterization of chemical particles, chemical bonding and molecular structure, chemical reactions, oxidation-reduction processes, reaction stoichiometry, inorganic nomenclature, and the qualitative behavior of common metals and their cations. Course requires laboratory work.

152 General College Chemistry II 4 Credit Hours
Prerequisite: CHEM 151
W
A continuation of Chemistry 151 which includes obtaining and applying quantitative information in laboratory to the basic interrelationships among solution chemistry, chemical thermodynamics, chemical kinetics, chemical equilibria, and electrochemistry. Course requires laboratory work.

160 Fundamentals of Health-Science Chemistry 4 Credit Hours
Prerequisite: CHEM 150 or CHEM 151 or high school Chemistry
W
A study of organic and biochemistry as it applies to the health sciences. The course is designed for majors in occupational programs relating to the health sciences that require a basic understanding of organic and biochemistry. Course requires laboratory work.
251 Organic Chemistry I 4 Credit Hours
Prerequisite: CHEM 152
F
The preparation, properties, structures, and reactions of aliphatics, alcohols, ethers, aldehydes, ketones and carboxylic acids. Laboratory develops basic organic chemistry techniques as well as instrumental methods including chromatography and spectroscopy. Three hours lecture and three hours of laboratory each week.

252 Organic Chemistry II 4 Credit Hours
Prerequisite: CHEM 251
W
A continuation of Chemistry 251 with consideration of enols, polyenes, amines, heterocyclics, carbohydrates, amino acids, and macromolecular species. Laboratory develops basic organic chemistry techniques as well as instrumental methods including chromatography and spectroscopy. Three hours lecture and three hours of laboratory each week.

COMMUNICATION (COMM)

151 Introduction to Radio and TV 3 Credit Hours
F
This course is designed for students who wish to develop criteria to evaluate the flood of information presented by the media. Students will gain insight into the effects and influence of media in daily application. Also within this design will be the exploration and implementation of production methods used in radio and TV programming. Students will create and design, write, produce and direct, production techniques with studio production. Students will produce simulated programs in the studio laboratory.

152 Visual Basic Programming 3 Credit Hours
F, W
Prerequisite: CIS 132
This course focuses on the design stage of computer program development and coding of programs using the C++ programming language. Students will diagram solutions to a variety of computer problems using ANSI standard flowcharting symbols, structure charts and other design methods. Utilizing microcomputers, these solutions will then be coded, executed and debugged.

COMPUTER INFORMATION SYSTEMS (CIS)

109 Microcomputer Spreadsheets 3 Credit Hours
F, W
This course familiarizes students with electronic spreadsheets, spreadsheet graphics and data management systems. The various applications to business and general management systems will be discussed. Hands-on experience will be provided utilizing a popular spreadsheet software package.

110 Microcomputer Database 3 Credit Hours
F, W
This course familiarizes students with the basic models and capabilities of standard database management systems. Students will have hands-on experience in creating and using databases on a microcomputer. Skill will be obtained primarily through the use of a common database software package.

118 Windows Operating System 1 Credit Hour
F, W, Sp, Su
This course will focus on the Windows operating environment. Topics include working with files and folders, customizing the Windows environment, managing programs, using windows accessories and utility programs, transferring data between applications, managing printing option, and performing disk maintenance.

123 PowerPoint Presentation Software 3 Credit Hours
W
The student will learn to transform data into professional presentations using a sophisticated PC-based software package. The course will start with simple presentations moving to the more complex projects involving animation and sound. Students will create and design charts, graphs, and other visual elements which will be integrated with text to effectively communicate ideas.

130 Introduction to Computer Information Systems 3 Credit Hours
F, W, Sp
This course provides students with basic knowledge of computer information systems. This course includes both computer concepts and hands-on use of various computer applications. Computer concepts include computer system basics of hardware, software, files and data storage. The hands-on portion consists of using the operating system, spreadsheets, word processing, databases, presentation software, e-mail, and the Internet.

132 Introduction to Computer Programming 2 Credit Hours
F, W
Prerequisite: CIS 130
This course provides an introduction to computer program design and the coding of computer programs. Students will design solutions to computer problems using pseudocode, flowchart symbols, and structure charts. These solutions will then be coded, executed and debugged.

140 Help Desk Concepts 3 Credit Hours
F
Prerequisite: CIS 118 and CIS 130
This course covers help desk technology, tools, techniques, and customer service skills that are essential to any effective help desk. In this course students are introduced to the service concepts of “soft skills” and “self-management skills” as well as the operation of a help desk and possible career paths.

142 Help Desk Troubleshooting 3 Credit Hours
F
Prerequisite: CIS 132
This course covers application and operating system troubleshooting and problem-solving techniques. Real-world case studies will be fielded by students to provide them with challenges they can expect to encounter in a day-to-day help desk support situation. In addition, this course will help to prepare students to successfully pass the HDA (Help Desk Analyst) certification exam.

150 Computer Science I 3 Credit Hours
F, W
Prerequisite: CIS 132
This course focuses on the design stage of computer program development and coding of programs using the C++ programming language. Students will diagram solutions to a variety of computer problems using ANSI standard flowcharting symbols, structure charts and other design methods. Utilizing microcomputers, these solutions will then be coded, executed and debugged.

152 Visual Basic Programming 3 Credit Hours
F, W
Prerequisite: CIS 132
This course uses VISUAL BASIC to develop Windows applications. Utilizing microcomputers, students will design, build, run, save, modify, and debug VISUAL BASIC applications using VISUAL BASIC interfaces, tools, forms, controls, properties, and code.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
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<tbody>
<tr>
<td>155</td>
<td>Database Management Systems</td>
<td>3</td>
<td>CIS 112</td>
<td>This course covers the process of database design, development, implementation and management. Topics covered include relational database model, object-oriented database model, structured query language, entity relationships, normalization, database life cycle, and distributed database management systems.</td>
</tr>
<tr>
<td>167</td>
<td>Discrete Structures</td>
<td>3</td>
<td>CIS 150 and MATH 171</td>
<td>This course covers mathematical principles and techniques required for analysis, proofs and general understanding of algorithms used in computer science. Topics include: algorithms, combinatorics, sets, functions, mathematical induction, understanding and doing proofs. Also covered are “big oh,” “omega, and theta notations for the growth of functions, graphs, trees, and Boolean Algebra.</td>
</tr>
<tr>
<td>171</td>
<td>Using the Internet</td>
<td>1</td>
<td>F, W, S</td>
<td>This course will teach students how to use the Internet as a resource and research tool. Students will learn various ways of accessing the Internet and communicating with other users via the Internet. In addition students will learn advanced search tools and other resources to retrieve information. Course coverage will include browsers, search engines, FTP, email, and Internet security. Operating system file management skills and basic knowledge of the Internet are required for this course. Students who do not have these skills and knowledge should enroll in CIS 130 prior to this course.</td>
</tr>
<tr>
<td>172</td>
<td>Web Design Concepts</td>
<td>3</td>
<td>CIS 130</td>
<td>This course covers the fundamentals of designing informative, attractive and efficient web pages. It includes issues of design techniques, browsers and computing platforms, typography, color selection, navigation, and storyboarding.</td>
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<tr>
<td>173</td>
<td>FrontPage Web Design</td>
<td>3</td>
<td>CIS 130 or CIS 171</td>
<td>This course will focus on web page design using FrontPage to produce web pages and HTML (hypertext mark-up language).</td>
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<tr>
<td>174</td>
<td>Dreamweaver Web Design</td>
<td>3</td>
<td>CIS 130 or CIS 171</td>
<td>This course covers the use of one of today’s most powerful web design tools, Macromedia Dreamweaver™. Students will cover the Dreamweaver™ topics and skills necessary to build and manage attractive, dynamic, professional web sites.</td>
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<tr>
<td>175</td>
<td>Java Programming</td>
<td>3</td>
<td>CIS 150</td>
<td>Java is an object-oriented programming language that can be used to create stand-alone applications and applets. Java applications are platform-independent programs that will run on any computer that supports Java. Java applets are used to enhance World Wide Web pages. By using applets, Web pages can include audio, animation, interactivity, video and even three-dimensional imaging. This course includes coverage of the Java language and Object-Oriented Programming.</td>
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<tr>
<td>176</td>
<td>Web Animation (Flash)</td>
<td>3</td>
<td>CIS 130 or CIS 171</td>
<td>This course covers the skills and techniques for producing and delivering high-impact web sites using Macromedia Flash™. Students will be incorporating musical tracks, sound effects, and advanced animations to create effects that are viewable across numerous web platforms with efficient download speeds.</td>
</tr>
<tr>
<td>177</td>
<td>Markup Languages</td>
<td>3</td>
<td>CIS 130 or CIS 171</td>
<td>This course covers HTML and Dynamic HTML techniques and skills, and introduces XML. Students will be using a case-oriented, problem-solving approach to creating web pages using these web development markup languages.</td>
</tr>
<tr>
<td>179</td>
<td>Web Script Programming</td>
<td>3</td>
<td>CIS 132 or higher programming language and CIS 177</td>
<td>This course covers the creation of dynamic web pages using the popular web scripting languages including JavaScript. Students will build applications from the bottom up. Client-side and server-side scripting will be explored. The goal of this course is to create web pages that have dynamic and interactive content.</td>
</tr>
<tr>
<td>180</td>
<td>Graphic Design Concepts</td>
<td>3</td>
<td>CIS 130</td>
<td>This course covers print design, layout, typography, and related publishing concepts. It contains essentials of print design layout, typographic composition, font selection, scanning techniques, and printing professional-looking publications.</td>
</tr>
<tr>
<td>182</td>
<td>Illustrator Graphics</td>
<td>3</td>
<td></td>
<td>This course covers the tools and techniques of vector-based drawing software using Adobe Illustrator™.</td>
</tr>
<tr>
<td>184</td>
<td>PhotoShop Graphics</td>
<td>3</td>
<td></td>
<td>This course covers the tools and techniques of the image-editing software Adobe PhotoShop™.</td>
</tr>
<tr>
<td>185</td>
<td>Web Graphics</td>
<td>3</td>
<td>CIS 130</td>
<td>This course focuses on designing and creating professional looking Web graphics to be incorporated onto Web sites. Included in this course are techniques for creating image maps, rollover effects, icons, and buttons for the Web. This course uses Macromedia Fireworks. Knowledge of Adobe Photoshop and/or Adobe Illustrator are recommended for this course.</td>
</tr>
<tr>
<td>186</td>
<td>Multimedia Development (Director)</td>
<td>3</td>
<td>CIS 130</td>
<td>This course covers the tools and techniques of the authoring tool Macromedia Director™. This development platform will stress the incorporation of sound, graphics, animation, and video that can be deployed on the web, CD-ROM, and other multimedia applications.</td>
</tr>
<tr>
<td>187</td>
<td>Digital Video Editing</td>
<td>3</td>
<td>CIS 130</td>
<td>This course provides skills and knowledge of digital video basics. Topics will include editing, transitions, auto, adding motion and other multimedia components involving digital video. This course is applicable to web designers, graphic designers, video production artists, or home digital video camera users.</td>
</tr>
</tbody>
</table>
188 InDesign Desktop Publishing  3 Credit Hours
InDesign Desktop Publishing is a comprehensive desktop publishing course which provides instruction in the use of sophisticated page composition software. Class projects range from simple, one-page documents to multi-page documents produced with imported text and graphics. Final class projects involve the conceptualization and creation of a variety of complex publications.

189 3D Animation  3 Credit Hours
Prerequisite: CIS 130 and CIS 176 or CIS 186
This course is an introduction to 3D animation for character animation, visual effect, and 3D solid modeling. Software used includes a complete set of tools for drawing and animating 3D models. Students will create objects with a variety of surfacing materials, textures, and effects. Students will create and animate digital models/objects.

205 System Analysis and Design  3 Credit Hours
Prerequisite: CIS 130
This course is designed to guide the student in developing a system where computer hardware and/or software is to be installed or updated. The student will consider problems of data flow through the system. The student will undertake case studies involving data collection, current system analysis, recommendations, design, development, and implementation of a new or updated computer system. Students may be required to design a full or partial system.

208 Microcomputer Operating Systems  3 Credit Hours
Prerequisite: CIS 118 and CIS 130
This course emphasizes the study of operating systems for personal computers. Topics include: Command Line vs. Graphical User Interfaces, batch and command files, disk utilities, disk operation, installing and uninstalling applications, multitasking, security, and configuration. Operating systems discussed in this course will include Windows, Linux/Unix and others. This course will enhance students understanding of PC operations.

209 Data Communications  3 Credit Hours
Prerequisite: CIS 130
This course examines the technical aspects of electronic data communications within and between organizations. Topics include: fundamentals of data communication environments, communication media, data transmission methods, common carrier services, networks, LAN hardware, LAN topologies, media access control, WAN hardware, WAN topologies, transmission services and Internet Technology.

220 Hardware Maintenance  4 Credit Hours
Prerequisite: CIS 130
This course develops a student’s knowledge of microcomputer hardware for the purpose of installation and maintenance at the equipment level. Students will learn to install, protect and troubleshoot CPUs, disk drives, memory, circuit boards, video adapters, displays, CD-ROM drives and more. Students will learn how to use the Internet to upgrade and maintain computers. This course will also bring together all the physical components of equipment evaluation for purchase, future maintenance and growth. In addition, this course will help to prepare students to successfully pass the A+ certification exam.

230 Windows Server  3 Credit Hours
Prerequisite: CIS 209
In this course, students learn to perform post-installation and day-to-day administration tasks in a single-domain or multiple-domain Microsoft Windows based network.

234 Advanced Windows Server  4 Credit Hours
Prerequisite: CIS 230
This course provides a training solution for support professionals working in a Microsoft Windows Server-based enterprise environment. Students must have previous experience supporting a Windows Server-based network. Students learn to design, implement, and support the Windows Server network operating system in a multi-domain enterprise environment. The course is organized in four units, each covering one major topic. Students will design and implement programs for the enterprise environment. In addition, this course will help to prepare students to successfully pass the MCSE certification exam.

250 Computer Science II  3 Credit Hours
Prerequisite: CIS 150
This course continues the exploration of computer science begun in CIS 150, Computer Science I. Topics to be covered include: object-oriented programming in C++ pointers, recursive algorithm design and implementation, sorting, searching, and file processing. Data structures studied include: stacks, queues, and linked lists. This course is designed for students who wish to continue their computer science education beyond the community college level.

252 Advanced Visual Basic Programming  4 Credit Hours
Prerequisite: CIS 152
This project-oriented course expands on the Visual Basic Programming topics covered in CIS 152. The more complex concepts and features of the programming language are covered with emphasis on managing data and multiple forms, reporting information, and ActiveX controls.

255 Microsoft SQL  4 Credit Hours
Prerequisite: CIS 155
In this course, students will learn how to develop relational database applications using Microsoft SQL client/server database. Concepts to be covered include creating and modifying database tables and data using SQL command-line environment. Additional topics will involve creating queries, transaction management, managing files and file groups and security management. The student will also learn how to install Microsoft SQL and perform day-to-day administration tasks in a Microsoft Windows based network.

266 Windows Programming in C++  3 Credit Hours
Prerequisite: CIS 150
Students will design and implement programs for Windows using RAD tools and C++. The speed and ease of use for RAD tools combined with the power of C++ will be utilized to create complete Windows applications. Programs will be developed that utilize many GUI features found in Windows such as buttons, menus, windows, scroll bars, text areas, etc.
268 Assembly Language/Computer Architecture  4 Credit Hours
Prerequisite: CIS 150
This course covers computer programming in one of its most basic forms and introduces computer architecture. The understanding and appreciation of assembly language is the foundation for the understanding of the digital computer and its programming. Assembly language is just one step removed from machine language, the language directly understood by the CPU. This course will cover: computer architecture, data representation, instruction sets, addressing modes, assembly language programming techniques, interrupts and exceptions, assemblers, peripheral programming, and the relationship between assembly language and high-level languages.

272 Database Web Development  3 Credit Hours
Prerequisite: (CIS 112 and CIS 152 and CIS 177) or CIS 174
This course covers the creation of web sites that can display, insert, update, and delete data from a database. It includes working with relational databases, SQL, HTML, client-side and server-side scripts, and advanced Dreamweavers MX 2004 development features to create dynamic, e-commerce web sites. It is recommended that CIS 179 be completed prior to taking this course.

274 Advanced Database Web Development (with ASP.NET)  3 Credit Hours
Prerequisite: Two computer programming courses from (CIS 132, CIS 150, CIS 152, CIS 175, CIS 179) or any 200 level programming course.
This course covers advanced topics in the design and maintenance of interactive and dynamic web applications using the server-based scripting environment. It will cover web programming concepts and advanced topics, such as ASP.Net (Active Server Pages). CIS 112, CIS 177, and CIS 272 are recommended prior to enrolling in this course. Note: CIS 177 does not meet the programming language requirement for this course.

275 Advanced Java Programming  3 Credit Hours
Prerequisite: CIS 175
This course is a continuation of CIS 175. Topics include exceptions, cloning and RTTI, file I/O, object serialization, multithreading, GUI programming using Java, JavaBeans, Network Programming and Programming Server-Side Java.

276 Web Administration  3 Credit Hours
Prerequisite: CIS 208 or CIS 230
This course focuses on setting up and maintaining a World Wide Web server. Topics include putting pages on the site, Internet protocols, assigning user rights, network security, and the basic setup of one or more HTTP servers. As new technologies emerge, these will be addressed and discussed.

CONSTRUCTION MANAGEMENT TECHNOLOGY (CONM)

100 Introduction to Design/Construction  3 Credit Hours
F
Based on experiences in the field of architecture and construction, this course explores the work of architects and their relationships with the various supporting technicians. Consideration is given to historical, aesthetic, functional, structural, and economic aspects of design.

