Course Descriptions
# KEY TO ABBREVIATIONS

| ACC  | Accounting                      |
| ANT  | Anthropology                    |
| ARA  | Arabic                          |
| ARC  | Architectural Technology        |
| ART/AT | Automotive Technology         |
| AVI  | Aviation Technology             |
| BAP  | Baking and Pastry Arts          |
| BIO  | Biology                         |
| BE   | Biomedical Engineering Technology |
| BIC  | Building Inspection Technology  |
| BUS  | Business Administration         |
| BLW  | Business Law                    |
| CHM  | Chemistry                       |
| CHI  | Chinese                         |
| CE   | Civil Engineering Technology    |
| CLT  | Clinical Laboratory Technology  |
| COL  | College Orientation             |
| COM  | Communications                  |
| CRJ  | Criminal Justice                |
| CUL  | Culinary Arts                   |
| DCS  | Deaf Communication Studies      |
| DA   | Dental Assisting                |
| DHY  | Dental Hygiene                  |
| DMS  | Diagnostic Medical Sonography   |
| DIE  | Diesel Technology               |
| DIT  | Dietetic Technology             |
| ECE  | Early Care and Education        |
| ECO  | Economics                       |
| EDU  | Education                       |
| EE   | Electrical/Electronic Engineering Technology |
| EMT  | Emergency Medical Technology    |
| EGR  | Engineering Graphics            |
| ESC  | Engineering Science             |
| ENG  | English                         |
| FIN  | Finance                         |
| FIR  | Fire Protection Technology      |
| FRE  | French                          |
| FD   | Funeral Directing               |
| FNL  | Funeral Service Education       |
| GE   | General Engineering             |
| GEG  | Geography                       |
| GEN  | General Education               |
| GEO  | Geology                         |
| GER  | German                          |
| GLE  | Global Education                |
| HIT  | Health Information Technology   |
| HST  | History                         |
| HRT  | Horticulture                    |
| HTM  | Hospitality and Tourism         |
| HUM  | Humanities                      |
| HMS  | Human Services                  |
| IRT  | Information Reporting Technology|
| IS   | Information Systems             |
| IT   | Information Technology          |
| IDS  | Interdisciplinary Studies       |
| IB   | International Business          |
| ITL  | Italian                         |
| JPN  | Japanese                        |
| LGL  | Legal Studies                   |
| LIB  | Library and Information Studies |
| MGT  | Management                      |
| MKT  | Marketing                       |
| MCM  | Mass Communications             |
| MTH  | Mathematics                     |
| ME   | Mechanical Engineering Technology|
| MUS  | Music                           |
| NUR  | Nursing                         |
| OTA  | Occupational Therapy Assistant  |
| PAR  | Paramedic Technology            |
| PRD  | Personal Development            |
| PHL  | Philosophy                      |
| PE/PE| Physical Education              |
| PSI  | Physical Science                |
| PTA  | Physical Therapist Assistant    |
| PHY  | Physics                         |
| PLA  | Plastics Technology             |
| PSC  | Political Science               |
| PSY  | Psychology                      |
| QC   | Quality Control                 |
| XRT  | Radiologic Technology           |
| RDG  | Reading                         |
| RTH  | Respiratory Therapy             |
| RUS  | Russian                         |
| SAF  | Safety Technology               |
| SKT  | Skilled Trades                  |
| STR  | Smart Start                     |
| SOC  | Sociology                       |
| SPA  | Spanish                         |
| ST   | Surgical Technology             |
| TEL  | Telecommunications              |
| THT  | Theatre                         |
| TUR  | Tourism                         |
| WMS  | Women's Studies                 |
This section contains descriptions of all credit courses offered at St. Louis Community College as well as other off-campus locations during the academic year. The courses listed herein are current as of June 2012. For descriptions of courses approved after this date, consult the website at stlcc.edu/programs.

All of the courses listed in this section are not offered every semester. Information on where and when these courses are available may be found in each semester’s course schedule available online at stlcc.edu/schedule. Contact the Admissions/Registration office for more information.

READING PROFICIENCY PREREQUISITE

Many of the courses in this catalog include a prerequisite of “Reading Proficiency.” This means that before a student can enroll in one of these courses, he or she must demonstrate the ability to read at the college level. This ability will give the student a much better chance to pass the course, since many courses require a certain amount of reading, whether it be a textbook, journal articles or reports from many sources.

The student can meet the Reading Proficiency prerequisite by scoring at least 82 on the COMPASS reading placement test, given as part of the admission process. Students who present an ACT reading score of at least 18 or an SAT verbal score of at least 500 meet the prerequisite. Students with a college reading course with a grade of at least “C” or who have earned a college degree (associate or baccalaureate) also meet the prerequisite. In addition, transfer students who present evidence of a grade of at least “C” in a three-hour college course numbered 100 or higher will be considered to have met the prerequisite. This applies also to students with dual credit courses taken in high school.

Students who do not meet this prerequisite in any of these ways must enroll for RDG:030, Introduction to College Reading. A grade of “C” or higher in this course meets the Reading Proficiency requirement. Students who are not native speakers of English can meet this prerequisite with at least a “C” in ENG:070, Academic English for Non-native Speakers III.

COURSE LEVELS

The course numbering system uses an abbreviation to identify subject matter area and a three-digit number to identify course level. Course levels are defined as follows:

- **001-079** Developmental courses
- **080-099** Special problems developmental credit courses
- **100-199** Beginning level credit courses
- **200-299** Advanced level credit courses
- **500-599** Special problems credit courses
- **600-699** Special problems credit courses
- **700-799** Non-credit continuing education courses

Example:
**DA:144 PRECLINICAL PRACTICE**
DA indicates the subject area of Dental Assisting. The number 103 indicates that the course is on the beginning level.

COURSE HOURS

Unless otherwise noted in the course description, the credit hours shown represent the number of lecture hours per week over a 15-week semester that the student will spend in class for a given course.
ACCOUNTING

ACC:100  APPLIED ACCOUNTING  3
An introductory course in the principles of accounting with emphasis on practice in bookkeeping techniques, designed to familiarize career students with the basic accounting system and the knowledge of keeping records. Prerequisite: Reading Proficiency.