101 Materials of Construction  3 Credit Hours
A study of natural and manufactured building materials, including concrete and masonry, steel and non-ferrous metals, wood and composition materials, glass and plastics, and exterior and interior finishing materials. In laboratory sessions, the physical properties of materials and methods of assembly are studied using material samples. Beginning sketching techniques are developed.

102 Construction Practices  3 Credit Hours
This course develops those supporting skills essential to the organization and management of construction projects, including material takeoff and bidding procedures, organization and interpretation of specifications, function preparation, and use of the various construction documents, scheduling of construction operations, and familiarization with building codes and zoning regulations.

103 Residence Drafting  4 Credit Hours
Prerequisite: CONM 110 or MDTC 101 or MDTC 151 or MDTC 160 or concurrent registration in CONM 110
Complete working drawings are developed for one building of frame construction, with emphasis on the interrelationships of the various views, including site and floor plans, exterior and interior elevations, sections, and details. Accuracy of linework, lettering and scale are stressed.

105 Mechanical Building Systems & Equipment  4 Credit Hours
Prerequisite: CONM 110 or MDTC 101 or MDTC 151 or MDTC 160
The focus of the course is on water distribution and waste systems, calculation of heat losses and gains, “wet heat” and air handling comfort systems including air conditioning, electrical power and lighting. Mechanical and electrical layouts are developed.

107 Surveying  3 Credit Hours
Prerequisite: High school or college Trigonometry
Sp, Su
Theory and field practice in using tapes, levels, and transits in land survey, building layout, and contours and drainage are covered. Includes a study of building site conditions and practice in taking field notes and in translating them into drawings.

110 Construction Blueprint Reading  3 Credit Hours
Covered in this course are fundamentals of construction blueprint reading: interpretation of basic symbols, terminology organization of construction drawing, sketching, and material quantity takeoff.

120 Introduction to AutoCAD for Architecture  3 Credit Hours
Prerequisite: CONM 103 or CONM 110
This course is an introduction to computer aided design as it applies to the architecture and construction industry. The content examines typical hardware requirements and basic software (AutoCAD) commands used to create, edit, and plot 2D architectural drawing files.

201 Site Planning and Development  3 Credit Hours
W
This course studies the processes required to develop a functional site plan, including basic designs of pavements, parking lots layout, storm drainage, public utilities, landscaping consideration and zoning requirements.
COOPERATIVE EDUCATION (CO-OP)

Cooperative Work Experience 1 to 4 Credit Hours

Cooperative education is for students interested in an introduction to the world of work. It is designed to give on-the-job experience which is related to the student's program of study. The co-op experience may be on a half-time or full-time basis. If employed from 15 to 20 hours per week in an approved coordinated program, the student is entitled to 2 hours credit upon successfully completing the semester. Full-time status generally represents 40 hours per week of coordinated work. Students electing full-time co-op should plan to limit their campus schedule to one or two courses. Arrangements for the co-op program must be made through the proper co-op coordinator or division dean.

CULINARY SKILLS AND MANAGEMENT (CSM)

Food Preparation I

101A Introduction to Culinary Arts 4 Credit Hours
Prerequisite: CSM 111

Students learn the fundamentals of food preparation in the food service business including safety skills, modern kitchen tools and equipment, properties and composition of food, and basic knowledge of meats, poultry and seafood. The study of basic cooking principles, weights and measures, and vegetables and starch preparation, along with basic recipe understanding are all stressed in this course to help prepare students for Culinary careers. Students are required to register for all modules of CSM 101 concurrently.

101B Basic Restaurant Production 2 Credit Hours

Students study and demonstrate, through extensive hands-on training, daily food service production. Through rotations of training stations students maintain and operate entree production, garnishes and salads, soups, stocks and sauces, beginning baking, and basic food preparation. Students are required to register for all modules of CSM 101 concurrently.

101C Baking I 2 Credit Hours

Students study and demonstrate, through daily production, the basic baking skills used in modern food service establishments. This includes principles and mixing procedures for quickbreads and yeast doughs, weighing and portioning, recipe conversions, and types of ingredients. The use of yeast doughs and sweet doughs is an important objective of this course. Students are required to register for all modules of CSM 101 concurrently.

101D Soups, Stocks, & Sauce Production 2 Credit Hours

In modern food service, a thorough understanding of soups, stocks, and sauce production is vital for the successful cook. Through daily production, students demonstrate the proper preparation of stocks, reductions, and glaces, as well as convenience bases. Roux and other thickening agents are taught with uses in sauce production. Soups, classifications and varieties such as bisque, consomme, puree soup, and chowders are regularly prepared. Students are required to register for all modules of CSM 101 concurrently.

111 Food Sanitation 2 Credit Hours

This course is an operations-centered certification course which will provide culinary students with basic principles of sanitation for food service. The course will include ways to apply these principles to practical situations, as well as methods of training and motivating employees to follow good sanitation practices. Students will study the laws and regulations related to safety, fire, and sanitation, and adhere to them in the food service operation. Upon successful completion of this course, students may take the examination for an Applied Foodservice Sanitation Certificate, which meets or exceeds F.D.A. recommendations on content for sanitation courses. This is the most universally recognized and accepted sanitation certification. Students may also receive the State of Michigan Sanitation Certificate.

114 Nutrition 2 Credit Hours

The objectives of this course are designed to make the food service student aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. Students also learn the characteristics, functions, and food sources of the major nutrient groups and how to maximize human health.

Food Preparation II

116A Introduction to Buffet Preparation 4 Credit Hours
Prerequisite: CSM 101D

This course will obtain cooking and learning experience in this course including the demonstration and practical application of preparing and serving salads and salad dressings, sandwiches, and hors d’oeuvres, along with an introduction to food garnishing. The importance of breakfast is thoroughly covered including breakfast cooking, dairy products, cheese, coffee, and tea. Students also demonstrate how to cook with herbs and spices, and wines and spirits, along with an introduction to ice carving. Students are required to register for all modules of CSM 116 concurrently.

116B Beginning Pastries 2 Credit Hours
Prerequisite: CSM 101D

This course is designed to introduce the student to the wide range of pastries used in commercial food service establishments. The preparation and uses of puff dough, Danish dough, French pastries, and international pastries are studied and demonstrated by the student. Students also learn about and produce gateaux, wedding cakes, chocolate work, cookies, and candies. Specialty pastry areas such as pulled and spun sugar are introduced. Students are required to register for all modules of CSM 116 concurrently.

116C Baking II 2 Credit Hours
Prerequisite: CSM 101D

Students study and demonstrate, through daily production, the basic baking skills used in modern bakery facilities, including the principles and mixing methods of pies and cakes. Weighing and portioning, recipe conversions and the study of ingredients are also explored. Students will prepare and bake pies, as well as finish cakes with different icings and decorations. Students are required to register for all modules of CSM 116 concurrently.
116D Institutional Food Preparation  2 Credit Hours  W
Prerequisite: CSM 101D
Through daily hands-on production, students study and demonstrate the proper techniques of institutional food preparation. This area of food service is becoming more upscale every day. Areas of study include an emphasis on international and regional cuisines, as well as working with flavoring, portion control, and proper handling of convenience food products in food service today. Students are required to register for all modules of CSM 116 concurrently.

119 Bar Management  1 Credit Hour  W
This course familiarizes the student with laws related to serving alcohol along with the server’s responsibilities, basic mechanics and principles of bartending. Students also study the processes that produce different alcoholic beverages, such as beer, wines, spirits, and liqueurs.

Advanced Food Preparation I

201A Introduction to Hospitality Industry  2 Credit Hours  F
Prerequisite: CSM 116D
This course is designed to introduce the student to the wide range of businesses in the hospitality industry. Students study various food service organizations and career opportunities which include business organizational structures and basic functions of departments within food service establishments. A close study of catering services including on and off-premise catering is also emphasized in this course. Students are required to register in all modules of CSM 201 concurrently.

201B Dining Room Procedures  1 Credit Hour  F
Prerequisite: CSM 116D
Through daily operations of the Cuisine 1300 restaurant, students learn the various types of dining service appropriate for different food service operations. Students also learn how to service the public which includes tableside cookery, taking orders, serving food, and, through use of a modern computer cash register system, cashing out and end-of-the-day sales mix. Students are required to register in all modules of CSM 201 concurrently.

201C Menu Planning I  1 Credit Hour  F
Prerequisite: CSM 116D
This course introduces students to one of the most important aspects of the food service industry. The principles of menu planning to various types of facilities are applied. The course covers menu layout, selection and development, and pricing/food cost structure. Students plan, cost, and determine the menu used in the Cuisine 1300 restaurant. Students are required to register in all modules of CSM 201 concurrently.

201D Purchasing and Receiving  1 Credit Hour  F
Prerequisite: CSM 116D
Students learn the principles and practices concerned with the purchasing and receiving of food, supplies, and equipment for various food service operations. The importance of developing a purchasing system, an effective storeroom, and proper use of checklists and bid sheets are all covered in detail. Students are required to register in all modules of CSM 201 concurrently.

201E a la Carte Food Preparation  3 Credit Hours  F
Prerequisite: CSM 116D
This course prepares the student for the wide variety of a la carte food service establishments in the modern industry. Through daily operations of the Cuisine 1300 kitchen facility, students rotate through various stations obtaining vital hands-on experience and training. The principles of a la carte food preparation, such as menu development and food/labor costs, are also emphasized to the student. Students are required to register in all modules of CSM 201 concurrently.

207 Restaurant Management & Supervision  3 Credit Hours  W
This course provides instruction in the management techniques involved in modern food service operations. Particular topics include the study of restaurant and menu planning. Through the assembly of a semester-long project, students learn the tasks and responsibilities of operating a restaurant from “conception to opening day.” This includes areas such as market surveys, scheduling needs, and management and supervisory concepts.

Advanced Food Preparation II

216A Garde Manger  2 Credit Hours  W
Prerequisite: CSM 201E
This course is designed to teach the student the art of garde manger and food presentation. The focus is on specialty work including ice and butter sculptures, vegetable carving, salt dough, charcuterie, and tallow sculpturing. Through a series of elaborate theme buffets, students also are introduced to platter presentation and salon competitions. Students are required to register for all modules of CSM 216 concurrently.

216B Menu Planning II  1 Credit Hour  W
Prerequisite: CSM 201E
Students take the menu role and concept one step further in this course. Students develop menus for buffets and utilize them in the Cuisine 1300 restaurant and buffet operations. Students learn to utilize past menus and buffet statistics to aid in forecasting and planning. Students are required to register for all modules of CSM 216 concurrently.

216C Ice Carving  2 Credit Hours  W
Prerequisite: CSM 201E
The art of ice sculpturing is becoming more popular everyday. Many employers look for cooks with this talent. This course teaches the student, through demonstrations and lectures, the art of ice carving. The students also have a considerable amount of hands-on exposure through various ice carving shows, as well as weekly sculptures for theme buffets in Cuisine 1300. Students are required to register for all modules of CSM 216 concurrently.

216D Advanced Buffet Preparation  3 Credit Hours  W
Prerequisite: CSM 201E
This course is designed to teach the student the art of creating and displaying hot and cold foods and to exhibit these foods. Emphasis of this course is on artistic presentation and layout of foods prepared for theme buffets that are served in the Cuisine 1300 restaurant. These popular buffets are open to the public and feature such items as ice carvings, charcuterie products, and classical foods and pastries. Students are required to register for all modules of CSM 216 concurrently.
DANCE (DANCE)

151 Ballet I 1 Credit Hour
The purpose of this course is to introduce the student to the study of classical ballet through traditional ballet bar, center floor and traveling ballet exercises and combinations. Included in the class is basic alignment principles, ballet vocabulary and steps, and beginning combinations of ballet technique. Music accompaniment will enhance and complement the types of movements inherent to ballet dance. Emphasis is on personal growth with each class and assignment being a new challenge. Proper attire, terminology, and health and safety issues are discussed. Written and skills tests are part of this course. Due to the fact that ballet dance has aerobic components, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

152 Modern Dance I 1 Credit Hour
The purpose of this course is to introduce the student to the principles of modern dance techniques designed for the inexperienced dancer. Toning, stretching and strengthening exercises are incorporated to promote the investigation of the body’s overall range of motion. Music accompaniment may be utilized to complement the movement. Emphasis is on personal growth with each class and assignment being a new challenge. Attire, terminology, and health and safety issues are explained and discussed. Written and skills tests are part of this course. Due to the fact that modern dance can be aerobic, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

153 Jazz I 1 Credit Hour
The purpose of this course is to introduce the student to the study of jazz through movement, vocabulary and toning, isolations in jazz techniques, and stretching and strengthening exercises. Music will be utilized in each class to complement the jazz dance styles chosen for study. Emphasis is on personal growth with each class and assignment being a new challenge. Attire, terminology, and health and safety issues are explained and discussed. Written and skills tests are part of this course. Due to the fact that jazz dance is aerobic by nature, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

155 Dance Improvisation I 1 Credit Hour
The purpose of this course is to create an atmosphere in which students can realize and enhance their own creative resources by utilizing the dance medium. This course provides students with opportunities to discover the skills of creative thinking through problem solving exercises which are designed to uncover spatial, kinesthetic and emotional awareness as well as the discovery of movement qualities. Emphasis is on personal growth with each class and assignment challenging the student’s own initiative to move physically and think quickly. Attire, terminology, and health and safety issues are explained and discussed. Written and creatively challenging skills tests are part of this course. Because some of the class content may involve aerobic components, a medical release may be required. This class may be repeated for credit twice (total 3 credits).

170 Dance Composition I 2 Credit Hours
Prerequisite: DANCE 152 and DANCE 155
The purpose of this course is to introduce the student to the study of Dance Composition. The semester will be spent with the intent to obtain an understanding of the elementary components that may be utilized in choreographing a dance. The concept of dance language and symbol system will be introduced. Emphasis is on one’s individual growth process in relation to the concepts of this course as presented in class. Written and skills tests are a part of this course. Because some creative processes are aerobic by nature, a medical release may be required. This class may be repeated for credit twice (total 6 credits).

251 History of Dance 3 Credit Hours
The purpose of this course is to give the student a foundation in which to develop a greater understanding of dance as a medium of expression. The student will examine dance as it has served as ritual, play, and art from the past to the present.

EARLY CHILDHOOD DEVELOPMENT (ECDV)

101 Introduction to CDA 1 Credit Hour
This course is designed to help students planning to complete the Child Development Associate (CDA) Credentialing Assessment by providing information on the process. Students will learn how to apply, how to develop a portfolio, how to write entries, how to document entries, and how to coordinate the readiness and assessment phases of CDA. The CDA Direct Assessment is done by a team composed of the advisor, a parent/community representative, and a representative of CDA. Students must also provide verification of 480 clock hours of working with young children during the immediate past five years, in addition to the required course work. NOTE: The successful completion of this course does not guarantee receiving the CDA Credential.

102 CDA Training-Part 1 5 Credit Hours
This course is designed to help the CDA candidate demonstrate skills and knowledge in seven of the 13 functional areas described in the CDA Competency Goals. The student will also develop professional child care giving skills in specific performance areas: profiling for a child’s safety, adequate supervision of children, maintaining a healthy environment, providing nutritional meals, offering a variety of developmentally-appropriate materials for enhancing physical development, fostering interactions through play, exploration and learning; engaging in conversation.

103 CDA Training-Part 2 4 Credit Hours
This course is designed to help the CDA candidate demonstrate skills and knowledge in six of the 13 functional areas described in the CDA Competency Goals. The student will also develop child care skills in specific performance areas: creativity, individual worth, encouraging self-help skills, mutual respect and acceptance, positive guidance techniques, multicultural awareness and sensitivity, competent and effective management skills, advocacy to promote quality child care services.
105 Child Growth and Development  3 Credit Hours
This course is intended to present to the student a comprehensive analysis of children from conception to eight years old. The student will gain an understanding of child development in all of the following areas: physical growth, cognitive development, psychological development, nutritional value, and socialization processes. The purpose of this course is to focus on enhancing child care skills as a practical application of the theoretical structure of the course.

106 Observing and Recording Child Behavior  3 Credit Hours
Prerequisite: ECDV 105
Students develop appropriate skills and experience for conducting objective child observations. Observation in a child care center and a case study are required. The physical, emotional, social, cognitive, language, and creative needs of pre-schoolers will be analyzed in relation to sound child guidance techniques. Thirty clock hours of observation experiences will be required.

107 Programs for Young Children Birth-5  5 Credit Hours
Prerequisite: ECDV 105
The development of curricula and activities for use with children from birth to age 5 will be emphasized in this course. Students will design a safe environment and plan developmentally appropriate activities. This course will include 60 contact hours of field experiences.

150 Nutrition, Health and Safety for Early Childhood Education  3 Credit Hours
Best practices in health, safety, and nutrition are presented. Students develop specific competencies in these areas including establishing and maintaining a healthy, safe child care program, planning nutritional meals and snacks, and teaching children and their parents about health, safety, and nutrition. Communicable diseases, government funded child/family food and nutrition programs, playground and toy safety, and resources for the child care provider are included.

207 Methods and Materials for Early Childhood Education  5 Credit Hours
Prerequisite: ECDV 105
The course is designed to develop student’s skills in planning, implementing, and evaluating developmentally appropriate learning experiences in children from kindergarten to age eight. A variety of curriculum areas-science, math, creative art, sensory, gross and fine motor, and language arts are covered. Basic skills and concepts, resource materials, and teaching methods are explored for each curriculum area. Community involvement, school partnerships, and standards for school-age childcare programs are also considered. This course will include 60 contact hours of field experiences.