ACC:110  FINANCIAL ACCOUNTING I  4
The emphasis of this course is on the measurement and presentation of financial data. The course focuses on preparation and use of corporate financial statements consistent with General Accepted Accounting Principles. Prerequisites: ACC:100 or one year of high school accounting or department approval and Reading Proficiency.

ACC:111  FINANCIAL ACCOUNTING II  3
Reinforces ACC:110 Financial Accounting topics on reporting corporate long term liabilities, intercompany investments and the Statement of Cash Flows. Introduces Managerial Accounting with coverage of cost accounting systems, cost-volume-profit analysis, capital budgeting and other current managerial accounting topics. Prerequisites: ACC:110 with grade of “C” or better or department approval and Reading Proficiency.

ACC:114  MANAGERIAL ACCOUNTING  3
Emphasis is on evaluation and utilization of accounting data for the purpose of planning and controlling operations. Topics include financial statement analysis, methods of cost accumulation, budgeting, standard costs, direct costing, and cost-volume-profit analysis. Prerequisites: ACC:110 with grade of “C” or better or departmental approval and Reading Proficiency.

ACC:120  COMPUTER ACCOUNTING APPLICATIONS FOR BUSINESS  3
This survey course introduces various commercial accounting software in a hands-on environment. Topics covered include general ledger, receivables, payables, inventory, payroll, and importing and exporting accounting data to other software. The course provides an introduction to accounting applications of spreadsheet and presentation software and the Internet. No previous computer experience is necessary. Prerequisites: ACC:100 and/or ACC:110 and/or department approval and Reading Proficiency.

ACC:122  COMPUTER ACCOUNTING APPLICATIONS - SPREADSHEETS  3
This course covers accounting applications using spreadsheet software as a tool in solving accounting problems and presenting and analyzing accounting data. Topics include using spreadsheet software to prepare accounting reports such as the income statement, balance sheet, statement of cash flow, and special purpose accounting reports for decision making. Financial reports are analyzed using spreadsheet software. In addition, auditing a worksheet and graphical analysis of accounting information is performed using the charting feature of spreadsheet software. Prerequisites: ACC:110 or department approval and Reading Proficiency.

ACC:124  COMPUTER ACCOUNTING APPLICATIONS - DATABASES  3
This course covers how to build a database for accounts receivable, accounts payable, inventory, fixed assets and payroll. Prerequisites: ACC:110 or department approval and Reading Proficiency.

ACC:203  COST ACCOUNTING  3
A study of the general principles of cost accounting with emphasis on process and job order cost accounting; methods of collection, preparation and interpretation of data, as well as preparation of records and reports. Prerequisites: ACC:111 or ACC:114 and Reading Proficiency.

ACC:204  INCOME TAX ACCOUNTING  3
A study of federal tax accounting; emphasis is placed on the procedure required to comply with the tax laws and to make the required tax returns. Income tax, social security and payroll tax accounting is included. Prerequisite: Reading Proficiency.

ACC:206  AUDITING  3
This course teaches the procedures of examination of financial statements by external and internal auditors. Topics include auditing standards, development of working papers and reports, and development of sampling and original records examination. Prerequisites: ACC:208, ACC:209 and Reading Proficiency.

ACC:208  INTERMEDIATE ACCOUNTING I  3
Study of financial accounting theory relating to asset, liability and owner’s equity accounts, including methods of valuation and the related effects on financial statements. Prerequisites: ACC:111 or ACC:114 with a grade of “C” or better or department approval and Reading Proficiency.

ACC:209  INTERMEDIATE ACCOUNTING II  3
A further study of financial accounting theory. Topics will include intangible assets, current and long-term liabilities, equity, earnings per share, and investments. Prerequisites: ACC:208 with a grade of “C” or better or department approval and Reading Proficiency.

ACC:212  NONPROFIT ACCOUNTING  3
The course addresses the principles, concepts and processes involved in the accounting treatment for nonprofit entities. Organizations discussed will include state and local governments, the federal government, colleges and universities, hospitals and health organizations, and other voluntary health and welfare organizations. Prerequisites: ACC:110 or department approval and Reading Proficiency.

ACC:213  SURVEY OF BUSINESS TAXES  3
This is a survey course of Business Taxes. Topics include federal taxation of income, state taxation of income, state capital base taxes, state sales and use tax, federal and state employment related taxes and property taxes. Prerequisites: ACC:110 or department approval and Reading Proficiency.

ACC:214  BUSINESS TAXES: RESEARCH AND PLANNING  3
This course concentrates on advanced business tax issues for partnerships, corporations, and S-corporations. Topics include tax planning, tax practice considerations, and tax research. Prerequisite: Reading Proficiency.

ACC:215  FRAUD AND FORENSIC ACCOUNTING  3
This course introduces students to current methodologies and work performed by forensic accountants. The concentration of this course focuses on current fraud issues. In addition, this course will educate students about the causes of fraud and explore the methods of detection, investigation and prevention. Prerequisite: ACC:206 and Reading Proficiency.

ACC:291  ACCOUNTING INTERNSHIP  3
An Accounting Internship allows students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisites: Approval of department chair or program coordinator and Reading Proficiency.

ACC:292  ACCOUNTING INTERNSHIP II  3
This is an additional internship opportunity for accounting students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisites: Approval of department chair or program coordinator and Reading Proficiency.
ACC:293 ACCOUNTING INTERNSHIP III 3
This is an additional internship opportunity for accounting students to apply skills learned in the classroom, learn new skills, and explore career opportunities while supervised by an employer and a faculty member. Working as an intern for 120 hours under the supervision of an accounting professional, the student will have the opportunity to participate in the accounting functions of an accounting firm, accounting department, or other business unit. Prerequisites: Approval of department chair or program coordinator and Reading Proficiency.