210 Administration of Child Care Programs  3 Credit Hours
Prerequisite: ECDV 105 and ENGL 101 or ENGL 151
This course will enhance the student’s understanding of the total range of administrative responsibilities in early childhood programs. It is designed to offer an overview of interpersonal communication, financial responsibilities, licensing, personnel certification, staffing, and evaluation of overall programs. Students will be responsible for developing budgets, job descriptions, health and safety programs, and a variety of other materials used in administration.

218 Early Childhood Development Externship  5 Credit Hours
Prerequisite: ECDV 106 and ECDV 107 and ECDV 207
The Early Childhood Development Externship is intended for students to gain practical experience while working under supervision in a child care facility. In addition to weekly class meetings, a minimum of 150 hours of supervised experiences in a licensed child care facility are required during the semester. The student will apply theories learned in the prerequisite classes to their field work.

EARTH SCIENCE (ESC)

151 Earth Science  4 Credit Hours
An introduction to earth sciences for beginning students. The course is designed to show the numerous and important ways in which geology and some aspects of meteorology, oceanography, and solar-system astronomy interrelate with humankind and our environment. Emphasis is on broad concepts and fundamental principles of earth science and their application to environmental considerations. Course requires laboratory work.

ECONOMICS (ECON)

251 Principles of Macroeconomics  3 Credit Hours
F, W
This course is a survey of the economic system including ideas relating to production, national income, national growth, money and banking, markets and prices, and the distribution of income. This is a macro-economics course designed for both the student who needs one semester in economics and the student who will take further courses in the field.

252 Principles of Microeconomics  3 Credit Hours
F, W
This is a survey course of the microeconomic system including ideas relating to pricing and output determination, factor income, economic development, international economics, and market structures.

256 Labor Problems  3 Credit Hours
This course examines labor history, labor legislation, wage determination, unions, and collective bargaining. The collective bargaining process is strongly emphasized through the use of role-playing simulations.

257 Contract Administration  2 Credit Hours
This course is designed for students desiring investigation into areas of administering negotiated agreements between labor and management. The course focuses on problems encountered by the union steward or committee person and first-line supervisors regarding grievance procedures and grievance arbitration.
EDUCATION (EDUC)

151 Exploring Teaching  3 Credit Hours  F, W
This course is designed primarily for students who are considering entering the teaching profession. The course involves a minimum of 60 hours of field work where the student will have the opportunity to observe and participate in a public school as an aide to the professional staff. All students meet together on campus for 1-1/2 hours each week to hear guest speakers, to discuss classroom experiences and to review relevant readings. Placement schedules are worked out in cooperation with the participating teacher. Time in the host school averages about 6 hours per week. This course fulfills similar pre-teaching experiences required by several universities. Check with the College counselor regarding transfer to the university you plan to attend.

ELECTRONIC OFFICE SYSTEMS (EOS)

101 Introduction to the Electronic Office  1 Credit Hour  F, W
This introductory course provides an overview of the Electronic Office Systems program. Content includes communication techniques and use of resources. Proofreading, spelling, grammar, and punctuation skills are emphasized.

102 Microcomputer Keyboarding  1 Credit Hour  F, W
Microcomputer keyboarding is designed to teach touch operation of the microcomputer keyboard. The purpose of the course is to enable students to input and access information accurately and efficiently. Note: Students who have received credit for any of the following courses: EOS 121, 131, 135, WPR 103 and WPR 104 will not receive credit for this course. This class may not be taken concurrently with any of the above courses.

104 Legal Specialty  3 Credit Hours  F, W
Prerequisite: EOS 119
This course is a comprehensive study of legal procedures and terminology. Content includes five basic areas of law. All material is transcribed from recorded media on the microcomputer. Legal Specialty is offered through the Regional Computer Technology Center and the Business Learning Lab on a self-paced basis.

105 Medical Specialty  3 Credit Hours  F, W
Prerequisite: EOS 119 and HLTSC 110
This course is a comprehensive study of medical terminology and transcription of operative reports, discharge summaries, pathology reports, etc. All material is transcribed from recorded media using the microcomputer. The course is offered through the Regional Computer Technology Center and the Business Learning Lab on a self-paced basis.

119 Machine Transcription  3 Credit Hours  F, W
Prerequisite: EOS 135
Machine Transcription provides practice in processing communication from verbal to printed form by transcribing from recorded media on the microcomputer. Students develop proficiency in the technical skill of transcribing business documents while strengthening punctuation, spelling, grammar, vocabulary, listening, editing, and proofreading skills.

131 Microcomputer Keyboarding-Beginning  3 Credit Hours  F, W
This course teaches the touch method of microcomputer keyboard operation and provides practice techniques for building speed and accuracy. Content includes keying letters, memos, tables, and reports.

131B Keyboarding Skills Enhancement  1 Credit Hour  F, W
Prerequisite: EOS 102 or touch keyboarding skills of 30 wpm
This course presents proven techniques for increasing keyboarding speed and accuracy. After a series of diagnostic tests, the student completes corrective drills which are followed by post-tests and more drills. With this technique a motivated student can increase keyboarding speed up to 20 words a minute. This is a self-paced course using a software program specifically created for skill building.

135 Microcomputer Keyboarding-Intermediate  3 Credit Hours  F, W
Prerequisite: Keyboarding skills of 40 wpm
Microcomputer Keyboarding-Intermediate is taught on the microcomputer with word processing software. The course includes the development of speed and accuracy and the production of business letters, memos, tables, and manuscripts.

201 Integrated Office Software  3 Credit Hours  F, W
Prerequisite: CIS 109 and WPR 102
Integrated Office Software provides instruction in the proper use of Microsoft Office software. The course includes simulation exercises designed to develop proficiency in organizing, sorting, managing, and presenting information with word processing, spreadsheet, database, and presentation software programs. The course also includes complex hands-on projects that provide practice in linking and embedding objects among different programs contained in the office suite.

ELECTRONIC AND COMPUTER TECHNOLOGY (ELEC)

125 Fundamentals of Electricity  3 Credit Hours  F, W, Sp, Su
Prerequisite: One year high school Algebra
This course is designed as a survey for electronics majors and non-majors. It covers safety, basic electrical theory (AC and DC), Ohm’s Law, reading schematic drawings, electrical component identification and functions, sources of electrical power, motors, power distribution, and basic solid-state devices. Laboratory exercises will include measurement of resistance, voltage, and current with analog and digital meters, basic oscilloscope use, relays and transformers, circuit design and construction, and component testing.

126 DC Motors and Controls  2 Credit Hours  F
Prerequisite: ELEC 125
This course is designed to provide students with a knowledge of DC motor operating characteristics and control circuits. It will provide hands-on experience with wiring control circuits, checking the operational characteristics of motors, and use and installation of circuit protection devices. Development and application of ladder logic theory, diagrams, and circuits will be covered.
128 AC Motors and Controls 3 Credit Hours
Prerequisite: ELEC 126

This course acquaints the student with concepts and applications of three-phase power, including wye and delta configurations. Basic operation and circuit characteristics of three-phase alternators and transformers will be covered. The construction and operation of three-phase induction motors and their related starting, control and protection circuits along with variable-frequency drives will also be addressed.

130 Introduction to Programmable Logic Controls 2 Credit Hours
Prerequisite: ELEC 125

The course introduces the concepts and applications of the control and protection of industrial machines and systems through the use of programmable logic controllers (PLCs).

132 Electronics I 4 Credit Hours
Prerequisite: ELEC 125

An introduction to basic solid-state electronic circuits. Elementary mathematical techniques are used to analyze circuit performance, and coordinated laboratory activities verify these predictions. Topics covered include diodes, basic power supplies, transistors and amplifiers in the common-emitter, common-base, and common-collector configurations, field-effect transistors, basic operational-amplifier circuits, and electronic properties of digital ICs.

133 Circuit Analysis 4 Credit Hours
Prerequisite: ELEC 125 and MATH 124 or MATH 151 or MATH 159 or MATH 164

Topics covered are: Phasor analysis of series AC circuits, both resistor-capacitor and resistor-inductor; phasor analysis of parallel AC circuits, both RC and RL; magnetism; magnetic field in a coil (inductor); inductive transient response to switched DC; impedance of complex AC circuits; oscilloscope phase measurement techniques; power factor in AC circuits; series-resonant LC circuits; parallel-resonant LC circuits; filtering using resonant LC circuits; the j-operator; voltage-division in DC and AC; bridge circuit analysis in DC and AC; Thevenin’s theorem in DC and AC; computer-aided circuit analysis in DC and in AC frequency domain.

134 Electronics II 4 Credit Hours
Prerequisite: ELEC 132

A continuation of Electronics I. Topics covered include: decibels, multistage and differential amplifiers, negative feedback, frequency limitations, op-amp applications, special-purpose ICs, oscillators, power amplifiers, regulated power supplies, and an introduction to radio-frequency techniques. An important part of the course is the construction of a variable regulated power supply which the student may keep upon payment of the approximately $18 parts cost.

135 Digital Electronic Logic 4 Credit Hours
Prerequisite: ELEC 125. Taking ELEC 132 concurrently is recommended.

An introduction to digital components, circuitry, and systems. Topics covered are: logic gates, networks, and truth tables; logic-network description and simplification using Boolean algebra; binary and hexadecimal numbers and arithmetic; various types of integrated-circuit flip-flops; digital counters and registers; digital arithmetic circuits; astable clocks; one-shots; decoders; memories and display devices.

136 Instrumentation 4 Credit Hours
Prerequisite: ELEC 132

This course examines the characteristics and limitations of common electronic instruments. Topics covered include voltmeter circuits and loading, both DC and high-frequency; average-responding vs. true-rms meters, the potentiometer circuit, the Wheatstone bridge, and various AC bridges; a survey of transducers and actuators; and advanced oscilloscope techniques, including differential input, delayed sweep, digital storage, and menu-driven types. Since the course is normally taken in the student’s final semester, considerable time is spent on preparation for the electronics technician’s certification exam sponsored by ISCE.

137 Microprocessors 4 Credit Hours
Prerequisite: ELEC 135

This course is devoted to assembling and programming microcomputer systems using 6800-family components. Applications are simplified or partially implemented games, automated test devices, and industrial instruments. Covered are: computer architecture, memory types, interfacing techniques and components, and machine-language programming. Flowcharting, computerized program assembly, and proper hardware and program documentation are emphasized. Troubleshooting exercises utilizing oscilloscopes, and computer single-step circuitry are an important part of the course.

138 Machinery and Power Control 4 Credit Hours
Prerequisite: ELEC 132

Odd numbered years W

This course deals with rotating machines and their control, and industrial machine control systems. Topics covered: construction and operating principles of DC generators and DC motors; voltage-vs.-current characteristics of various types of DC generators; speed-vs.-torque and current-vs.-torque characteristics of various types of DC motors; switchgear starting and control circuits; power control with silicon controlled rectifiers (SCRs) and triacs; characteristics of unijunction transistors (UJTs), diacs, and other thyristors; construction and operating principles of single-phase and three-phase alternators and three-phase AC induction motors; power measurement in three-phase systems; three-phase transformers; programmable logic controller (PLC) operation.

141 Industrial Automation & Process Control 3 Credit Hours
Prerequisite: ELEC 125

Even numbered years W

Topics covered: the three subsystems in industrial control systems - information-gathering, logic and output; some typical industrial control systems for machine tool processes and materials handling; programmable logic controllers; the differences between open-loop and closed-loop control; terms used in industrial closed-loop control; the five modes of control; effects of varying proportional band, integral (reset) time-constant, and derivative (rate) time-constant; operating principles and applications of electrical transducers (thermocouples, photocells, tachometers, etc.); output devices (valves and valve-operators, AC and DC motors etc.): principles and applications of DC drive systems.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Prerequisite:</th>
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</thead>
<tbody>
<tr>
<td>144</td>
<td>PC-Based Data Acquisition Control</td>
<td>2</td>
<td>ELEC 132</td>
</tr>
<tr>
<td>211</td>
<td>Medium Voltage Power Distribution System</td>
<td>3</td>
<td>ELEC 125</td>
</tr>
<tr>
<td>214</td>
<td>National Electrical Code</td>
<td>2</td>
<td>ELEC 125</td>
</tr>
<tr>
<td>240</td>
<td>African American Literature</td>
<td>3</td>
<td>ENGL 151</td>
</tr>
<tr>
<td>251</td>
<td>Introduction to Poetry and Drama</td>
<td>3</td>
<td>ENGL 151</td>
</tr>
<tr>
<td>252</td>
<td>Introduction to Short Story and Novel</td>
<td>3</td>
<td>ENGL 151</td>
</tr>
<tr>
<td>253</td>
<td>American Literature</td>
<td>3</td>
<td>ENGL 151</td>
</tr>
<tr>
<td>254</td>
<td>Advanced Composition</td>
<td>3</td>
<td>ENGL 151, Faculty nominated and instructor’s approval</td>
</tr>
</tbody>
</table>

**ENGLISH (ENGL)**

*Students who score below specified minimums on the ACT or COMPASS English placement test must successfully complete English 090 prior to enrolling in a 100-level or higher English course.*

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Prerequisites:</th>
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</thead>
<tbody>
<tr>
<td>090</td>
<td>Basic Writing Skills</td>
<td>3</td>
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<tr>
<td>101</td>
<td>Written &amp; Oral Communication</td>
<td>3</td>
<td></td>
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<tr>
<td>102</td>
<td>Business Writing</td>
<td>3</td>
<td>ENGL 101 or ENGL 151</td>
</tr>
<tr>
<td>151</td>
<td>English Composition I</td>
<td>3</td>
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</tbody>
</table>

This course will provide students with the necessary background, theory, and laboratory experience to utilize Windows-based computers, interface hardware, and software for data recording, analysis, and on-line control of industrial processes. Multiple inputs and data logging, A/D conversion, and various computer interface bus standards are discussed and implemented.

**211 Medium Voltage Power Distribution System**

**214 National Electrical Code**

**240 African American Literature**

**251 Introduction to Poetry and Drama**

**252 Introduction to Short Story and Novel**

**253 American Literature**

**254 Advanced Composition**

The emphasis of this course is on research and writing the research paper. Writings include topics taken from a variety of selected readings. The course is a continuation of English 151.

Students will learn to analyze and interpret technical information and to communicate effectively and efficiently in writing using the vocabulary of the business and technical worlds. Writing assignments and projects will include a variety of business and technical applications and report writing. Conducting research, analyzing various writing, writing correspondence and instructions, preparing an oral briefing, and engaging in group projects will promote critical thinking and teamwork.

This is a survey course of major literary works by African American authors, mainly from the nineteenth and twentieth century. This class is designed to develop critical reading proficiency and to better understand our multicultural society.

This course includes reading and analysis of short stories and novels of major authors in order to develop the critical attitudes needed for understanding and enjoyment of these literary forms. This course will include writing assignments and library work.

This is a survey course of major literary works, mainly of nineteenth and twentieth century authors, designed to develop the ability to read critically with understanding and appreciation.

This course offers selected students theory and practice in peer tutoring and advanced composition. Emphasis is placed on student writing conferences, process writing, and standard research methods. All students enrolled in this course work as tutors in the Writing Center.
255 Women’s Writings 3 Credit Hours
Prerequisite: ENGL 151

This course will introduce the student to women’s writings from diverse cultures. Beginning with the 18th century, this course will trace the development of women’s writings in a variety of genres—novels, short stories, poetry, diaries, journals, and essays. The student will also be introduced to the social context of these writings as well as a number of critical approaches to their interpretations.

256 Children’s Literature 3 Credit Hours
Prerequisite: ENGL 151

This course is intended for prospective teachers as well as students preparing for careers in child care. Students will survey a wide variety of children’s books (classic and contemporary) and will learn methods for introducing literature to children from pre-school age to high school. Coursework will include writing assignments, class presentations, and library research.

260 Introduction to Shakespeare 3 Credit Hours
Prerequisite: ENGL 151

This course is a study of Shakespeare through reading and discussion of six to nine plays selected from the comedies, histories, tragedies, and romances. The class may view videos of plays being studied or attend a live performance. The purpose of this course is to present the mastery of Shakespeare’s artistry in light of his world and ours.

261 Introduction to Creative Writing 3 Credit Hours
Prerequisite: ENGL 151

This course will introduce the student to the art and craft of creative writing. Each student’s work will receive attentive individual scrutiny by the instructor and will be discussed in class and in individual conferences. In addition, the course will include analytic reading of the work of other students and of professional writers.

267 British Literature I 3 Credit Hours
Prerequisite: ENGL 151

This course is a survey study of the literature of England from the Anglo-Saxons through the eighteenth century. Emphasis will be given to the major writers of the British canon from the Beowulf poet to Samuel Johnson. Examples of different genres (poetry, prose, drama, etc.) will be read and discussed. Students will also explore the various literary movements that shaped those writers.

268 British Literature II 3 Credit Hours
Prerequisite: ENGL 151

This course is a survey study of the literature of England from the Romantic writers through the twentieth century. Emphasis will be given to the major writers of the British canon from William Wordsworth to Samuel Beckett. Examples of different genres (poetry, prose, drama, etc.) will be read and discussed. Students will also explore the various literary movements that shaped those writers.

FINANCE (FIN)

151 Wealth Building Principles 3 Credit Hours
Prerequisite: ENGL 151

This course—formerly Personal Financial Planning—lays out practical methods to increase one’s net worth over time by utilizing sound principles of money management and understanding how money behaves. No knowledge of accounting or business principles is required. Topics include compounding and the “time value” of money; investments; wills and estates; cohabitation and divorce; taxes; mortgages; retirement plan; and insurance.

FRENCH (FREN)

151 Elementary French I 4 Credit Hours
Prerequisite: FREN 151 or one year high school French

This course is an introduction to the French language. The emphasis will be on learning to read and interpret French. Students will study elementary grammar, pronunciation, and basic vocabulary. Language laboratory work and/or instructional aids will be included.

152 Elementary French II 4 Credit Hours
Prerequisite: FREN 151 or one year high school French

This course is a continuation of French 151. There will be emphasis on aural and oral practices. Also, there will be a study of French contemporary life and reading selections. There will be instructional aids included. The primary purpose of this course is to have the students read and write the French language at a fluent elementary level, with comprehension at the same level.

151 Wealth Building Principles 3 Credit Hours
Prerequisite: FREN 152 or two years high school French

This course will be a review of grammar and practice in oral and written French, based on selected readings and lectures. This course emphasizes writing and reading skills. Short papers and essays will be written in French. This class will culminate in the writing of a research paper in French.

152 Second Year French II 4 Credit Hours
Prerequisite: FREN 251 or two years high school French

This course is a continuation of French 251. There will be emphasis on aural and oral practices. Also, there will be a study of French contemporary life and literature. There will be instructional aids included. This course emphasizes reading French literature and will culminate in the writing of a report on a piece of French literature. Several pieces of French literature will be read during the course. The primary purpose of this course is to have the students read and comprehend French literature at a fluent intermediate level.

GEOGRAPHY (GEOG)

151 Elements of Physical Geography 4 Credit Hours
Prerequisite: FREN 151

An introductory study of geography’s physical elements. Topics include sun-earth relationships, maps, plate tectonics, climate, landforms, erosion, soils, rocks and minerals.

152 World Regional Geography 3 Credit Hours
Prerequisite: FREN 251 or three years high school French

This course provides a world regional survey emphasizing regional distinctions including population characteristics, environmental features, basic resources, political structure, and economic activity within the major geographical regions with a focus on cause and effect, and man/land relationships.
### GERMAN (GERMN)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Elementary German I</td>
<td>4</td>
<td>F</td>
</tr>
<tr>
<td>152</td>
<td>Elementary German II</td>
<td>4</td>
<td>W</td>
</tr>
<tr>
<td>251</td>
<td>Second Year German I</td>
<td>4</td>
<td>F</td>
</tr>
<tr>
<td>252</td>
<td>Second Year German II</td>
<td>4</td>
<td>W</td>
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</tbody>
</table>

**151 Elementary German I**

This beginning course in German provides an introduction to German language and culture. The student will learn basic structures and vocabulary of the target language as well as practice the four basic language skills: reading, writing, listening, and speaking.

**152 Elementary German II**

Prerequisite: GERMN 151 or one year high school German

The student will learn more advanced structures of the target language and additional vocabulary. The proficiency orientation of the class allows extensive practice in the four basic language skills: reading, writing, listening, and speaking. This course is a continuation of GERMN 151.

**251 Second Year German I**

Prerequisite: GERMN 152 or two years high school German

The student will learn additional structures and vocabulary of the target language and will continue practicing the four basic language skills: reading, writing, listening, and speaking. Students will be introduced to authentic materials and literature. This course is a continuation of German 152.

**252 Second Year German II**

Prerequisite: GERMN 251 or three years high school German

The student will continue exploring authentic materials and literature. Practice of the four basic language skills—reading, writing, listening, and speaking—will continue at an advanced level. This course is a continuation of German 251.

### HEALTH SCIENCES (HLTSC)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>110</td>
<td>Medical Terminology</td>
<td>2</td>
<td>F, W</td>
</tr>
<tr>
<td>120</td>
<td>Pharmacology</td>
<td>2</td>
<td>Sp, Su</td>
</tr>
<tr>
<td>136</td>
<td>ECG Basics</td>
<td>3</td>
<td>Sp, Su</td>
</tr>
<tr>
<td>137</td>
<td>ECG II</td>
<td>2</td>
<td>Sp, Su</td>
</tr>
<tr>
<td>151</td>
<td>Principle of Nutrition &amp; Diet Therapy</td>
<td>3</td>
<td>F, W, Sp, Su</td>
</tr>
<tr>
<td>156</td>
<td>Phlebotomy Basics</td>
<td>6</td>
<td>Sp, Su</td>
</tr>
<tr>
<td>157</td>
<td>Phlebotomy II</td>
<td>2</td>
<td>Sp, Su</td>
</tr>
<tr>
<td>159</td>
<td>Perspectives of Aging</td>
<td>3</td>
<td>F, W, Sp, Su</td>
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</tbody>
</table>

**110 Medical Terminology**

The purpose of this course, designed primarily for health and business students, is to provide basic medical terminology information including Greek and Latin derivations, prefixes, suffixes, root words, and combining forms. It provides practice in building and defining medical terms and emphasizes correct spelling and pronunciation of medical words. Basic anatomy and physiology of systems is reviewed with an emphasis on disease conditions and diagnostic tests. This class utilizes a text/workbook, computer assisted instruction, audio tapes, and classroom instruction.

**120 Pharmacology**

Prerequisite: BIOL 158

This course for nursing and allied health students is designed to introduce the major drug classifications, prototype and common drugs within those classifications, and the specific drug actions and interactions. The course also emphasizes the physiologic effects of drugs on the human body, identifying therapeutic usefulness, adverse effects, and contraindications.

**136 ECG Basics**

Prerequisite: GERMN 151 or one year high school German

The purpose of this class is to teach the theory and skill of correctly administering an electrocardiograph and other forms of ECG testing. The class also covers related basic cardiac anatomy and physiology/electrophysiology of the heart; the normal ECG; basic identification of cardiac rhythms; infection control; lead systems and care of monitoring equipment, care of the patient undergoing testing including ECGs, holter monitors, and stress testing; quality assurance guidelines, legal and ethical considerations, and specific communication skills needed by an ECG technician.

**137 ECG II**

Prerequisite: HLTSC 136

The purpose of this class is to further advance the skill of ECG testing. The course will include practical application of ECG skills in the clinical setting. Students must be prepared to spend at least 20 hours per week in the clinical setting and be at least 18 years old.

**151 Principle of Nutrition & Diet Therapy**

Prerequisite: GERMN 152 or one year high school German

The purpose of this course is to study the role of nutrition in promoting health throughout the life cycle. Basic nutrition concepts are discussed, with emphasis placed on the nutrition needed for the maintenance of health and the prevention of disease. Personal nutritional practices are analyzed in light of nutritional theory.

**156 Phlebotomy Basics**

Prerequisite: HLTSC 156

The purpose of this class is to prepare students for the role of the phlebotomist and to be a member of the health care team. Infection, and quality control and safety, specimen collection, techniques for venipuncture and dermal or capillary puncture, specimen transport and processing, and legal, ethical and professional conduct will be presented.

**157 Phlebotomy II**

Prerequisite: HLTSC 156

The purpose of this class is to apply venipuncture and dermal puncture skills in the clinical setting. Students will work 80 hours in the clinical setting and be at least eighteen (18) years old.

**160 Perspectives of Aging**

This course introduces students to the multiple dimensions of aging—physiologic, psychological, cognitive, and social. The broad demographic, political and social frameworks, and policy considerations that impact the aging population are also introduced.
**HEALTH-PHYSICAL EDUCATION (HPE)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
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</thead>
<tbody>
<tr>
<td>150 Personal Health</td>
<td>2</td>
<td>F, W</td>
</tr>
<tr>
<td>This is a basic course designed to provide college students with fundamental concepts and practices relating to healthful living. Personal, local, state, and national health problems are studied in an effort to provide the student with a broad knowledge and understanding of vital health issues as they impact on the physical, mental, emotional, spiritual, and social well-being of the individual. Areas of health which are studied include: chemical dependency; cancer; heart disease and its related factors, exercise, nutrition, weight management, hypertension; marriage, and family relationships. The critical thinking skill in this course will coincide with the student's ability to think critically in order to solve problems related to the health, wellness, and safety of individuals and society as a whole.</td>
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<tr>
<td>151 First Aid and Safety</td>
<td>2</td>
<td>F, W, Sp, Su</td>
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<tr>
<td>The First Aid and Safety course will provide the student with a basic knowledge and understanding of accidents, illness, and injuries that most commonly occur at home, work, school, play, or while traveling. The student is given opportunities to analyze specific emergency situations with emphasis on treatment, prevention, and protection. Major areas include: wounds; injuries to muscles, bones, and joints; shock; poisoning; burns; sudden illnesses; heart attacks and respiratory emergencies. Rescue breathing, choking and CPR skills are learned and applied to adults, children, and infants.</td>
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<tr>
<td>152 Community Health</td>
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<td>F</td>
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<tr>
<td>This course is designed to introduce students to community health and lay the foundation for later learning of more in-depth health disciplines. Students will become familiar with health-related agencies at all levels-local, state and federal. A complete overview of community health will be provided. Students will review and discuss controversial current issues including access to health care and quality of health care. Political, social and economic dimensions of community health will be analyzed. There will be a focus on the common diseases particularly affecting persons living in or near poverty. There will be an overview of the types of data from which to identify community health problems. Students will be provided the opportunity to gain a good understanding of the realm of community health.</td>
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<tr>
<td>153 Mental Health</td>
<td>3</td>
<td>W, Sp, Su</td>
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<tr>
<td>The purpose of this class is to develop a concept of mental health and to increase awareness of mental health issues. Students will examine the principles of mental health including risk factors associated with mental illness and factors which lend toward positive mental health. Various mental illnesses and treatment strategies will also be explored. The education and roles of mental health professionals will be reviewed as well as mental health facility options. Societal issues concerning mental health status will also be discussed.</td>
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<tr>
<td>158 Effective Coaching for Team Sports</td>
<td>3</td>
<td>F</td>
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<tr>
<td>Principles and effective coaching practices are introduced. The role of the coach is explored, including aptitude and skills/preparation needed. Basic information about physical maturation; motor development; athletic characteristics of children, adolescents, and adults will be studied. Meeting the athlete and team, selecting a team, motivating athletes, and developing appropriate behavior will be explored in detail. An overview of typical administrative duties and legal aspects will also be explored.</td>
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<tr>
<td>162 Iaido: Japanese Swordsmanship</td>
<td>1</td>
<td>W, Sp, Su</td>
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<tr>
<td>The purpose of this course is to help the participating student understand the art of liado, not only as a method of swordsmanship, but as an art to develop coordination between mind and body. Emphasis will be placed on physical fitness, history of the art, self-discipline, and the culture of the Samurai. Major areas to be explored are body movement principles, a progressive exercise program and other desirable health and technical aspects of the art of liado, written assignments and tests (both written and performance testing) are a part of this course.</td>
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<tr>
<td>167 Laido: Japanese Swordsmanship</td>
<td>1</td>
<td>W</td>
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<tr>
<td>This course provides students an opportunity to learn snowboarding skills along with the knowledge and understanding of concepts related to snowboarding. Course content will include: selection of clothing and equipment, terminology, fundamental skills of snowboarding, and safety. Written and performance based tests are a part of this course. Student will benefit from the emphasis on individual lifetime sport and recreation activities while receiving one hour of credit toward a degree. This course meets off campus and will require significant physical effort. Students must be at least 18 years of age and be in good physical condition to participate.</td>
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<tr>
<td>185 Snowboarding</td>
<td>1</td>
<td>W</td>
</tr>
<tr>
<td>Course content for physical education activities will include: selection of clothing, equipment, terminology, fundamental skills, and safety. Written and/or skills tests are a part of each course. The purpose of this course is to provide students an opportunity to learn snow skiing skills and the knowledge and understanding of concepts related to snow skiing. Students will benefit from today's emphasis on individual lifetime sport and recreational activities while receiving one hour elective credit for either their associate's degree or for personal enjoyment. This course is also transferable to many four-year institutions as a P.E. credit for those students seeking a baccalaureate degree.</td>
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<tr>
<td>193 Snow Skiing</td>
<td>1</td>
<td>W</td>
</tr>
<tr>
<td>Course content for physical education activities will include: selection of clothing, equipment, terminology, fundamental skills, and safety. Written and/or skills tests are a part of each course. The purpose of this course is to provide students an opportunity to learn snow skiing skills and the knowledge and understanding of concepts related to snow skiing. Students will benefit from today's emphasis on individual lifetime sport and recreational activities while receiving one hour elective credit for either their associate's degree or for personal enjoyment. This course is also transferable to many four-year institutions as a P.E. credit for those students seeking a baccalaureate degree.</td>
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<tr>
<td>212 Principles of Safety</td>
<td>3</td>
<td>Sp, Su</td>
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<tr>
<td>This course is designed to introduce students to the health education discipline and the competencies needed by health educators. Students will become familiar with learning experiences that promote voluntary actions and informed decisions conducive to improving health status and preventing injury. An overview will be provided about how Health Education is concerned with the health behavior of individuals and with the living and working conditions that influence their health. Students will learn about where health education services are offered and for whom. There will be a general overview of different Health Education services, including those provided for in schools and in community settings.</td>
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<tr>
<td>210 Foundations in Health Education</td>
<td>3</td>
<td>Sp, Su</td>
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<tr>
<td>This course is designed to introduce students to the health education discipline and the competencies needed by health educators. Students will become familiar with learning experiences that promote voluntary actions and informed decisions conducive to improving health status and preventing injury. An overview will be provided about how Health Education is concerned with the health behavior of individuals and with the living and working conditions that influence their health. Students will learn about where health education services are offered and for whom. There will be a general overview of different Health Education services, including those provided for in schools and in community settings.</td>
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<tr>
<td>165 First Aid and Safety</td>
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<td>F, W, Sp, Su</td>
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<tr>
<td>The First Aid and Safety course will provide the student with a basic knowledge and understanding of accidents, illness, and injuries that most commonly occur at home, work, school, play, or while traveling. The student is given opportunities to analyze specific emergency situations with emphasis on treatment, prevention, and protection. Major areas include: wounds; injuries to muscles, bones, and joints; shock; poisoning; burns; sudden illnesses; heart attacks and respiratory emergencies. Rescue breathing, choking and CPR skills are learned and applied to adults, children, and infants.</td>
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<tr>
<td>159 Community Health</td>
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<td>F</td>
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<tr>
<td>This course is designed to introduce students to community health and lay the foundation for later learning of more in-depth health disciplines. Students will become familiar with health-related agencies at all levels-local, state and federal. A complete overview of community health will be provided. Students will review and discuss controversial current issues including access to health care and quality of health care. Political, social and economic dimensions of community health will be analyzed. There will be a focus on the common diseases particularly affecting persons living in or near poverty. There will be an overview of the types of data from which to identify community health problems. Students will be provided the opportunity to gain a good understanding of the realm of community health.</td>
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<tr>
<td>157 Mental Health</td>
<td>3</td>
<td>W, Sp, Su</td>
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<tr>
<td>The purpose of this class is to develop a concept of mental health and to increase awareness of mental health issues. Students will examine the principles of mental health including risk factors associated with mental illness and factors which lend toward positive mental health. Various mental illnesses and treatment strategies will also be explored. The education and roles of mental health professionals will be reviewed as well as mental health facility options. Societal issues concerning mental health status will also be discussed.</td>
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<tr>
<td>156 Effective Coaching for Team Sports</td>
<td>3</td>
<td>F</td>
</tr>
<tr>
<td>Principles and effective coaching practices are introduced. The role of the coach is explored, including aptitude and skills/preparation needed. Basic information about physical maturation; motor development; athletic characteristics of children, adolescents, and adults will be studied. Meeting the athlete and team, selecting a team, motivating athletes, and developing appropriate behavior will be explored in detail. An overview of typical administrative duties and legal aspects will also be explored.</td>
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</table>

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*Course codes: F = Fall, W = Winter, Sp = Spring, Su = Summer.*

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125
100 Level — Activity Courses  1 Credit Hour

Course content for physical fitness and aerobic activities will include: selection of clothing and equipment, terminology, components of fitness, benefits of exercise, basic fundamental skills, and safety. Course content for individual and team sports activities will also include rules of play, scoring, and a basic understanding of offensive and defensive strategy. Written and/or skills tests are a part of each course.

Skills require some physical exertion; gross and fine motor coordination; sufficient intellectual and emotional functions to implement skills; and sufficient visual and auditory acuity to communicate needs in the activity. All students must sign a waiver to do activities, and a doctor’s permit may be needed.

Please consult the latest class schedule for current information on offerings.

160 Archery  F, Sp, Su
161 Badminton  F, W
162 Bowling  W
163 Golf  Sp, Su
165 Karate  F, W
167 Physical Fitness  F, W, Sp, Su
170 Exercise Walking  F, Sp, Su
171 Jogging  Sp
173 Aerobics  F, W, Sp, Su
174 Tae Kwon Do  Sp, Su
175 Kick Boxing  F
177 Weight Training  F, W, Sp, Su
178 Weight Lifting  Sp, Su
181 Volleyball  F, W
184 Basketball  F, W
185 Snowboarding  W
193 Snow Skiing  W
197 Hiking and Backpacking  Sp

200 Level - Continuing Courses  1 Credit Hour

Prerequisite: appropriate 100 level beginning course

A review of what was offered in the corresponding beginning course, along with more advanced skills. A greater emphasis will be on offensive and defensive strategies, with an indepth evaluation of the individual skills and abilities for individual and team sports activities. For physical fitness and aerobic activities, more emphasis will be placed on individual goals that will challenge their upper level skills and abilities. Written and/or skills tests are a part of each course.

Skills require some physical exertion, gross and fine motor coordination, sufficient intellectual and emotional functions to implement skills, and sufficient visual and auditory acuity to communicate needs in the activity. All students must sign a waiver to do activities, and a doctor’s permit may be needed.