ANTHROPOSOPHY

ANT:101 INTRODUCTION TO PHYSICAL ANTHROPOLOGY AND ARCHAEOLOGY 3
This course is designed to present the principles, theories, data and methods used by anthropologists and archaeologists in their attempts to study human evolutionary development. Generally speaking, three broad topics are covered: the mechanisms of evolution, human prehistory, and the fossil evidence of Homo Sapiens and ancestral forms. Prerequisite: Reading Proficiency.

ANT:102 INTRODUCTION TO CULTURAL ANTHROPOLOGY 3
In this course, students are introduced to the great diversity of human cultures. Economic, social, political and religious systems are compared, including such topics as the nature of culture, cultural ecology, magic and witchcraft, disease and curing, sex roles, and rites of passage. Problems resulting when traditional societies confront industrial societies or industrialization are discussed. Prerequisite: Reading Proficiency.

ANT:103 CULTURAL VARIATIONS 3
This course focuses on culture as a prime determinant of human behavior. To understand how culture "works" helps us to understand better the people who live in that culture. The basic concepts of culture are presented including adaptation to the environment, language and communication, social stratification, values and attitudes, customs and habits, and social change. Economics, politics, religion and social systems are compared and evaluated with special application to living, visiting, and doing business in another culture. Prerequisite: Reading Proficiency.

ANT:104 FIELD STUDY IN ARCHAEOLOGY 3-6
This course is designed to introduce students to field methods in archaeology and to the methods of recording, storing, analyzing, and reporting archaeological findings. Experience is gained through participation in a field project. Prerequisite: Reading Proficiency.

ANT:105 FOUNDATIONS OF ARCHAEOLOGY 3
A basic introduction to archaeology as an interpretive discipline. Why and how do archaeologists determine how old things are and which ancient cultures they belong to? How do they reconstruct the religions, economy, and politics of ancient civilizations? Using cases from ancient cultures around the world, this course will answer these and many other questions about the study of archaeology. Prerequisite: Reading Proficiency.

ANT:201 NORTH AMERICAN ARCHAEOLOGY 3
This course is an introductory survey of the prehistory of North America, covering the ten thousand years of New World cultural development from the original entry of man through the entrance of Europeans. Attention will be focused on the development of civilization in Mesopotamia and in the Eastern U.S., the Midwest and the Southwest. Laboratory sessions and field excavation techniques will be introduced in actual situations. Prerequisite: Reading Proficiency.

ANT:202 ETHNOGRAPHY: NORTH AMERICAN INDIANS 3
This course presents an introduction to the beliefs, customs and social organization of the Indians of North America. The course will deal with the Indians as they were before Columbus, their life ways, world views, and religion, economic patterns and technology, patterns of family life, warfare and confrontations with Europeans. Prerequisite: Reading Proficiency.

ANT:203 BIBLICAL ARCHAEOLOGY 3
Archaeological discoveries and their relationship to the historical, cultural and religious traditions of the Old and New Testaments. Included will be Sodom and Gomorrah, Exodus, Conquest, Dead Sea Scrolls, and the Early Church. Prerequisite: Reading Proficiency.

ANT:205 CULTURAL CONTEXT OF EARLY CHRISTIANITY 3
The study of Roman culture, Jewish culture, and the Jesus Movement analyzing their material culture (tombs, temples, art, coins) and non-material culture (kinship system, political organization, economic system). Artifacts, architecture, and written records are our primary sources. Prerequisite: Reading Proficiency.

ANT:206 THE INCA, AZTEC, AND MAYAN CULTURES 3
A survey of the cultural evolution of Meso America and Andean South America, from the early hunters to the high civilizations. This course will conclude with the sixteenth century Spanish conquest of these civilizations. Prerequisite: Reading Proficiency.

ANT:207 ANCIENT CIVILIZATION OF THE OLD WORLD 3
A survey of the earliest complex societies in the Old World during the Neolithic and Bronze Ages. Emphasis will be focused on the cultures in Mesopotamia, Egypt, India, and China. Prerequisite: Reading Proficiency.

ARABIC

ARA:101 MODERN ARABIC I 4
This is a practical, beginning course in speaking and understanding modern Arabic. It is designed for persons who want to learn some Arabic, who want to travel to an Arabic-speaking country, or who have limited experience in Arabic. Attention is given to proper pronunciation, to practicing the words and basic structures most frequently in daily conversation and to learning the social conventions and Arab culture necessary for interpersonal communication with native speakers of contemporary Arabic. Prerequisite: Reading Proficiency.

ARA:102 MODERN ARABIC II 4
Modern Arabic II is a continuation of Modern Arabic I. Students complete the basic elements of Arabic grammar, increase their vocabulary and gain added facility in speaking and reading Arabic. Prerequisites: ARA:101 or the permission of the instructor and Reading Proficiency.

ARCHITECTURAL TECHNOLOGY

ARC:102 INTRODUCTION TO SUSTAINABLE ENVIRONMENTS 3
This is a foundation course in which a broad spectrum of issues in sustainable environments are discussed. Environmental and economic issues including stewardship, healthy environments, building culture, community development, and high performance building technologies will be explored. Prerequisite: Reading Proficiency.

ARC:110 ARCHITECTURAL GRAPHICS 3
Foundation course in which quality drafting in the areas of line weight and quality, lettering, dimensioning, notes is taught. Drafting procedures such as orthogonals, axonometrics, perspective, shade and shadow, topography, entourage rendering are introduced. Care and use of drafting and print tools and media are considered. (Approximate cost of supply kit - $50). Additional lab hours required. Prerequisite: Reading Proficiency.

ARC:112 ARCHITECTURAL DESIGN AND PRODUCTION I 3
A small project is designed and detailed. Topics covered include: design method, design presentation techniques, construction details, and construction document set production. Verbal and graphic communication of ideas is developed. A portfolio of student work is begun. Additional lab hours required. Prerequisites: ARC:110 with a grade of “C” or better and Reading Proficiency.

ARC:114 ARCHITECTURAL HISTORY AND THEORY 3
Course presents a survey of the history of shelter, monuments, other building types, towns and cities, and site design in relation to current architectural trends. Forces which shape the built-environment are studied. Tours of area sites or buildings may be included. Prerequisite: Reading Proficiency.