160 Intermediate Archery  Sp, Su
161 Intermediate Badminton  F, W
162 Intermediate Bowling  W
163 Intermediate Golf  Sp, Su
165 Intermediate Karate  W, Sp, Su
273 Aerobics II (Step Aerobics)
285 Intermediate Snowboarding  W
293 Intermediate Snow Skiing  W
297 Intermediate Hiking and Backpacking  Sp, Su

HISTORY (HIST)

151 Western Civilization to 1650  3 Credit Hours  F, W, Sp, Su

This course introduces the cultural and institutional development of Western civilization from its beginning to 1650. It emphasizes the contributions of past civilizations to the present. Students planning a major in history should elect both 151 Western Civilization and 152 Western Civilization in their freshman year.

152 Western Civil/1650 to Present  3 Credit Hours  F, W

This course, a continuation of Western Civilization 151, introduces the cultural and institutional development of post-1650 Western civilizations. Understanding the contributions these civilizations made to the present is emphasized.

153 History of Michigan  3 Credit Hours

This course is a survey of Michigan history from the French exploratory period to the present. It will examine how the economic, political, and social development of Michigan relates to American history. Local history and the collection and interpretation of primary historical materials are emphasized. This includes utilizing primary historical materials and fitting this information into a local and a national context.

154 History of the US, 1607-1877  3 Credit Hours  F, W, Sp, Su

This course is a survey of American history from the time of exploration and the Colonial Era to the end of Reconstruction. It will examine the peoples of America, native and immigrant, their institutions, and the changes fashioned in the new environment. Special emphasis is placed on the growth and development of American democracy. The purpose of this course is to have the student understand the complexity and essential content of the American past.

155 History of US/1877-Present  3 Credit Hours  F, W, Sp, Su

This course is a survey of American history from the end of Reconstruction to the present. It will examine industrialization, urbanization, ethnic and racial diversity, economic conditions, political, social, cultural and intellectual trends, the growth of America as a world power, the Cold War and the growth of the federal government. The purpose of this course is to have the student understand the historical roots of modern America.

160 Civil War and Reconstruction  3 Credit Hours

This course is a survey of the Civil War era in U.S. history. Special emphasis is on modernization, slavery, the causes of the war, the military aspects, and the reconstruction process.

255 History of East Asia  3 Credit Hours  F

This course surveys the history of East Asia from its beginning to modern times. It emphasizes the social, political, and economic institutions that have shaped the civilization of this region.
256 African-American History 3 Credit Hours
This course examines the history of African-Americans from their African origins to the present. Special emphasis is placed on the cultural development and contributions of black Americans, and the ever-changing dimensions of racism and discrimination in American society. This course will help the student understand the integral role that African-Americans have played in our nation’s history, and to perceive that the very foundation of the American experiment rests on cultural diversity.

HUMANITIES (HUMAN)

151 Introduction to Humanities 3 Credit Hours
F, W
This course is a survey of the humanities that focuses on painting, poetry, drama, and music with emphasis placed on what the humanities tell us about human values. Extra cost may be incurred for field trips. Schedules may have to be adjusted because of field trips, which may be on weekends.

152 Exploring Creativity 3 Credit Hours
F, W
This class will examine in detail the creative process and the factors that surround it. Beginning with the trinity of creation—the person, the process, and the product—the course will explore those characteristics of creative people that enhance creativity and also those elements that inhibit it. The class will be based on the experiences of those who are productive creators. We will note their thinking and feeling habits, examine their products, discover their processes, and understand how creativity is part of everyone. Creative and lateral thinking processes will also be explored. A creativity project will be presented to the class by each student.

250 Visual Media Literacy 3 Credit Hours
Prerequisite: ENGL 151
This class will acquaint the student with the cultural messages that are created and manipulated by movies and television programming. Each student will be provided with the vocabulary and critical tools necessary for discussing and writing about these vital media. Upon successful completion of this course, the student will be able to analyze the visual media and their role in shaping his or her world.

INDEPENDENT STUDY

1 to 4 Credit Hours
Prerequisite: Approval of the respective Division Dean
A student may have an interest in a topic or an area of specialization not covered by regular MCCC class offerings. In order to further the student’s learning in these areas, the divisions (Business, Health-Science, Humanities-Social Sciences, Industrial Technology, and Science-Mathematics) may offer an Independent Study class in which the student would complete selected readings, research, projects and/or papers under the guidance of an instructor.

JOURNALISM (JOURN)

161 Introduction to Journalism 3 Credit Hours
F
Students in this course will learn how to determine what is newsworthy as well as the basics of news and feature writing, journalistic style, copy editing and gathering of information with an emphasis on interviewing techniques. Students may hear presentations by professional journalists and/or visit a newspaper operation.

162 Journalism Workshop I 3 Credit Hours
Prerequisite: JOURN 161
F, W
In this course students will be given practical experience in journalistic writing, photography, layout procedures and newspaper production. They will have the responsibility for producing the College newspaper, The Agora.

261 Journalism Workshop II 3 Credit Hours
Prerequisite: JOURN 162
F, W
This course is a continuation of Journalism 162.

262 Journalism Workshop III 3 Credit Hours
Prerequisite: JOURN 261
F, W
This course is a continuation of Journalism 261.

MANUFACTURING TECHNOLOGY (MECH)

102 Manufacturing Processes 4 Credit Hours
F, W
This is a survey course providing a comprehensive introduction to various manufacturing techniques used to produce products from metals, plastics, ceramics, and composite materials. Classroom discussion will center around the major families of processes: forming, separating, conditioning, fabricating, and finishing. Laboratory experience will include welding, foundry, sheet metal forming, machining, and plastics manufacture.

103 Basic Machine Tools 4 Credit Hours
F, W
This course deals with the care and use of hand tools, measuring instruments, and layout tools as they are used in fundamental fabrication of industrial products. Basic theories and operation and typical applications of lathes, milling machines, and surface grinders are also stressed.

104 Machine Tool Operations 4 Credit Hours
Prerequisite: MECH 103
W
This course covers advanced machine tool techniques and applications with emphasis on lathes, mills, and surface grinders. The theory, use and means of producing machined projects, is incorporated into the course along with a detailed coverage of machine speeds, feeds, and cutter materials. Students are also introduced to the field of computer numerical control (CNC) of machine tools. There will be laboratory experiences in programming and operating CNC machine tools.

105 Advanced Machine Tools 4 Credit Hours
Prerequisite: MECH 104
F
The major emphasis of this course is the programming and operation of computer numerically controlled (CNC) machine tools. Laboratory experiences will include writing and editing programs and parts production on both CNC milling machines and lathes. Programming and editing will be done directly on the CNC machines as well as off-line on microcomputers. Wire Electrical Discharge Machines (EDM) are also covered.

111 Introduction to Fluid Power 3 Credit Hours
Prerequisite: One year high school Algebra
F, W
This course is an introduction to hydraulic principles and equipment used in industry. Basic hydraulic circuit design along with actual set-up and operation of hydraulic circuits is stressed.
112 Pneumatics  3 Credit Hours
Prerequisite: MECH 111

This course covers advanced circuit design, hardware theory and application, and circuit construction and operation in pneumatic systems. Emphasis is on circuits and components commonly covered in automated manufacturing. Circuits encountered will include pneumatic, electrical/electronic control, and feedback.

116 Industrial Plumbing and Pipefitting  3 Credit Hours

This course is designed to allow the student to gain an understanding of the basic scientific principles that apply to the plumbing/pipefitting trade. Various hand and power tools will be used to install and join the different types of piping systems used in the trade. Additional topics include: installing pumps and piping systems; basic mathematics as it applies to the plumbing/pipefitting trade; producing and interpreting basic shop drawings and piping sketches as used at a typical work site; use of the trade code book and applying code regulations to the installation piping.

117 Basic Air Conditioning and Refrigeration  3 Credit Hours

This technician-level course covers the basic compression refrigeration cycle, refrigerants available for use, major refrigeration system components, and fundamentals of system operations. Using small scale, basic refrigeration systems, participants will apply theory to hands-on knowledge as they become familiar with evacuation and charging procedures and basic troubleshooting techniques.

131 Introduction to Automated Manufacturing  3 Credit Hours
Prerequisite: MECH 104 or MECH 134

This is a survey course for the world of robots. Included will be automation safety, justification, design and classification, applications, end-of-arm tooling, power sources, future trends and societal impact. Laboratory experiences will include robot programming and operation through both teach pendants and microcomputers. Basic configurations with programmable controllers will be included, with an abbreviated introduction to fluid power and ladder logic.

134 Machine Tool Theory  2 Credit Hours
Prerequisite: MECH 103

This course covers advanced machine tool techniques with emphasis on lathes and mills. There will be detailed coverage of machine speeds, feeds, and cutter materials. Students are introduced to the field of computer numerical control (CNC) of machine tools. Basic die making is also covered.

201 Introduction to CAD/CAM  3 Credit Hours
Prerequisite: MDTC 121 and MECH 104 or MECH 134

This course introduces the theory and application of computer programs which provide the automatic generation of CNC machine tool codes from the entry of part geometry. Operator designs and runs tool path for CNC machines in 2D and 3D. This technology eliminates the need for the CNC programmer to master the traditional M and G codes and dramatically shortens CNC programming time.

MARKETING COMMUNICATIONS (MCOM)

106 Communication in Sales  3 Credit Hours
Prerequisite: MECH 104 or MECH 134

This course addresses the basic principles of sales techniques, selling personality, selection of a sales force, types of selling, types of customers, steps in the sale, suggestion selling, and methods for increasing average sales.

201 Principles of Marketing  3 Credit Hours

The focus of this course is the study of the fundamental marketing principles. Topics include the marketing environment, marketing planning and research, consumer behavior, market segmentation, international marketing, and the marketing mix.

MATERIALS TECHNOLOGY (MATL)

101 Industrial Materials  3 Credit Hours
Prerequisite: One year high school Algebra

This course presents an introduction to materials of industry, including iron and steel, nonferrous metals, plastics, and ceramics, from the standpoint of properties and applications. Major topics include material classification, mechanical and physical properties, metallurgy, and heat treating. Laboratory experience will be gained in mechanical testing, microscopy, heat treating, and materials identification.

215 Metallurgy  3 Credit Hours
Prerequisite: MATL 101

This course builds on the foundation of Industrial Materials (MATL 101) to explore in-depth the physical and mechanical properties of metals and alloys. Laboratory work will include industrial metallographic techniques and metals testing.

225 Plastics and Ceramics  3 Credit Hours
Prerequisite: MATL 101

This course builds on the foundation of Industrial Materials (MATL 101) to explore in-depth the physical and mechanical properties of plastics and ceramics. Laboratory work will include processing and testing techniques of polymers, composites and ceramics.

MATHEMATICS (MATH)

Students who score below specified minimums on the ACT or COMPASS Math placement test must successfully complete Math 090 prior to enrolling in a 100-level or higher Math course.

090 Basic Mathematics Skills  3 Credit Hours
Prerequisite: ACT or COMPASS Math placement test must successfully complete Math 090 prior to enrolling in a 100-level or higher Math course

Basic Mathematics Skills will provide instruction in elementary arithmetic skills, mathematical operations, and their applications. The content of the course includes operations with whole numbers, whole-number and decimal fractions, ratio and proportion, percent, and calculator fundamentals. Some topics must be completed without the use of a calculator. The purpose of the course is to prepare students for the transition from arithmetic to algebra. This course will be graded on a Pass/Fail mastery basis and does not count toward graduation. It does not fulfill math competency requirements.

118 Introduction to Metric Systems  1 Credit Hour

This course is designed to introduce students to the metric system of weights and measures commonly used in industrial settings. With the prevalence of international trade and organizations with worldwide locations, drawings, specifications, tolerances, and other measurements in trade and commerce are being prepared and presented in the metric system.
121 Technical Mathematics I 4 Credit Hours
Prerequisite: MATH 090 or qualifying score on ACT or COMPASS test
This course provides basic mathematics preparation for students in technology programs. It emphasizes fundamental operations of algebra and the solution of linear equations relating to technical applications. The course also includes binary and hexadecimal numbers, estimation, scientific and engineering notation, engineering calculation form, proportion and variation, measurement systems and conversion methods, precision, accuracy, and error. The purpose of this course is to acquaint students with the type of mathematics that is used in the technical area.

124 Technical Mathematics II 4 Credit Hours
Prerequisite: MATH 121
This course is designed to provide advanced mathematics preparation for students in technology programs. It emphasizes concepts and applications of algebra, geometry, and trigonometry to technical areas. The course includes geometry, graphs and charts, functions and graphs, trigonometry, vectors and polar coordinates, systems of equations, logarithms, and statistics.

125 Mathematics for Allied Health 3 Credit Hours
Prerequisite: MATH 090 or qualifying score on ACT or COMPASS test
This course covers practical application of addition, subtraction, multiplication, division, decimals, fractions, conversion of units, ratio and proportion problems, estimation (including reasonableness of numerical result), precision, accuracy, variation, measurement systems, conversion methods, review of the Roman numeral system, use of algebraic formulas, and solving algebraic word problems as related to the medical profession. The purpose of this course is to give the student competency in the mathematics used in the medical profession.

129 Technical Mathematics III 3 Credit Hours
Prerequisite: MATH 124 or MATH 125
This course introduces students to college-level mathematics at a more gradual pace than MATH 164. The two courses, MATH 157 and MATH 159, are the equivalent of MATH 164.

150 Beginning Algebra 4 Credit Hours
Prerequisite: MATH 090 or qualifying score on ACT or COMPASS test
Fundamental concepts of algebra such as symbols, signed numbers, rational numbers, factoring, and solutions to linear equations. Also includes solutions of rational equations, quadratic equations, and systems of equations. Intended for students who have had no high school Algebra or feel a need to review elementary Algebra.

154 Mathematics Explorations 4 Credit Hours
Prerequisite: MATH 150 or higher or qualifying score on ACT or COMPASS test which satisfies the mathematics general education requirement.
A college level course designed primarily for non-math and non-science transfer majors with the purpose of introducing them to the nature of mathematics as it applies to both the practical and the abstract. Students will gain understanding in the areas of sets, logic, probability, statistics, Algebra, Geometry, and math as it applies to the present modern world. The history as well as the future of mathematics will be interspersed throughout the course as it applies to each topic. Topics will be explored with the use of computers, problem solving, critical thinking, and group/self-discovery.

156 Math for Elementary Teachers I 3 Credit Hours
Prerequisite: MATH 150 or higher or qualifying score on ACT or COMPASS test which satisfies the mathematics general education requirement.
An introduction to the theory of arithmetic to develop understanding and skill in mathematical processes. Consists of set theory, logic, number bases, properties of natural numbers, integers, rational and real numbers. An emphasis is put on the use of manipulatives and problem solving. The purpose of the course is to provide the future elementary teacher with a perspective for understanding the mathematics taught in the elementary school.

157 College Algebra 3 Credit Hours
Prerequisite: MATH 151 or two years high school Algebra and one year high school Geometry.
This course covers the topics of polynomial equations, inequalities, exponential equations, and logarithmic equations. Also included are systems of equations and complex numbers. The purpose of this course is to introduce students to college level mathematics at a more gradual pace than MATH 164. The two courses, MATH 157 and MATH 159, are the equivalent of MATH 164.

159 Trigonometry and Analytical Geometry 3 Credit Hours
Prerequisite: MATH 157 or two years high school Algebra and one year high school Geometry.
This course covers the topics of circular functions, trigonometric functions, inverse trigonometric functions, trigonometric identities, conic sections, polar coordinates, sequences, and induction. The purpose of this course is to teach students trigonometry and conic sections so that the student will have the prerequisites needed for the study of calculus. MATH 159 is a continuation of MATH 157. The two courses, MATH 157 and MATH 159, are the equivalent of MATH 164.

160 Math Applications in Engineering Technology 2 Credit Hours
Prerequisite: MATH 124 or MATH 159 or MATH 164
This course is an introduction to the concepts of statistics and calculus as they apply to engineering technology, focusing on the application of spreadsheet and math analysis software. Computer resources provided include Microsoft Excel and the Maple computer Algebra packages. Topics range from experimental data reduction to numerous examples from mechanical and electrical systems.
162 Introduction to Statistics  3 Credit Hours
Prerequisite: MATH 151 or two years high school Algebra
A basic course to acquaint the student with the theory and application of statistical methods to engineering, health, social, and business problems. Topics considered are graphical representation of data, central tendency measures, bivariate data, probability, distribution, sampling, hypothesis testing, and correlation aspects. Out of classroom use of microcomputers will be expected.

164 Precalculus  4 Credit Hours
Prerequisite: MATH 151 or two years high school Algebra and one year high school Geometry
This course emphasizes the study of polynomial, exponential, logarithmic and trigonometric functions. Other topics considered are complex numbers, trigonometric identities, systems of equations, and analytic geometry. The purpose of this course is to provide knowledge and skills in mathematics of advanced algebraic and trigonometric concepts for applications in situations that require the use of quantitative processes. This course serves as a core requirement in many baccalaureate programs and provides prerequisite concepts and skills needed in business, mathematics, engineering, and in the physical sciences for continued study in calculus.

166 Math for Elementary Teachers II  3 Credit Hours
Prerequisite: MATH 156
A study of elementary probability and statistics, geometry, computer, and calculator applications. An emphasis is put on the use of manipulatives and problem solving. The purpose of this course is to provide the future elementary school teacher with a perspective for understanding the mathematics taught in the elementary school.

171 Calculus I  4 Credit Hours
Prerequisite: MATH 159 or MATH 164 or three years high school mathematics including Algebra, Geometry and Trigonometry.
An introductory course in the study of single variable calculus covering both differentiation and integration. The types of functions covered include algebraic and transcendental. The purpose of the course is to study analysis of single variable functions primarily through differentiation and integration.