ARC:115 ARCHITECTURAL RENDERING AND PRESENTATION 3
Students gain experience in color and pattern rendering and presentation drawing technology. A variety of media and concepts is explored. Finished projects can be included in the architectural portfolio. Additional hours required. Prerequisite: Reading Proficiency.
ARC:116 GREEN DESIGN STRATEGIES AND APPLICATIONS IN ARCHITECTURE
3
This is a studio course emphasizing the application of green building and sustainable design strategies in architectural environments. Students will utilize their knowledge of regional green materials, best management practices, and the local context as they investigate sustainable architectural solutions to given design problems. Additional studio hours required. Prerequisites: ARC:112 with a minimum grade of “C” or approval by instructor, and Reading Proficiency.

ARC:117 GREEN DESIGN STRATEGIES AND APPLICATIONS IN INTERIOR DESIGN
3
This course introduces the use of sustainable and green design buildings, assemblies, materials, and approaches for their interior environment. Interior design problems based on client criteria, goals and intent will utilize the application of sustainable design theory, methods and product knowledge to deliver healthy sustainable design solutions. Additional studio hours required. Prerequisites: ARC:112 with a minimum grade of “C” or approval of instructor, and Reading Proficiency.

ARC:118 GREEN DESIGN STRATEGIES AND APPLICATIONS IN LANDSCAPE DESIGN
3
This is a studio course emphasizing the application of green site structure and sustainable design strategies in landscaped environments. Students will utilize their knowledge of regional green materials, best management practices, and the local context as they investigate sustainable landscape solutions to given design problems. Additional studio hours required. Prerequisites: HRT:104 with a minimum grade of “C” or department approval, and Reading Proficiency.

ARC:119 SUSTAINABLE DESIGN CERTIFICATION SYSTEMS AND LEED GA PREPARATION
3
This course surveys multiple sustainable design certification systems of both buildings and products, and provides preparation for the LEED (Leadership in Energy and Environmental Design) Green Associate Examination. Core concepts and performance criteria across building types, product requirements, and rating systems will be stressed. Prerequisite: Reading Proficiency.

ARC:123 INTRODUCTION TO COMPUTER-AIDED ARCHITECTURAL DRAFTING
3
Students learn to operate hardware and software generally in use in the architectural profession. A basic introduction to the systems will be presented. Hands-on use of the equipment will be emphasized. Prerequisite: Reading Proficiency.

ARC:124 INTRODUCTION TO BUILDING INFORMATION MODELING
3
This is a hands-on introduction to the use of building information modeling (BIM) software for architecture. Instruction will focus on how both graphic and non-graphic architectural information for a building is produced through the creation of a single project database represented in a 3D model. Prerequisite: Reading Proficiency.

ARC:125 SUSTAINABLE MATERIALS AND TECHNOLOGIES IN THE BUILT ENVIRONMENT
3
This foundational course examines the process for producing high performing, sustainable built environments. The student will learn how to research, evaluate, select, and specify appropriate materials and systems at all scales within the built environment. Code and Certification process criteria will be discussed as it relates to environmental performance. Prerequisite: Reading Proficiency.

ARC:206 TOPICS IN THE SUSTAINABLE ARCHITECTURAL ENVIRONMENT
1
This course is an in depth discipline specific course on sustainable environmental design topics. Topics could include: green roofing systems, specialty irrigation systems, innovative energy or water conservation systems, product or material innovations, or specific design strategies for the built environment. Prerequisite: Reading Proficiency.

ARC:207 TOPICS IN THE SUSTAINABLE INTERIOR ENVIRONMENT
1
This course is an in depth discipline specific course on sustainable interior environmental design topics. Topics could include: innovative energy or water conservation systems and fixtures, product or material innovations, and specific topical interior design strategies. Prerequisite: Reading Proficiency.

ARC:208 TOPICS IN THE SUSTAINABLE LANDSCAPED ENVIRONMENT
1
This course is an in depth discipline specific course on sustainable landscaped environmental design topics. Topics could include: green roofing systems, specialty irrigation systems, innovative energy or water conservation systems, product or material innovations, or specific topical design strategies. Prerequisite: Reading Proficiency.

ARC:209 MECHANICAL AND ELECTRICAL SYSTEMS I
3
An introduction to the physics and practical design aspects of plumbing systems, and the systems and building form and fabric affecting the heat loss and gain and internal comfort of buildings. Prerequisites: MTH:124 or MTH:130 and Reading Proficiency.

ARC:211 ARCHITECTURAL DESIGN AND PRODUCTION II
3
A small commercial project is designed and detailed. Topics covered include design method, design presentation techniques, construction details and construction document preparation. Verbal and graphic communication of ideas is continued. Students continue to develop a portfolio. Additional lab hours required. Prerequisites: ARC:112 with grade of “C” or better, ARC:123 and Reading Proficiency.

ARC:219 PROFESSIONAL ARCHITECTURAL PRACTICE
2
This course explores issues related to the functions of the architectural office: business practices and development, professional conduct and liability, project management, contract management, and marketing. Prerequisite: Reading Proficiency.

ARC:220 ARCHITECTURAL DESIGN AND PRODUCTION III
3
Students will work on commercial/institutional projects designed to reinforce skills in building design, architectural rendering, and construction document production. The student portfolio is completed. Additional lab hours required. Prerequisites: ARC:114, ARC:115, ARC:211 with grades of “C” or better and Reading Proficiency.

ARC:222 SITE PLANNING AND LANDSCAPE DRAFTING
3
This course provides an introduction to the art of arranging the external environment to support human behavior. The student will learn skills used in architecture, engineering, landscape architecture and city planning. Principles of plane surveying as related to site planning are also studied. Drafting skills are studied with emphasis on site plans and techniques of landscape drafting. Additional hours required. Prerequisites: ARC:110 and Reading Proficiency.

ARC:227 ARCHITECTURAL ESTIMATING
3
Course will deal with the preparation of architectural estimates on contemporary construction projects. The student will learn to analyze existing conditions, estimate quantities and costs, prepare quantity take offs, and determine square/linear footage, areas. Prerequisites: ARC:112 or department approval and Reading Proficiency.

ARC:228 ARCHITECTURAL COMPUTER RENDERING, MODELING, AND ANIMATION
3
This course provides an introduction to the use of computers in digital modeling and rendering for architecture. The student will gain experience in the use of 3-D, image editing, and CADD software to produce 3-D models and 2-D renderings of architectural projects. Prerequisites: ARC:123 or department approval and Reading Proficiency.

ARC:229 ARCHITECTURAL SPECIFICATIONS, MATERIALS, AND METHODS
3
This course explores the process of selecting building materials, and introduces the Project Manual as an essential element of the Contract Documents. The student will learn how to research, evaluate, select and specify appropriate products for a variety of architectural projects. Prerequisite: Reading Proficiency.

ARC:230 WORKPLACE LEARNING: ARCHITECTURAL TECHNOLOGY
1-3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the business to enhance their preparation for entering the field. Minimum of 50 hours per credit in the workplace throughout the term. Prerequisites: ARC:123, ARC:211, department approval and Reading Proficiency.
Course Descriptions

ARCC231 APPLICATIONS IN INTEGRATED SUSTAINABLE DESIGN 3
This course is an advanced studio class where architectural technology, interior design and horticulture students collaboratively investigate environmentally conscious solutions to design problems. Charettes will be used to generate holistic sustainable strategies leading to the integrated design of the site, the building envelope and systems, and the interior environment. Additional studio hours required. Prerequisites: ARC:102 and ARC:125, and ARC:116 or ARC:117 or ARC:118, all with minimum grades of “C” or better or approval of instructor or program director, and Reading Proficiency.

ART

ART:100 ART APPRECIATION 3
This course is intended to stimulate student's visual, aesthetic and intellectual awareness of our global artistic heritage. Both historic and thematic approaches to a wide variety of objects and media will develop students' abilities to evaluate and discuss the arts. It is intended for non-art majors. Prerequisite: Reading Proficiency.

ART:101 ART HISTORY I 3
This course is a survey of art before 1300 C.E. Works of art and characteristics of artistic styles are presented and discussed as manifestations of influential ideas from the following periods or styles: Prehistoric, Mesopotamian, Egyptian, Aegean, Greek, Etruscan, Roman, Early Christian, Byzantine, Early and Late Medieval, and two or more Non-Western Cultures. Prerequisite: Reading Proficiency.

ART:102 ART HISTORY II 3
This course is a survey of art after 1300 C.E. Works of art and characteristics of artistic styles are presented and discussed as manifestations of influential ideas from the following periods or styles: Proto-Renaissance, Early Italian Renaissance, Early and Late Northern Renaissance, High Renaissance, Mannerism, Baroque, Rococo, selected 19th and 20th Century styles, and two or more Non-Western cultures. Prerequisite: Reading Proficiency.

ART:103 HISTORY OF MODERN ART 3
This course surveys modern art beginning with the late 18th century and proceeding through the work of contemporary artists. Recurrent themes from the following periods will be examined: Impressionism, Cubism, Surrealism, Abstract Expressionism, and other modern and contemporary styles. Prerequisite: Reading Proficiency.

ART:104 MAJOR BLACK ARTISTS 3
This course examines the work and influence of select artists of African descent from the 19th century to the present. Students will learn the cultural, social, and political influences that these artists exemplify within their work. Special attention will be given to the impact these artists have had within the art world as a whole as well as the overall impact of Black Art in the formation of Art History. Prerequisite: Reading Proficiency.

ART:107 DESIGN I 2
Emphasis on principles and elements of design through a series of assigned problems. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:108 DESIGN II 2
The study of color, exploring various color theories and the historical application through a series of problems. Additional studio hours required. Prerequisites: ART:107 and Reading Proficiency.

ART:109 DRAWING I 3
This is a beginning course in fundamentals of drawing that includes an introduction to drawing principles, construction, proportion, form, value, perspective, composition, tools and media. Perception, visual awareness, sensitivity, attitude and judgment are all stressed. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:110 DRAWING II 3
A continuation of ART:109, the fundamentals and principles of drawing, with more emphasis on organizational concepts and a variety of media. Additional studio hours required. Prerequisites: ART:109 and Reading Proficiency.

ART:111 FIGURE DRAWING I 3
Introduction to drawing from the human figure, analysis of structure, proportion and basic forms. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:112 FIGURE DRAWING II 3
Continuation of ART:111. Emphasizes the use of various drawing media. Analysis of the structure of the human figure through anatomy. Additional studio hours required. Prerequisites: ART:111 and Reading Proficiency.

ART:113 CERAMICS I 3
A study of the basic principles of ceramics and ceramic sculpture with emphasis on hand-built techniques. As the student progresses, there will be study on the kick wheel. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:114 PAINTING I 3
An introduction to oil painting from still-life objects, with emphasis on technique and the effective use of color. Composition and drawing will be stressed as they relate to painting. Additional studio hours required. Prerequisites: ART:109 and Reading Proficiency.

ART:115 PRINTMAKING I 3
This is an introductory course in traditional and contemporary printmaking. The student will be exposed to a variety of printmaking media from a selection of monotypes, linoleum blocks, wood blocks, collagraphs, dry points, etchings, and solvent transfers. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:116 SCULPTURE I 3
A course based on individual development stressing the elements of sculpture: form, space, light, movement, texture, proportion in relation to the basic methods associated with the sculpture field. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:125 INTERACTIVE DESIGN I 3
This course introduces students to the methods and practices of creating graphics for use in interactive digital media. Students will create graphics used in video, mobile devices, web, social media sites and other formats of digital communication. Software used will include Photoshop, Illustrator, After Effects, iMovie, Second Life and others. Additional lab hours required. Prerequisites: ART:131 or ART:275 and Reading Proficiency.