172 Calculus II  4 Credit Hours
Prerequisite: MATH 171
A continuation in the study of calculus with an emphasis upon integration. Topics included are algebraic and transcendental functions, techniques of integration, improper integrals, infinite series, plane analytic geometry, parametric equations and polar equations. The purpose of the course is to continue the study of calculus of single variable functions with a more in-depth study of integration and various infinite series.

251 Introduction to Linear Algebra  3 Credit Hours
Prerequisite: MATH 171
An introduction to linear algebra. The content of the course includes methods for solving systems of equations, matrices, vector spaces, inner product spaces, eigenvalues and eigenvectors, and linear transformations. The purpose of this course is to introduce students to linear algebra. Specifically, the course prepares students to work with abstract mathematical structures and multivariate problems.

271 Calculus III  4 Credit Hours
Prerequisite: MATH 172
The continuation of the principles of calculus applied to multivariable functions. The content of the course includes partial differentiation, multiple integration, and vector analysis. The purpose of the course is to continue the analysis of functions with calculus to multivariable functions.

273 Introduction to Differential Equations  3 Credit Hours
Prerequisite: MATH 172
An introduction to ordinary differential equations. The content of the course includes methods for solving first- and second-order ordinary differential equations, systems of differential equations, power series solutions, and Laplace transforms. The purpose of this course is to introduce students to the theory and application of differential equations. Specifically, the course prepares students to apply differential equations to scientific, engineering, and economic problems.

MECHANICAL DESIGN TECHNOLOGY (MDTC)

109 Mechanical Blueprint Reading  2 Credit Hours
Prerequisite: MATH 151 or two years high school Algebra
This course covers the basic principles essential for interpretation of blueprints and engineering drawings. Fundamental symbols, signs and techniques, as well as size and shape description, are emphasized.

116 Plant Layout and Material Handling  3 Credit Hours
Prerequisite: MDTC 101 or MDTC 109 or MDTC 151 or MJTJC 160 or MJTJC 161
This course is an introduction to the practices and procedures for developing optimum plant layouts for production and material handling. Students will follow the process of analyzing and developing information to produce a plant layout. Print reading skills will be developed with an emphasis on reading industrial equipment drawings for equipment installation and movement of materials including conveyers.

152 Descriptive Geometry  4 Credit Hours
Prerequisite: MDTC 160 or MDTC 151
This course consists of lectures, discussions, and home and classroom drawings. Major topics and applications will include: fundamental theory of the point, line and plane with application to solids, generation and classification of lines and surfaces, tangent planes, sections, intersections, development and applications to engineering problems.

160 Mechanical Drafting and CAD I  4 Credit Hours
Prerequisite: Students who have taken MDTC 101 and MDTC 121 should not take MDTC 160
This course is a first exposure to the drafting and design field. Sketching, drafting equipment, basic drafting techniques, geometry, multiview drawings, dimensioning and sectional views will be taught using both sketching techniques and Computer Aided Drafting (CAD) software. A major emphasis will be placed on current drafting standards and procedures.
161 Mechanical Drafting and CAD II  4 Credit Hours
Prerequisite: MDTC 160 or MDTC 101 or MDTC 121 or
two years high school mechanical drafting and CAD.
Students who have taken MDTC 151 and MDTC 122
should not take MDTC 161.

This course is designed as a continuation of the Mechanical
Drawing and CAD I course. Auxiliary Views, Fasteners,
Pictorial Drawings, and Working Drawings will be taught
using both sketching techniques and Computer Aided
Drafting (CAD) software. 3D concepts and solid modeling
will also be included in this course.

224 CAD Applications-Mechanical  3 Credit Hours
Prerequisite: MDTC 121 and MDTC 101 or MDTC 151 or
MDTC 160 and MDTC 161

This course focuses on the process of interpreting complex
engineering drawings and developing the detail drawings
which are used in manufacturing parts. The course is
designed to simulate the engineering environment from
a detailer’s perspective and provide application based
drawings/projects commonly found in industry. The
projects will consist of commercial details, machine from
solid details, casting details, and weldment details. This
course will pull together the skills acquired in MDTC 121
and MDTC 151 and will enable the student to develop
and critique their research skills. CAD lab is required to
complete drawings.

226 Geometric Dimensioning and Tolerancing  3 Credit Hours
Prerequisite: MDTC 101 or MDTC 151 or MDTC 160

This course covers fundamental concepts and applications
relating to geometric dimensioning and tolerancing
(GD&T). This includes tolerance of form, profile,
orientation, runout, and location as they relate to the
ANSI/ASME Y14.5M-1994. Emphasis is placed on how
GD&T is utilized by engineering, manufacturing and
inspection departments.

240 Tool and Die Design  4 Credit Hours
Prerequisite: MDTC 152 and MDTC 224 and MDTC 226.
Students who have taken MDTC 101 and MDTC 121
should not take MDTC 160.

Keeping pace with the latest advances in jigs and fixtures,
this course covers thoroughly how and why jigs and
fixtures are designed and built. From simple template and
plate-type workholders to complex channel and box-type
tooling, economy and simplicity in tool design is stressed
throughout. This course is also a step-by-step introduction
to the design of stamping dies including material, punches,
die sets, stops, strippers, gages, pilots and presses. Special
attention is given to the use of standard parts catalogs.
The function of the course is to call upon the knowledge and
skills acquired by the student in supporting and related
courses to analyze and solve specific design problems. CAD
lab is required to complete drawings. Students who have
successfully completed both MDTC 229 and MDTC 230 may
not enroll for credit in this course.

MECHANICAL ENGINEERING TECHNOLOGY
(METC)

170 Introduction to Parametric CAD/ProE  3 Credit Hours
Prerequisite: MDTC 121 or MDTC 160

In this course students learn concepts in the use of profiles
and parametric features as building blocks for 3D solid
models, and using the Pro Engineer part and assembly
modeling software. Advanced topics of NURBS surfacing
and assemblies, as well as the creation of 2D drawings will
be discussed.

180 Statics  1 Credit Hour
Prerequisite: MATH 124 or MATH 159 or MATH 164

This course is an introduction to the concepts of vector
resultant and equilibrium of coplanar force systems,
solution of truss problems by method of joints and method
of sections, and calculation of static friction. The course is
intended to expand on the related material from METC 208
Strength of Materials (which includes determination of area
centroids and moments of inertia).

208 Strength of Materials  3 Credit Hours
Prerequisite: MATH 124 or MATH 151 or higher

This course is concerned with the selection of machine
and building members of adequate strength and rigidity,
and the investigation of existing load carrying members.
Consideration is given to economy of weight and cost.
Topics covered include: stress, strain and deflection
calculations, shafts, centroids and moments of inertia,
beams, and columns, Mohr’s circle and combined stress.
Computer software resources will be available to assist
students in completion of homework assignments.

210 Computer Applications in Machine Design  4 Credit Hours
Prerequisite: MATH 160 and METC 170 and METC 180 and
METC 208

This course covers the application of the principles of
engineering mechanics (stress/strain, impact, dynamic
loading and fatigue) through computer analysis to
the design and/or selection of machining elements.
Components discussed include fasteners, springs, bearings,
belts and chain drives, brakes and clutches, power screws
and gears. Students are exposed to use of CAD to model
designs, FEA stress verification, and a variety of math
tools to reproduce equations from industry handbooks and
component supplier guides.

270 Advanced Parametric CAD/ProE  3 Credit Hours
Prerequisite: METC 170

This course provides the dual opportunities to explore
advanced topics in parametric CAD, and to gain valuable
design experience through its application to a team based
project. Topics begin with a brief review of the introductory
course, METC 170. Participants will then choose to either
complete a minimum of ten additional topic modules,
through the use of tutorial exercises, or to form teams that
together will share these topic modules while applying
the knowledge gained to a semester long design project. A
partial list of topics include top-down assembly modeling,
surfacing, dynamic analysis of mechanisms, rendering and
animation, sheet metal and plastics design techniques, and
fundamentals of Finite Element Analysis. The software of
choice is currently Pro/Engineer and Pro/Mechanica, and
students are required to purchase student editions, and to
have a reliable Internet connection to enroll.
MEDICAL OFFICE ADMINISTRATION (MOAD)

104 Medical Office Administration I 4 Credit Hours
Prerequisite: EOS 131 or WPR 102
An overview of medical office procedures for the medical assistant or the medical office coordinator. Students will study theory and participate in practical applications such as preparing the office and reception area, welcoming patients, scheduling appointments, creating medical office correspondence, and managing medical records. The use of computers in medical offices will be stressed throughout the course.

204 Medical Office Administration II 3 Credit Hours
Prerequisite: MOAD 104
A continuation of Medical Office Administration I. Covers theory and practice in the areas of patient billing and fee collection, basic bookkeeping and banking procedures, and general office management.

206 Medical Insurance Billing and Coding 3 Credit Hours
Prerequisite: BIOL 155 and HLTSC 110
A hands-on approach to insurance coding and billing. Students will learn to use the Current Procedural Terminology (CPT-4) and International Classification of Diseases (ICD-9-CM) manuals to accurately identify medical procedures and assign the appropriate billing codes. Manual and computerized billing systems will be reviewed as well as third-party reimbursements. Students should have a thorough understanding of basic human anatomy and physiology and medical terminology to successfully complete this course.

MUSIC (MUSIC)

150 Agora Chorale 1 Credit Hour
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

151 Agora Chorale 1 Credit Hour
Prerequisite: MUSIC 150
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

152 Voice Class 2 Credit Hours
This course is open to all students who wish to improve their singing abilities.

154 College-Community Symphony Band 1 Credit Hour
The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearsees once each week, and the course may be elected in sequence four times.

155 College-Community Symphony Band 1 Credit Hour
Prerequisite: MUSIC 154
The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearsees once each week, and the course may be elected in sequence four times.

157 Listening to Classical Music 2 Credit Hours
This class is designed for people seeking greater awareness of the aesthetic content of “classical” music. The forms, styles, methods of composition, and composers are discussed and analyzed as a basis for intelligent listening and appreciation.

161 Applied Music Instrument 1 Credit Hour
Prerequisite: EOS 131 or WPR 102
This course provides private lessons in piano, guitar, wind, or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student’s ability to perform musically.

161V Applied Music Voice 1 Credit Hour
This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student’s ability to perform musically.

162I Applied Music Instrument 1 Credit Hour
Prerequisite: MUSIC 161I
This course provides private lessons in piano, guitar, wind, or percussion instruments (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. At the end of the semester, each student will perform in a recital. The course may be selected as a humanities or elective credit four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student’s ability to perform musically.
**162V Applied Music Voice**  
1 Credit Hour  
Prerequisite: MUSIC 161V  
F, W  
This course provides private lessons in voice (providing qualified teachers are available). The student will be assigned a teacher with whom he/she will study. One half-hour lesson will be attended each week. The student will pay the teacher directly for each lesson. The course may be elected four times in sequence. A permission slip is required to register. The purpose of this course is to improve the student's ability to perform musically.

**255 College-Community Symphony Band**  
1 Credit Hour  
Prerequisite: MUSIC 254  
F, W  
The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.

**250 Agora Chorale**  
1 Credit Hour  
Prerequisite: MUSIC 151  
F, W  
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

**251 Agora Chorale**  
1 Credit Hour  
Prerequisite: MUSIC 250  
F, W  
The Agora Chorale is a mixed vocal ensemble comprised of singers from the community and college. The Chorale presents concerts, no less than two each semester, both on and off campus. The class meets one evening each week and may be elected in sequence four times. The course is a requirement for students on a choir scholarship.

**252 Voice Class**  
2 Credit Hours  
Prerequisite: MUSIC 152  
F  
This course is a continuation of Music 152.

**254 College-Community Symphony Band**  
1 Credit Hour  
Prerequisite: MUSIC 155  
F, W  
The College-Community Symphony Band is open to instrumentalists having previous music experience. Membership includes college students and citizens from the community. The band performs for College functions and concerts as well as for community programs. Admission is by application and audition to the director. This course is a requirement for students on a band scholarship. The band rehearses once each week, and the course may be elected in sequence four times.
265 History and Appreciation of Jazz  3 Credit Hours
The emphasis of Music 265 is upon the various styles of jazz that have shaped the history of jazz music from its roots in blues and ragtime to its inception as a distinct musical form and its evolution through to the present time. This will include Dixieland, swing, bebop, cool, and fusion. The course will also examine jazz within its historical and sociological contexts. The purpose of this course is to expand students’ knowledge of a musical style indigenous to America that has helped to shape the nation’s cultural history.

266 History of Rock Music  3 Credit Hours
Music 266 will examine various styles of rock music, from its roots in blues, rhythm and blues, and country to its inception as rock and roll and through various styles that have been popular through the late 1960s. This will include early rock and roll pioneers, folk-rock, the surf sound, the Motown sound, the British invasion, and psychedelia. When possible, references and comparisons to more contemporary styles will be made. Styles and genres studied will be examined from a historical and sociological perspective.

268 Popular Music in America  3 Credit Hours
The emphasis of Music 268 is upon the various styles of music that have been popular throughout America’s history from the colonial period to the present. This will include folk, blues, jazz, country, and rock. This course will also examine these musical styles from a sociological and historical perspective. The purpose of this course is to expand students’ knowledge of styles of music that have been an integral part of America’s cultural history.

NURSING (NURS)

102 Transition to Medical-Surgical Nursing  2 Credit Hours
Prerequisite: Must be a Licensed Practical Nurse and must meet the advanced standing requirements. Must also register for BIOL 157.

This course is designed to be taken by the Licensed Practical Nurse. Successful completion of the course will partially fulfill the requirements for advanced standing in the Associate Degree Nursing program. The content will focus on the basic concepts integrated in the total curriculum, such as nursing process, professional role identification, stress adaptation framework, communication, and the nurse-patient relationship. The critical thinking skill, which is integral to the nursing process, is the essential skill emphasized in this course. Special focus is on the needs, culture and lifestyle, and community resources available to the elderly.

103 Adapting Throughout the Life Cycle  9 Credit Hours
Prerequisite: Acceptance into the Nursing program, must also register for BIOL 157.

This course provides an introduction to the concepts of nursing practice. The program’s organizing framework, based on the content threads of stress-adaptation, holistic health, nursing process, communication, human needs, growth and development, community, and accountability are introduced. Critical thinking, which is integral to the nursing process, will be emphasized as a means of facilitating the client’s adaptation to stressors throughout the life cycle. Special focus will be placed on the needs, culture and lifestyle, and community resources available to the elderly. The clinical content will be applied 12 hours weekly utilizing the campus laboratory, hospital, and nursing home settings.

104 Adapting to Common Stressors I: Psychiatric Nursing  4 Credit Hours
Prerequisite: BIOL 157 and NURS 102 or NURS 103. Must also register for NURS 105.

This course utilizes a holistic view to study the nursing care of the adult, mentally ill client’s adaptation to stressors and crises. The student will use critical thinking to integrate psychopathology in assessing, planning, implementing, and evaluating care of clients with health care needs in the mental and spiritual spheres. Special focus will be placed on communication, therapeutic use of self, nurse-client relationship, stress adaptation, and holistic health in the care of the mentally ill. During this course, the student will have 12 hours per week for 5 weeks of clinical instruction in the acute psychiatric care setting.

105 Adapting to Common Stressors II: Medical-Surgical Nursing  5 Credit Hours
Prerequisite: BIOL 157 and NURS 103. Must also register for NURS 104.

This course utilizes a holistic view to study the adult client’s adaptation to commonly occurring health problems. The student will use critical thinking to integrate holistic theory and basic pathophysiology in assessing, planning, implementing, and evaluating care for clients with medical-surgical health care needs. Special focus will be placed on chronic illness and perioperative care. During this course, the student will have 12 hours per week for 10 weeks of clinical instruction in the acute care setting.

204 Family Adapting I: Obstetrical Nursing  4.5 Credit Hours
Prerequisite: NURS 105

This course utilizes a holistic view to study the family and its adaptation to pregnancy and childbirth. Critical thinking skills are emphasized through the application of nursing process. Core components of this course include family growth and development, health promotion and maintenance, cultural and ethnic variations regarding health and illness, psychological, social, and spiritual stressors impinging on families, community resources available to families, and disease pathologies in relation to the maternity cycle. During this course, students will have 12 hours per week of obstetrical nursing clinical instruction in the hospital and selected community settings.

205 Family Adapting II: Pediatric Nursing  4.5 Credit Hours
Prerequisite: NURS 105

This course utilizes a holistic view to study the childrearing family and its adaptation to stressors. Critical thinking skills are emphasized through the application of nursing process. The focus of this course includes child and family growth and development, health promotion and maintenance, cultural and ethnic variations regarding health and illness, psychological, social, and spiritual stressors impinging on families, and community resources available to families. Special emphasis will be placed on pediatric pathophysiology. During this course, students will have 12 hours per week of pediatric clinical instruction in the hospital and selected community settings.
209A Adapting Multiple Stressors I 10 Credit Hours
Prerequisite: NURS 205
W
This course utilizes the holistic view to study adult patients and their adaptation to severe stressors. The student will become increasingly sophisticated in the use of nursing process and critical thinking skills to facilitate adaptation to serious physiologic insults. Students will have an opportunity to gradually increase organizational skills through an expanding client care workload in medical-surgical settings. During this course, students will have 12 hours per week of clinical instruction in the hospital, community, or short stay settings.

209B Adapting Multiple Stressors II 3 Credit Hours
Prerequisite: NURS 209A
Sp, Su
This four week course is a continuation of NURS 209 A and explores the theoretical content in managing groups of clients and in communicating with other members of the health team. Students will have the opportunity to increase client care workload in a medical-surgical setting utilizing a full-time preceptorship arrangement. Critical thinking skills continue to be emphasized through active clinical decision making. Clinical practice during this time will be full time work for three (3) weeks.