ART:126 INTRODUCTION TO ADOBE FLASH 3
This course covers basic Flash tools, menu bars and panels. Students will learn the timeline, keyframing, tweening and Flash workflow with Illustrator and Photoshop. Students will create an animated character sequence, import and edit audio, insert a Flash movie into Dreamweaver, and create a Flash website. Additional lab hours required. Prerequisites: ART:131 and Reading Proficiency.

ART:131 COMPUTER ART STUDIO 3
Computer Art Studio introduces students to the most common graphic software programs. Students will learn to navigate through the operating system and will gain basic experience with drawing, photo-imaging and page-layout applications. Additional lab hours required. Prerequisite: Reading Proficiency.

ART:133 GRAPHIC DESIGN I 3
This course is an introduction to graphic design with an emphasis on its history and its place in the advertising world. It will cover basic layout processes, typography, and the use of materials required in the field. Issues such as client needs, concept development, and ethical considerations will also be covered. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:134 GRAPHIC DESIGN II 3
Students in this course will further explore the area of graphic design with an emphasis on various layout formats, the creative use of typography, and the historic aspects of graphic design. Concept origination and development are also addressed. The use of computers as a design tool will be employed. Additional studio hours required. Prerequisites: ART:131 and ART:133 with grades of “C” or better, ART:107 and Reading Proficiency.
ART:135  GRAPHIC PRODUCTION I  2
Students in this class will study the history of printing and the basics of how the various commercial printing processes work. The major emphasis will be on understanding mechanical art procedures, the selection of printing papers, and the development of dialog with printing suppliers. The proper use and preparation of art for spot color, multicolor and process color printing and pre-press file preparation will be stressed. Binding and finishing techniques as well as layout and design concepts will be discussed in relation to the finished printed product. Additional studio hours required. Prerequisites: ART:131 and ART:133 with grades of “C” or better and Reading Proficiency.

ART:138  DRAWING FOR GRAPHICS I  2
This drawing course fulfills the specific needs of graphic design students. It emphasizes the study of composition and design as they apply to the solution of graphic design and illustration problems. Additional studio hours required. Prerequisites: ART:107, ART:109 and ART:111 with grades of “C” or better and Reading Proficiency.

ART:150  DESIGN COMMUNICATION FOR INTERIOR DESIGN AND ARCHITECTURE I  3
This course provides an introduction to graphic communication techniques as a way to communicate architecture and interior design processes and solutions. Students will gain experience in perspective drawing, rendering, sketching, layout and composition utilizing traditional and digital methods. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:151  INTERIOR DESIGN I  3
An introduction to interior space planning through the use of scaled floor plans and elevations. Emphasis is placed on the design and selection of furnishings, textiles, accessories, and other interior components. Additional studio hours required. Prerequisite: Prior or concurrent enrollment in ARCH:110 and Reading Proficiency.

ART:152  TEXTILES  3
A study of fabric selection, care and performance based on the characteristics of textile fibers, processing, color application, and finishes. Prerequisite: Reading Proficiency.

ART:153  HISTORY OF CULTURAL ENVIRONMENTS I  3
The history of furniture styles, decorative arts, and architecture from Mesopotamia to French Empire will be taught. The emphasis is on materials, techniques, and aesthetics that make environments unique within their historical cultural environments. Prerequisite: Reading Proficiency.

ART:154  COMPUTER AIDED INTERIOR DESIGN  3
This course is an introduction to hardware and software used in the practice of interior design. AutoCAD will be used to create scaled drawings, specifications and programming documents. Additional lab hours required. Prerequisites: Prior or concurrent enrollment in ARCH:110 and Reading Proficiency.

ART:155  BATH DESIGN  3
This course explores how to apply design principles and presentation standards in the planning and designing of safe and functional bathrooms. This course meets the standards established by the National Kitchen and Bath Association. Prerequisites: ART:151, prior or concurrent enrollment in ARCH:110 and Reading Proficiency.

ART:156  ADVANCED KITCHEN DESIGN  3
This course applies design principles and presentation standards in the planning and designing of efficient kitchen layouts. Following National Kitchen and Bath Association (NKBA) guidelines, students obtain experience studying proper cabinet, appliance, and fixture selection. Prerequisites: ARCH:110, ART:151 and Reading Proficiency.

ART:157  PERSPECTIVE DRAWING AND RENDERING FOR INTERIOR DESIGNERS  2
This course will allow students to gain experience in perspective drawing of interior spaces. A variety of media are explored in color and pattern rendering. Students will also explore an introduction to design using digital media. Additional hours required. Prerequisite: Reading Proficiency.

ART:158  WORKPLACE LEARNING: KITCHEN AND BATH DESIGN  3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in functions of the kitchen and bath industry in order to enhance their preparation for entering the kitchen and bath design field. Minimum of 160 hours in the workplace throughout the term. Prerequisites: ART:155, ART:156 and Reading Proficiency.

ART:165  PHOTOGRAPHY I  3
This course provides an introduction to the setting and creative controls of the camera, as well as the craft of black and white printing. Students will learn traditional darkroom techniques, as well as methods for approaching a variety of subjects and improving photographic compositions. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:166  PHOTOGRAPHY II  3
A more concentrated study of photographic methods, printing techniques, and portfolio development is pursued in this course. Aesthetic issues, as well as more enhanced imaging and darkroom options, are also explored. Additional studio hours required. Prerequisites: ART:165 and Reading Proficiency.

ART:167  COLOR PHOTOGRAPHY  3
The materials of color photography, color theories, and the techniques associated with color printing will be explored in this course. Sets of color images that explore a variety of technical and aesthetic issues will be produced by the student. Additional lab hours required. Prerequisites: ART:165 and Reading Proficiency.

ART:168  HISTORY OF PHOTOGRAPHY  3
An introduction to the understanding of photography through the study of significant historical events, pioneers, techniques, equipment, and aesthetic trends that have influenced and modulated this art form. Prerequisite: Reading Proficiency.

ART:169  VISUAL LANGUAGE  3
Perception and photography will be the central concern of this course, beginning with the ways in which we gather information from visual, particularly photographic, images and use of visual elements to form mental constructs. While the implications are vital to visual communicators, this exploration would be valuable to anyone with a desire to further their critical perception. Students will examine publications, film, photographs and television as forces affecting twentieth century thought. Prerequisite: Reading Proficiency.

ART:172  DIGITAL PHOTOGRAPHY  3
This course is an introduction to digital photography. Students will learn digital camera basics, including the mechanics of the camera and printing with the computer. Students will follow guided exercises and projects and produce a portfolio of prints using digital printers. No darkroom work is included in this course. Students must provide their own digital cameras. Additional studio hours required. Prerequisite: Reading Proficiency.

ART:186  BUILDING SYSTEMS AND CONSTRUCTION FOR INTERIOR DESIGNERS  3
This course explores building construction, systems and technology and their relationship to design development and project completion. Prerequisite: Reading Proficiency.

ART:204  PHOTOGRAPHY III  3
This course is a continuation of the exploration of the photographic process and techniques begun in Photography I and II with a greater emphasis being placed on the creative process and the individual's perception and understanding of the elusive nature of images. Additional studio hours required. Prerequisites: ART:165, ART:166 and Reading Proficiency.

ART:207  DESIGN III  2
An introduction to 3-D work, exploring the spatial qualities of mass, shape, volume. Additional studio hours required. Prerequisites: ART:108 and Reading Proficiency.

ART:208  DESIGN IV  2
Advanced problems in various aspects of design. Additional studio hours required. Prerequisites: ART:207 and Reading Proficiency.
Course Descriptions

ART:209 DRAWING III 3
Emphasis is placed on methods of achieving compositional unity in drawing. Balance, variety, rhythm, and repetition, some of the factors responsible for unified structure in drawing, will be examined on an advanced level. Additional studio hours required. Prerequisites: ART:110 and Reading Proficiency.

ART:210 ADVANCED DRAWING 3
Research in drawing problems that deal primarily with concept, media, style and composition. The human figure, still-life objects and surroundings will be used as topical sources. Prerequisites: ART:209, ART:211 and Reading Proficiency.

ART:211 FIGURE DRAWING III 3
Advanced figure drawing from the model. Additional studio hours required. Prerequisites: ART:112 and Reading Proficiency.

ART:213 CERAMICS II 3
A study of the techniques of wheel-thrown ceramics and extensive experimentation with glazes and oxides. Additional studio hours required. Prerequisites: ART:113 and Reading Proficiency.

ART:214 PAINTING II 3
A continuation of ART:114 with emphasis on composition and color. Knowledge will be developed for future individual study. Additional studio hours required. Prerequisites: ART:114 and Reading Proficiency.

ART:215 PRINTMAKING II 3
A continuation of ART:115. In addition to continued exploration of media covered in Printmaking I, this course introduces students to additional printmaking techniques, from a selection of lithography, silk screen, photo-mechanical methods, chine chine colle and mixed media. Additional studio hours required. Prerequisites: ART:115 and Reading Proficiency.

ART:216 SCULPTURE II 3
A continuation of the study of the elements of sculpture, stressing the more creative approach in terms of new methods and materials. Emphasis will be on the human and natural forms as a basis for academic and subjective analysis. Additional studio hours required. Prerequisites: ART:116 and Reading Proficiency.

ART:221 PAGE LAYOUT: QUARK/INDISEIGN 3
This course is designed to provide students with an advanced exploration and understanding of the QuarkXPress and Adobe InDesign digital page design and layout software programs. Principles of page layout design and the graphic synthesis of typographic elements will be studied with these programs on an advanced level. Additional lab hours required. Prerequisites: ART:131 and Reading Proficiency.

ART:224 PACKAGE DESIGN 2
This course explores the concepts, techniques and concerns of graphic design as applied to package design and presentation display. Students will produce three-dimensional packaging solutions. Issues covered will include the functions of effective package design, special production processes and the creation of three-dimensional package mock-ups. Additional studio hours required. Prerequisites: ART:131, ART:233 and Reading Proficiency.

ART:228 WORKPLACE LEARNING: PHOTOGRAPHY 3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the business to enhance their preparation for entering the field. Minimum of 150 hours in the workplace throughout the term. Prerequisites: ART:166, ART:167, department approval and Reading Proficiency.

ART:233 GRAPHIC DESIGN III 3
This class will continue to examine the subject of graphic design with the emphasis upon the “hands-on” approach to finding creative solutions to complex visual communications problems. A professional approach to the discipline will be stressed. Additional studio hours required. Prerequisites: ART:108 and ART:134 with grades of “C” or better, prior or concurrent enrollment in ART:138 with a grade of “C” or better and Reading Proficiency.

ART:234 GRAPHIC DESIGN IV 3
This course is an advanced exploration of graphic design, with the emphasis upon creative problem solving and the use of professional practices. Students will learn to solve complex visual communication problems such as logo design, package design, point of purchase and publication design. Additional studio hours required. Prerequisites: ART:135 and ART:233 with grades of “C” or better and Reading Proficiency.

ART:235 GRAPHIC PRODUCTION II 2
This course is a continuation of Graphic Production I but with a greater emphasis on the proper preparation of electronic pre-press files for spot-color, multi-color and process-color print production. Students will execute print projects using the computer to create pre-press files for print production. They will also examine many advanced printing techniques, multiple page document preparation and the proper methods for sending files to printers. Additional studio hours required. Prerequisites: ART:134 and ART:135 with grades of “C” or better and Reading Proficiency.

ART:236 TYPOGRAPHY 2
This course will stress the refined use of typography as a design and communication tool. Students will study the history and classifications of letterforms and employ this knowledge base in the creation of various typographical designs and presentations. Typical projects may range from letter and alphabet design to the use of typographical forms as the feature design elements in graphic designs or page layouts. Additional studio hours required. Prerequisites: ART:131 and ART:133 with grades of “C” or better and Reading Proficiency.

ART:238 DRAWING FOR GRAPHICS II 2
Students will build upon the principles covered in Drawing for Graphics I as they learn about additional techniques and materials necessary to explore drawing solutions to graphic design problems typically encountered in this field. Additional studio hours required. Prerequisites: ART:138 with a grade of “C” or better and Reading Proficiency.