210 Nursing Seminar 3 Credit Hours
Prerequisite: NURS 205
W
This course facilitates the student’s socialization into the nursing profession. Critical thinking skills are emphasized through discussion related to the following topics: historical perspectives of nursing; nursing education; issues, trends, and problems of health care and nursing practice; and legal, professional, ethical, and social responsibilities of the nurse. Special focus will be on basic management skills, preparation for employment, and career development.

260 Nursing Care of Adults (I, II) 8 Credit Hours
Prerequisite: Admission to the On-Line RN from LPN Program. This is an on-line class that is only available to students enrolled in the RN from LPN on-line program.
F
A course designed to facilitate the student in using the nursing process to give care to adults who are acutely or chronically ill or who have multiple health problems. Nursing interventions to assist the client and family in their holistic adaptive responses to illness and stress are discussed. Emphasis is placed on the nurse’s role in health care management (disease prevention, health promotion, and maintenance, and teaching). Information is designed to build upon the theory learned in all completed coursework and will enable the student to apply previously learned knowledge and skills.

270 Nursing Care of Special Populations 8 Credit Hours
Prerequisite: NURS 260 and PSYCH 151 or equivalent.
W
Admission to the on-line RN from LPN on-line class that is only available to students enrolled in the RN from LPN on-line program.

A course designed to facilitate the student in using the nursing process to give care to special populations (mental illness, childbearing family, and childrearing family). Nursing interventions to assist the client and family in their holistic adaptive responses to growth and development, illness, and stress are discussed. Emphasis is placed on the nurse’s role in health care management (disease prevention, health promotion and maintenance, and teaching). Information is designed to build upon the theory learned in all completed coursework and will enable the student to apply previously learned knowledge and skills.

277 NCLEX-RN Review Course 2 Credit Hours
Sp, Su
The purpose of this course is to review content in preparation for the registered nurse licensing examination. The areas of medical, surgical, pediatric, obstetric and psychiatric nursing, plus test taking techniques, will be covered. It is recommended only for students who have completed, or nearly completed, a registered nursing program.

280 Clinical Applications of Nursing Care 8 Credit Hours
Prerequisite: Admission to the on-line RN from LPN Program. This is an on-line class that is only available to students enrolled in the RN from LPN on-line program.
W
This is an 8 credit hour clinical course that focuses on the practice of nursing in selected settings (in-patient, out-patient, and community settings) and with varying client populations. Students apply nursing process to assist clients and families to achieve maximum holistic health through continuous adaptation and growth and development. Students will respond to health changes ranging from normal childbearing to severe illness and crises. Students will manage care for increasing numbers of clients within selected settings. Communication skills with clients, peers, and the health care team are emphasized, as are professional nursing behaviors. Knowledge is demonstrated by the safe and effective clinical care to clients in the mental health, childbearing, childrearing, and medical-surgical settings over 15 weeks of clinical experience.

290 Nursing Leadership 3 Credit Hours
Prerequisite: Admission to the on-line RN from LPN Program. This is an on-line class that is only available to students enrolled in the RN from LPN on-line program.
W
This course explores the professional nurse’s role in management including priority setting, delegation, supervision and resource management in the health care setting. Content includes leadership/management issues, career development, and current health care trends as they impact the professional nursing role.

PHILOSOPHY (PHIL)

151 Introduction to Logic 3 Credit Hours
F, W
This course includes basic and standard systems of formal and informal logic, embracing both logical theory and the practical application of logic. This course examines critical thinking, inductive, and deductive analysis. Material includes the leading topics of traditional Aristotelian logic together with insight into symbolic logic. This course will include writing assignments.

152 Introduction to Western Philosophy 3 Credit Hours
F, W
This course provides an introduction to the types of philosophy and the study of the great thinkers' contributions to studies which investigate the principles and facts of reality, of human nature, and basic problems of conduct relevant to man. Emphasis is on early Greek philosophy: Plato and Aristotle. This course will include writing assignments.
PHYSICAL SCIENCE (PHYSC)

151 General Physics I  
Prerequisite: MATH 151 or high school Algebra and Trigonometry. Recommended: MATH 157 and 159 or MATH 164.  
4 Credit Hours  
This is a liberal arts course in the fundamental principles of physics. Units include measurement, kinematics, mechanics, rotational motion, fluids, temperature and heat, and waves and sound. This course is designed to fulfill the physics requirement in pre-medicine, pre-dentistry, pre-law, pre-architecture, pre-chiropractic, and similar pre-professional programs. This course should not be taken as a substitute for pre-engineering physics or other related disciplines. Course requires laboratory work.

152 General Physics II  
Prerequisite: PHY 151  
4 Credit Hours  
This course is a continuation of General Physics I; units on electricity and magnetism, light and optical phenomena, relativity, atomic, quantum, and nuclear physics are included. Course requires laboratory work.

251 Engineering Physics I  
Prerequisite: MATH 171, MATH 172 is highly recommended.  
5 Credit Hours  
F

This course is designed to satisfy the requirements of Engineering and Physics majors. Development of ability to marshal physical principles and mathematical techniques in the solution of problems encountered in measurement, kinematics, mechanics, relativity, rotational and wave motion, waves, sound, and fluid mechanics. Course requires laboratory work.

PHOTOGRAPHY (PHOTO)

151 History of Photography  
3 Credit Hours  
F

This course is an exploration of the photographers and evolution of the photographic process from its inception to the present. Emphasis will be placed on individual photographers and the various artistic photographic progressions.

152 Fundamentals of Photography  
Prerequisite: PHO 151  
3 Credit Hours  
This course is designed to fulfill the photography requirement in pre-engineering. It is also recommended for all other pre-professional programs.

251 History of Photography  
3 Credit Hours  
W

This course presents an introductory inquiry into the study of religion, its meaning and truths, emphasizing the historical and structural aspects of religion, religious experience, and religious symbols exemplified through various religious traditions. The concern of the course is not to inculcate any particular faith or doctrinal position but to develop an understanding and appreciation of basic religious concepts and ideas which influence our century.

252 Explorations in Religion  
3 Credit Hours  
W

This course examines investigation procedures including the theory, conduct, collection, and preservation of physical evidence.

POLITICAL SCIENCE (POLSC)

101 American Institutions  
3 Credit Hours  
W

This course considers the historical, economical, and political principles as they operate within the American nation/state political system. Students examine the purpose and function of each primary branch of government.

151 Introduction to Political Science  
3 Credit Hours  
F, W, Sp, Su

This course emphasizes American political institutions, policy formulation, diverse political groups, and key issues. This course also provides a foundation for responsible citizenship. Emphasis is given to the federal level of government with a critical look at contemporary problems in American democracy.

154 Introduction to Law Enforcement  
3 Credit Hours  
F, W

This course addresses the basic elements of our legal system, the nature of crime and criminal responsibility, the criminal justice process, and the role of the professionals in the criminal justice system.

156 Fund of Criminal Investigation  
3 Credit Hours  

This course examines investigation procedures including the theory, conduct, collection, and preservation of physical evidence.
PSYCHOLOGY (PSYCH)

151 General Psychology 3 Credit Hours
Prerequisite: POLSC 151 or HIST 154 or HIST 155
Subject matter begins with an introduction to the major models of human behavior along with appropriate research methodology, including applied statistics. The operational framework is then applied to the following topics: physiological processes, sensation, perception, learning, motivation, emotion, stress, development [life span], personality, adjustment, mental health and therapeutic techniques, personal growth, and social processes. Useful information regarding “real life” application is emphasized throughout the course. It is assumed that, in the majority of cases, this may be the only psychology course the student will experience; as the field of psychology has shifted from theory-based to fact-based, it appears both desirable and possible to expose students to useful information for everyday living while providing a comprehensive coverage of the current major concepts, exploratory models, and research procedures inherent in an introductory psychology course.

152 Psychology of Personality/Adjustment 3 Credit Hours
Prerequisite: PSYCH 151
This course applies psychological principles to the problems of the individual’s adjustment to everyday life. Topics include adjustment processes, personality development, theories of personality, behavior disorders, psychotherapy techniques, human relationships, defense mechanisms, and mental health.

153 Social Psychology 3 Credit Hours
This course emphasizes the individual as a member of society. The development of changing values, attitudes, social behavior, and an awareness of current problems of socialization are explored. Several theoretical frameworks, including attribution and social-cognitive processes are examined. The purpose of this course is to present concrete, factual materials and applications to the students.

156 The Exceptional Person 3 Credit Hours
This course is designed to give students an understanding of persons with special problems. The gifted, the physically challenged, the emotionally challenged, and the mentally challenged are considered.

157 Social Psychology 3 Credit Hours
This course is designed to give students an understanding of persons with special problems. The gifted, the physically challenged, the emotionally challenged, and the mentally challenged are considered.

251 Child Psychology 3 Credit Hours
Prerequisite: POLSC 151 or HIST 154 or HIST 155
Students will examine the fundamental and persistent forces which influence world politics and the foreign policies of states. Through theoretical, ideological, and pragmatic approaches students will explore the historical, economic, geographical, social, and cultural phenomena that impact international politics.

255 Police Organization & Administration 3 Credit Hours
F
The administration of police-line operations including patrol, the investigative functions, traffic, vice control, youth services, and non-crime functions are emphasized. The purpose of this course is to have the student understand the administrative role a police department has in order to provide police services to a community.

256 Police Operations 3 Credit Hours
W
This course focuses on the day-to-day line operation of the police department. Emphasis focuses on patrol, reports, communications, arrests, officer survival skills, community relations, and jail operations.

QUALITY SYSTEMS TECHNOLOGY (QSTC)

105 SPC Basics 1 Credit Hour
An introductory course for those who need a basic understanding of variation, statistical fundamentals, data gathering, and control charting.

111 Quality Management 3 Credit Hours
F, W
This course will introduce students to the management approach that developed from principles of Total Quality. Students will study the principles, concepts and practices of Quality Management as developed by experts like Deming, Juran, Crosby and others. Students will examine the role of organizations involved in world class competition. Emphasizes will be placed on customer satisfaction, employee empowerment, process identification and measurement, and continual improvement.

115 Statistical Process Control 3 Credit Hours
Prerequisite: MATH 121
This course focuses on the basic concept of variation, sampling methodology, and basic six-sigma improvement tools including control charting, significance testing, process capability, and DOE. Techniques used are relevant to manufacturing and service environments.
120 Introduction to Quality Systems  3 Credit Hours
This course is designed to provide students with a working knowledge of the major systems of a modern industrial quality assurance program. Students will examine opportunities for quality improvement through the implementation of lean systems and mistake/error proofing. Emphasis will be placed on quality engineering elements dealing with quality planning, corrective and preventive action, measurement, and continual improvement. Techniques used are relevant in manufacturing and service organizations.

150 Introduction to Metrology  3 Credit Hours
Prerequisite: MDTC 101 or MDTC 109 or MDTC 151 or MDTC 160 or MDTC 161
This course introduces the fundamentals of dimensional measurement, production gages, and gaging techniques. Interpretation of geometric tolerances will also be covered with respect to their implications for inspection. Measurement techniques will emphasize proper use of open-setup equipment including hand tools, gage blocks, surface plates and accessories, analog and digital measuring devices, optical comparator, pneumatic gages, and coordinate measuring machines (CMM).

160 Team Problem Solving  3 Credit Hours
This course is designed to build the student’s ability to respond to the needs of groups as a team member and team leader. Studies team structuring, roles of team members, and tools used in facilitating teams that contribute to organization quality. Kaizen, six-sigma, 8D and other effective team-based solutions will be modeled. Techniques used are applicable to manufacturing and service environments.

210 Advanced Metrology  3 Credit Hours
Prerequisite: QSTC 150
This course covers advanced metrological techniques including CMM operation, Optical and Electronic Measuring, and Graphical Inspection Analysis (paper gaging). Laboratory work concentrates on CMM operation and programming using the PC DMIS operating system.

220 Calibration and Gage R & R  3 Credit Hours
This course covers techniques of gage calibration and gage repeatability and reproducibility studies (Measurement System Analysis). Hands-on work includes calibration of measuring tools and computerized gage documentation using Gage-trak software.

230 Documentation & Audit Preparation  3 Credit Hours
Prerequisite: QSTC 111
This course examines techniques for the development and implementation of quality systems. Participants explore internal auditing techniques and preparation for 3rd party audits. The focus is on understanding quality system requirements, and effective documentation alternatives to meet those requirements. ISO9000:2000, QS9000 (including the TE supplement), TS16949, ISO14000 and other assessment criteria are defined and applications are explored for service businesses and manufacturing.

READING (RDG)

090 Basic Reading Skills  3 Credit Hours  F, W
This is a basic reading course emphasizing essential skills for building literal and critical comprehension proficiency. A COMPASS test score and a counselor’s consultation provide the basis for selecting this reading instruction. This course does not count toward graduation. This course helps students accomplish the following: (1) to develop basic reading skills which provide students the opportunity to succeed in college courses selected in the future, (2) to show reading proficiency progress as measured by a post-test COMPASS score, and (3) to work toward gaining admission status to enroll in regular College courses. This course is meant for students whose first language is English.

145 Strategies for College Success  3 Credit Hours  W
This course is designed to develop effective study habits necessary for academic success. Topics will include goal setting, time management, note taking from lecture and text assignments, test taking, listening and concentration skills. Students in this course will develop reading strategies that go beyond literal comprehension and emphasize critical thinking and written response to reading assignments. Reading 145 is not designed to transfer.

RESPIRATORY THERAPY (RTH)

100 Respiratory Care Techniques I 8 Credit Hours
Prerequisite: Acceptance into the Respiratory Therapy Program. Must also register for RTH 104.
This classroom and laboratory course is an introduction to the duties and responsibilities of respiratory care practitioners. Topics covered include a review of physical science, cardiopulmonary anatomy and physiology, cardiopulmonary resuscitation, basic nursing skills, medical gas and aerosol administration, employee health and safety, pulmonary medications, and an orientation to clinical sites.

104 Cardiopulmonary Assessment 2 Credit Hours
Prerequisite: Acceptance into the Respiratory Therapy Program. Must also register for RTH 100.
This course is an introduction to basic physical and laboratory assessment of cardiopulmonary patients. Topics include basic pulmonary function and medical lab values, blood gas analysis, and bedside patient assessment equipment and techniques.

110 Respiratory Care Techniques II 5 Credit Hours
Prerequisite: RTH 100. Must also register for RTH 116.
This classroom and laboratory course continues the introduction to basic duties of respiratory care practitioners. Emphasis will be placed on patient assessment, basic therapy modalities, airway management, cardiopulmonary diagnostic equipment and techniques, and an introduction to continuous mechanical ventilation.

111 Respiratory Care Clinical Practice I 5 Credit Hours
Prerequisite: RTH 100. Must also register for RTH 110.
This course provides a hospital experience in which previously acquired classroom theory and laboratory skills can be exercised. Skills practiced include those associated with patient respiratory assessment, oxygen therapy, a wide range of bronchopulmonary hygiene therapies, and equipment processing. In addition, weekly clinic seminars will be held on campus to facilitate student learning.
116 Cardiopulmonary Pathophysiology 3 Credit Hours
Prerequisite: RTH 100. Must also register for RTH 110.

This course gives the student an introduction to the most common cardiopulmonary diseases and conditions encountered in the clinical setting. Topics include lung defense mechanisms, common cardiopulmonary manifestations of disease, obstructive lung diseases, and restrictive lung diseases.

120 Respiratory Care Techniques III 5 Credit Hours
Prerequisite: RTH 110

Sp, Su

Mechanical ventilation topics are continued in this classroom and laboratory course. Topics presented include volume pre-set and pressure pre-set ventilator equipment and application techniques and basic ventilation management of adult and neonatal patients.

121 Respiratory Care Clinical Practice II 2 Credit Hours
Prerequisite: RTH 111. Must also register for RTH 120.

Sp, Su

This clinical course provides three types of experience for the respiratory therapy student. First, there will be a continuation of basic respiratory care modalities from the previous semester. Second, the diagnostic areas of basic pulmonary function testing, arterial blood gas puncture and analysis, and 12-lead electrocardiography will be introduced. Third, the student will receive an orientation to volume control ventilation in the adult ICU environment. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

209 Respiratory Care Specialty Clinic I 2 Credit Hours
Prerequisite: RTH 121

F

This clinical course provides the certified therapist student with experience in long-term respiratory care, home care, and neonatal patients needing mechanical ventilation. Clinical assignments will be with institutions and companies that employ respiratory therapists to care for patients in a variety of settings. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

211 Respiratory Care Clinical Practice III 5 Credit Hours
Prerequisite: RTH 121

F

This clinical course allows students to assist in the pulmonary management of adults on mechanical ventilation. An integrated approach to patient care will be stressed through accurate patient assessment and application of various equipment and therapies. Students will function as a member of the health care team. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

212 Advanced Cardiopulmonary Anatomy & Physiology 4 Credit Hours
Prerequisite: RTH 120

F

This course advances the student’s knowledge of cardiopulmonary physiology. The cardiac sections cover gross and histologic cardiovascular anatomy, neural/endocrinological control of cardiac function, hemodynamics, microcirculatory disorders, and a review of common cardiac arrhythmias. The pulmonary section covers broncho-pulmonary anatomy, gas diffusion, blood flow, ventilation/perfusion relationships, gas transport, mechanics and control of ventilation, and lung responses to changing environments and conditions.

214 Adult Critical Care Management 4 Credit Hours
Prerequisite: RTH 120. Must also register for RTH 211.

This classroom and laboratory course covers the cardiopulmonary equipment, techniques, and management theory for the adult patient in an intensive care unit. Topics include critical care patient assessment, review of fundamental concepts in ventilation techniques, and management of adult patients in surgical, medical, pulmonary, cardiothoracic, and neuro intensive care settings.

216 Perinatal/Pediatric Management 2 Credit Hours
Prerequisite: RTH 120

F

This classroom and laboratory course covers topics including fetal growth and development, patient assessment, commonly encountered equipment, and the clinical management of common neonatal/pediatric diseases and conditions.

219 Respiratory Care Specialty Clinic II 4 Credit Hours
Prerequisite: RTH 216 and RTH 209

This clinical course is designed for the certified therapist student who has returned to complete the registered therapist program. A major emphasis will be in assisting with the pulmonary management of neonatal patients on mechanical ventilation. Other rotations will be in a variety of advanced diagnostic laboratories and alternate site venues where respiratory therapists are employed. In addition, weekly clinic seminars will be held on campus to facilitate learning.

220 Pharmacology for Respiratory Therapists 2 Credit Hours
Prerequisite: RTH 110

Sp, Su

This course provides an overview of general pharmacology with an emphasis on drugs used in the critical care management of cardiopulmonary conditions.

221 Respiratory Care Clinical Practice IV 5 Credit Hours
Prerequisite: RTH 211 and RTH 216.

W

This clinical course provides a varied experience for students who are about to graduate. A major emphasis will be in assisting with the pulmonary management of neonatal patients on mechanical ventilation. Other rotations will be in a variety of advanced diagnostic laboratories and alternate site venues where respiratory therapists are employed. In addition, weekly clinic seminars will be held on campus to facilitate student learning.

222 Seminar 2 Credit Hours
Prerequisite: RTH 214 and RTH 216

W

This course presents a wide variety of topics for discussion. Included are respiratory care history, management and supervision, trends in allied health, research, job acquisition skills, and credentialing exam preparation.
This course covers a variety of diagnostic and therapeutic settings. Pulmonary function and stress testing equipment and procedures used in advanced labs will be presented. Additional emphasis will be made in the interpretation of pulmonary function test results. Delivery of respiratory care in alternate sites will also be emphasized. Included will be goals, procedures and equipment associated with pulmonary rehabilitation, home care, subacute and long-term care settings.

SOCIAL WORK (SWK)

106 Child Welfare 3 Credit Hours
This course is designed to introduce the student to the broad field of child welfare. Topics include the history of child welfare, the role of private and government agencies, legal aspects of child welfare, and case planning and investigation.

108 Practicum 2 Credit Hours
Prerequisite: SWK 105 and SWK 106 and SWK 107
The Practicum for the Child Care Technology Associate degree is intended for students to gain practical experience while working under supervision in a child care facility. In addition to weekly class meetings, a minimum of 60 hours of supervised experiences in a licensed child care facility are required during the semester. The student will apply theories learned in the prerequisite classes to their field work.

151 Introduction to Social Service 3 Credit Hours
This course is intended to present an overview of the field of social work. The student will develop an understanding and beginning knowledge of what social work entails. Included will be the gamut of roles available to social work in a variety of different settings—schools, hospitals, mental health centers, and social service agencies, all of which require different educational backgrounds. This course will focus on the needs and problems of clients (defined as individuals, families, groups, community); the variety of methods used to help solve these problems; and the social, cultural, political, and economic values which affect these needs and problem solving.

296A Work Experience I 1 Credit Hour
Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296B Work Experience II 1 Credit Hour
Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296C Work Experience III 1 Credit Hour
Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

296D Work Experience IV 1 Credit Hour
Students may earn credit by voluntarily participating in a predetermined, prescribed set of activities at various social service agencies. Credit may be earned at the rate of one hour per semester and requires a minimum of 45 hours of participation during that semester.

SOCIOLOGY (SOC)

151 Principles of Sociology 3 Credit Hours
F, W, Sp, Su
This course introduces the concepts of culture, socialization, social structure, social stratification, racial and ethnic relations, and deviancy. These topics are used principally to examine life in contemporary United States. Whereas psychology focuses on individual behavior, sociology focuses on behavior that results from membership within and between groups.

152 Marriage & Family 3 Credit Hours
F, W, Sp, Su
This course examines marriage and family at various periods in American history in order to assess the same topics include the variety of households, divorce, working parents, male-female relationships, and economic influences on marriage and family. Partisan political views on the family are discussed.

153 Women in Society 3 Credit Hours
F
This is a foundation course in Women's Studies. Emphasis is placed on how women have been perceived historically and the progress they have made in the context of today's society. The concept of "voice" will be examined in each of the four units looking at how women have been silenced and how, if they have recovered their "voice."

160 Social Gerontology 3 Credit Hours
F
This course focuses on the aged as a social subculture of the United States. How roles and status change with age in relation to family and major social institutions and the adjustments that individuals make to these changes are examined. The impact of an aging population on society is also discussed. Special attention will be placed on similarities and differences in aging and change related to an individual's gender, race, ethnicity, and socioeconomic status.

251 Modern Social Problems 3 Credit Hours
Prerequisite: SOC 151
W
A number of social problems will be examined and interrelated as time permits. Topics include the global workplace, poverty, crime, power, and wealth. Problems are analyzed with a set of sociological perspectives developed early in the semester.

252 Juvenile Delinquency 3 Credit Hours
Prerequisite: SOC 151
F
This course deals with theories of causation and prevention with emphasis on juvenile courts, institutional treatment, and community resources for prevention.
### SPANISH (SPAN)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Elementary Spanish I</td>
<td>4</td>
<td>SPAN 151 or one year high school Spanish</td>
</tr>
<tr>
<td>152</td>
<td>Elementary Spanish II</td>
<td>4</td>
<td>SPAN 151 or one year high school Spanish</td>
</tr>
<tr>
<td>251</td>
<td>Second Year Spanish I</td>
<td>4</td>
<td>SPAN 152 or two years high school Spanish</td>
</tr>
<tr>
<td>252</td>
<td>Second Year Spanish II</td>
<td>4</td>
<td>SPAN 251 or three years high school Spanish</td>
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</tbody>
</table>

This course emphasizes the audio-lingual aspects of learning basic Spanish. The basic structure of the Spanish language with oral and written practice is the focus.

### SPEECH (SPCH)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Communication Fundamentals</td>
<td>3</td>
<td>SPCH 151</td>
</tr>
<tr>
<td>152</td>
<td>Public Speaking</td>
<td>3</td>
<td>SPCH 151</td>
</tr>
<tr>
<td>155</td>
<td>Interpersonal Communication</td>
<td>3</td>
<td>SPCH 151</td>
</tr>
</tbody>
</table>

This course is designed to acquaint the student with the principles of the communication process: intrapersonal, interpersonal, and public. It is a broad-based approach to aid the student in becoming a more effective communicator. Each student will present several formal speeches to inform, persuade, and demonstrate.

### THEATER (THEA)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>151</td>
<td>Introduction to Theater</td>
<td>3</td>
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</tbody>
</table>

This course is a comprehensive survey of the theater and its drama. The goal is to familiarize the student with theater as an art form and as an implement of education and entertainment. The following aspects of theater are considered in the course: play and play structure, scene design, scene construction, lighting and sound, costume and make-up, theater history, directing, and acting.

### WELDING TECHNOLOGY (WELD)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>100</td>
<td>Introduction to Welding Processes</td>
<td>4</td>
<td></td>
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<tr>
<td>101A</td>
<td>Introduction to GMAW</td>
<td>2</td>
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</tbody>
</table>

This course is an in-depth introduction to the technical concepts pertaining to the more common industrial welding and cutting processes. Machine functions and filler metal chemistry will be emphasized as well as code and procedure requirements for a variety of industrial needs. Welding/cutting processes covered (including laboratory applications) include: oxy-fuel cutting (OFC), plasma arc cutting (PAC), shielded metal arc (SMAW), gas tungsten arc (GTAW), and gas metal arc (GMAW) welding.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisite(s)</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>101B</td>
<td>Basic SMAW</td>
<td>2</td>
<td>F, W</td>
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<tr>
<td></td>
<td>The student is introduced to flat position</td>
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<td></td>
<td>stick welding using various common</td>
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<td></td>
<td>welding electrodes. Emphasis is placed</td>
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<td></td>
<td>on welding technique in the flat and</td>
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<td></td>
<td>horizontal positions.</td>
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<tr>
<td>101C</td>
<td>Arc Applications</td>
<td>2</td>
<td>WELD 101B</td>
<td>F, W</td>
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<tr>
<td></td>
<td>A continuation of WELD 101B, the student</td>
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<td></td>
<td>progresses to vertical-up welding, and</td>
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<tr>
<td></td>
<td>is introduced to low hydrogen electrodes,</td>
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<td></td>
<td>and vee groove weldments.</td>
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<tr>
<td>102A</td>
<td>Multi-Pass Arc Welding</td>
<td>2</td>
<td>WELD 100</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students perfect their welding skills by</td>
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<td>welding thick section fillet welds in all</td>
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<td></td>
<td>positions. Expertise is developed</td>
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<td></td>
<td>using fast freeze and low hydrogen</td>
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<td></td>
<td>electrodes.</td>
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<tr>
<td>102B</td>
<td>Code Welding Techniques</td>
<td>2</td>
<td>WELD 102A</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students perform several common code</td>
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<tr>
<td></td>
<td>welds in all positions. Completion of the</td>
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<td></td>
<td>course requires successful guided bend</td>
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<tr>
<td></td>
<td>tests in all positions using fast freeze</td>
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<td></td>
<td>and low hydrogen electrodes.</td>
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<tr>
<td>102C</td>
<td>Multi-Pass Pipe Fillet Welding</td>
<td>2</td>
<td>WELD 102A</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students master weld pool control and</td>
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<td>all position welding techniques on an 8&quot;</td>
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<td>pipe-to-plate welding exercise. The</td>
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<td>finished project requires approximately 84</td>
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<td>stringer and weave bead combinations in</td>
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<td></td>
<td>all positions.</td>
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<tr>
<td>103</td>
<td>Weldment Evaluation and Testing</td>
<td>3</td>
<td>WELD 100 or MECH 102</td>
<td>F</td>
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<tr>
<td></td>
<td>This course provides an introduction to</td>
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<td></td>
<td>the various methods used to inspect</td>
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<td>weldments for reliability using both</td>
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<td>nondestructive and destructive techniques.</td>
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<td>Weld quality and procedure requirements</td>
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<td>of the AWS Structural Welding Code will</td>
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<td>be introduced. The knowledge and skills</td>
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<td>required for certification as an AWS</td>
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<td>welding inspector will be covered in-depth.</td>
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<td>Laboratory experience will be gained in</td>
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<td>non-destructive test methods (visual,</td>
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<td>ultrasonic, magnetic particle, radiographic,</td>
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<td></td>
<td>eddy current, and dye penetrant testing).</td>
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<tr>
<td>104A</td>
<td>Introduction to GTAW</td>
<td>2</td>
<td>WELD 100</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students are introduced to Gas Tungsten</td>
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<td></td>
<td>Arc Welding. All assignments are completed</td>
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<td></td>
<td>on mild steel in the flat and vertical</td>
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<td></td>
<td>positions on various types of weld joints.</td>
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<tr>
<td>104B</td>
<td>Introduction to GMAW</td>
<td>2</td>
<td>WELD 100</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students perform GMAW welding on a variety</td>
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<td></td>
<td>of weld joints in all positions. Weld</td>
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<td></td>
<td>integrity is determined by guided bend</td>
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<td></td>
<td>testing.</td>
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<tr>
<td>104C</td>
<td>GTAW-Stainless Steel</td>
<td>2</td>
<td>WELD 100</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students perform GTAW welds in a variety</td>
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<td></td>
<td>of weld positions and joint designs on</td>
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<td>thin gage stainless steels. Bead color and</td>
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<td>base metal distortion are greatly</td>
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<td>emphasized.</td>
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<tr>
<td>104D</td>
<td>GTAW-Aluminum</td>
<td>2</td>
<td>WELD 100</td>
<td>F, W</td>
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<td></td>
<td>Students are required to master welding</td>
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<td></td>
<td>techniques particular to aluminum. Metal</td>
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<td>chemistry and weld perfection are</td>
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<td>emphasized.</td>
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<tr>
<td>105</td>
<td>Welding Metallurgy</td>
<td>3</td>
<td>WELD 100</td>
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<td></td>
<td>This course covers the physics and</td>
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<td>metallurgy of welding steel, aluminum,</td>
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<td>and cast iron. In addition, the course</td>
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<td>covers welding procedure qualifications,</td>
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<td>welding design, industrial welding</td>
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<td>processes, equipment, and parameter</td>
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<td></td>
<td>selection for production applications.</td>
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<tr>
<td>106A</td>
<td>Pre-Pipe Welding Skills</td>
<td>2</td>
<td>WELD 100 and WELD 102</td>
<td>F, W</td>
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<td></td>
<td>Students are required to thoroughly master</td>
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<td></td>
<td>tie-in and rod pick-up welding techniques</td>
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<td>on 3/8&quot; mild steel plate in all positions.</td>
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<td>The satisfactory completion of guided bend</td>
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<td></td>
<td>testing is a course requirement.</td>
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<tr>
<td>106B</td>
<td>SMAW Pipe Welding--Uphill</td>
<td>2</td>
<td>WELD 106A</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students are required to weld 8&quot;</td>
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<td></td>
<td>diameter, schedule 40 pipe in the 2, 5,</td>
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<td></td>
<td>and 6G positions. Four guided bend tests</td>
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<td>are required for course completion.</td>
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<tr>
<td>106C</td>
<td>SMAW Pipe Welding--Downhill</td>
<td>2</td>
<td>WELD 106A</td>
<td>F, W</td>
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<tr>
<td></td>
<td>Students are required to weld two, 8&quot;</td>
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<td></td>
<td>diameter schedule 40 pipes in the 5 and</td>
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<td>6G position, vertical down weld</td>
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<td>progression. All procedures relating to</td>
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<td></td>
<td>the A.P.I. code are adhered to.</td>
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<tr>
<td>110</td>
<td>Welding Symbols and Blueprint Reading</td>
<td>2</td>
<td></td>
<td>F, W</td>
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<tr>
<td></td>
<td>This course is designed to introduce the</td>
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<td></td>
<td>basic concepts of blueprint reading and</td>
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<td>welding symbols. A programmed, audio-</td>
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<td></td>
<td>visual training technique provides the</td>
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<td></td>
<td>vehicle to blueprint reading and welding</td>
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<td>symbol experience, and is reinforced with</td>
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<td></td>
<td>classroom lectures, workbook assignments,</td>
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<td>hands-on projects, and written evaluations.</td>
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</tbody>
</table>
114 GMAW and GTAW Applications  6 Credit Hours  
Prerequisite: WELD 100  
F, W  
A continuation of basic concepts learned in WELD 100, this course is designed to develop the skill levels of GMAW and GTAW welders and introduce pulse transfer in both processes. Acceptable levels of weld quality are significantly increased in this course as welders begin welding nonferrous metals, weld in all positions, and complete more demanding destructive tests on their projects.

216 Basic Pipefitting  4 Credit Hours  
Prerequisite: WELD 110 and WELD 102 or WELD 114  
Sp, Su  
This course will cover basic fabricating techniques of various pipe intersections, pipe runs, and sheet metal layout for heating, plumbing and power plant installations.

240 AWS Qualification/Cert-Entry Level  4 Credit Hours  
Prerequisite: WELD 100 and WELD 110 and WELD 114  
This course is designed to meet the skill and knowledge requirements established by the American Welding Society for entry level welders. Successful course completion meets the welding and cutting processes standards established in the requirements of AWS QC10, Specification for the Qualification and Certification for Entry Level Welders. Testing includes SMAW, GMAW and GTAW on aluminum, stainless and mild steel, on flat stock up through 3/8 inches.

250 AWS Qualification/Certification-Advanced Level  4 Credit Hours  
Prerequisite: WELD 102 and WELD 106  
This course is designed to meet the skill and knowledge requirements established by the American Welding Society for intermediate level welders. Successful course completion meets the welding and cutting processes standards established in the requirements of AWS QC11, Specification for the Qualification and Certification for Intermediate Level Welders. Testing includes SMAW, GMAW and GTAW on 3/8” flat aluminum, stainless and mild steel, and on 8”0 mild steel, stainless and aluminum pipe, 1/8” thick.

WORD PROCESSING (WPR)

102 Word Processing I  3 Credit Hours  
Prerequisite: EOS 102 or equivalent keyboarding skills  
Word Processing I is designed to develop proficiency in the operation of word processing software using a microcomputer system. Course content focuses on creating, saving, retrieving, editing, formatting, enhancing, printing, and merging a variety of documents. Content also includes file management, introduction to microcomputer operating systems and terminology, and use of the Internet and e-mail.

103 Advanced Word Processing  3 Credit Hours  
Prerequisite: WPR 102  
Advanced Word Processing develops proficiency in the advanced word processing functions of Microsoft Word such as macros, sorting, tables, and columns. A simulation will give additional practice in the advanced features of the software. Any student receiving credit for this course may not receive additional credit for WPR 104.

104 Word Processing II for Administrative Assistants  4 Credit Hours  
Prerequisite: WPR 102  
Word Processing II develops proficiency in advanced word processing functions, such as macros, sorting, tables, and columns. The content also includes office practices and procedures. A simulation will give additional practice in the advanced features of the software. Any student receiving credit for this course may not receive additional credit for WPR 103.

110 Personal Word Processing  2 Credit Hours  
Personal Word Processing is a practical approach to the efficient use of Microsoft Word. This course emphasizes proper style and format in the creation of documents ranging from business and personal correspondence to reports and research papers across the curriculum. The course also covers file management, includes an introduction to microcomputer operating systems and terminology, and offers practice in using the Internet and e-mail. No previous computer or keyboarding experience required.