ART:239 ILLUSTRATION I 3
This course is a comprehensive exposure to the methods and theories of illustrative drawing and painting as it is used in reproduction. A special emphasis will be placed on its application to advertising and publication design. Additional studio hours required. Prerequisites: ART:131 and ART:138 with grades of “C” or better, or concurrent enrollment in same and Reading Proficiency.

ART:240 ILLUSTRATION II 3
This class exposes students to an experimental approach to illustrative drawing and painting with a strong emphasis on the creative use of materials and design principles. The use of computer drawing and painting programs may be stressed. Additional studio hours required. Prerequisites: ART:239 with grade of “C” or better and Reading Proficiency.

ART:241 PUBLICATION DESIGN 3
This course will introduce the student to the computer software used in the development of page design and layout. Emphasis will be placed on the production of basic business publications including newsletters, fliers, brochures, etc. General principles of page layout design will be studied including the placement of text, illustrations and logotypes and the important synthesis of these typographic elements. Additional lab hours required. Prerequisites: ART:131 and ART:133 with a “C” or better, or permission of program coordinator and Reading Proficiency.

ART:242 DRAWING FOR GRAPHICS III 2
Students in this class will build upon the principles covered in Drawing for Graphics II and will learn techniques and materials required to explore drawing solutions using the human figure to fulfill critical needs in the illustration profession. Additional studio hours required. Prerequisites: ART:238 and Reading Proficiency.

ART:243 FIGURE ILLUSTRATION 2
Students in this class will learn to draw the human figure emphasizing the purpose or function needed for advertising or publishing assignments. Analysis will be made of the ideal human figure through structure, anatomy, expression, and its placement in an environment. Additional studio hours required. Prerequisites: ART:111 and Reading Proficiency.
ART:245  PORTFOLIO DESIGN AND PROFESSIONAL PRACTICES  
This course will discuss the opportunities and procedures in the various fields of graphic design, illustration and advertising design. Students will be guided in the preparation of a portfolio of their work, in the development of a resume and related documents, and will learn practical interviewing techniques. The intent will be to prepare students to enter the art field with a confident and professional attitude. Additional studio hours required. Prerequisites: Permission of program coordinator and Reading Proficiency.

ART:249  DIGITAL PHOTOGRAPHY II  
This course explores advanced techniques and aesthetics associated with digital photography. Students will expand their knowledge and use of camera controls, editing software and workflow solutions while building a successful portfolio of images. Additional studio hours required. Prerequisites: ART:172 and Reading Proficiency.

ART:251  INTERIOR DESIGN II  
Problem analysis and design solutions for residential and commercial interiors focusing on user needs, specification procedures, and formal presentation techniques. Additional studio hours required. Prerequisites: ART:151, prior or concurrent enrollment in ARC:112 and Reading Proficiency.

ART:252  INTERIOR DESIGN III  
This course is an in-depth study of interior design emphasizing the influence of abstract design, universal design, global design, and sustainable practices on the built environment. A systematic approach to design processes will be used to develop projects that apply knowledge of space planning, principles and elements of design, color theory, and visual art skills in two dimensional and three dimensional design. Additional studio hours required. Prerequisites: ART:251 with a minimum grade of “C” and Reading Proficiency.

ART:253  INTERIOR DESIGN IV  
This course is an advanced study and application of the problem solving approach to design of the built environment. This course will also introduce students to the ethical standards and business procedures of the interior design industry. Additional studio hours required. Prerequisites: ART:252 with a minimum grade of “C”. and Reading Proficiency.

ART:254  HISTORY OF CULTURAL ENVIRONMENTS II  
This course is a continuation of the history of furniture, decorative arts, and architectural elements from Tudor England to current times. The emphasis is on materials, techniques, and aesthetics that make environments unique within their historical cultural environments. Prerequisites: ART:153 and Reading Proficiency.

ART:265  ARTIFICIAL LIGHT PHOTOGRAPHY  
An introduction to basic theories of illumination, as applied to various subject compositions is a primary component of this course. The utilization of a variety of light sources within this context will also be studied, along with their proper use with SLR and medium-format cameras. The production of professional quality prints will be undertaken. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:266  BLACK AND WHITE PRINTING LAB  
A guided study of black and white printing techniques geared to individual student needs and interests. Competence and excellence in traditional techniques of “straight” photography are stressed, with study undertaken in image refinement and contemporary printing alternatives. This course is geared towards individuals who have a basic knowledge of darkroom processes and would like further direction. Additional studio hours required. Prerequisites: ART:165 and Reading Proficiency.

ART:267  CONTEMPORARY CONCEPTS IN PHOTOGRAPHY  
This class focuses on current issues and ideas about photography. Students will practice the most recent trends through assignments, augmented by lectures, demonstrations and visits to galleries. Reading, writing and discussion of latest concepts will be central to the course. Additional studio hours may be required. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:268  LARGE FORMAT PHOTOGRAPHY  
An introduction to view camera techniques as it is used indoors and outdoors. Hand held light meters will be required, their use explained and practiced. Use of view camera controls, handling of 4”x5” sheet film, printing from large format negatives, the making of fine quality prints and appropriate print presentation will be emphasized. Additional studio hour required. Prerequisites: ART:165 or department approval and Reading Proficiency.

ART:269  FIELD PHOTOGRAPHY  
The emphasis of this course is on photographing subject matter found in nature. Trips to areas of photographic interest will provide students the opportunity to explore and visually portray elements within natural environments. Attention is especially given to methods for adapting to and photographing successfully in new situations. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:270  FIGURE FASHION PHOTOGRAPHY  
Students will set up, light and photograph models in the studio. Control of lighting composition, props, different films and other materials will be included. Additional assignments will involve photographing models in a variety of situations outdoors and other locations. Evaluation of final photographs will encourage the development of professional standards. Additional studio hours required. Prerequisites: ART:166 and Reading Proficiency.

ART:271  PORTRAIT PHOTOGRAPHY  
Photographic techniques to create effective portraits of people will be studied, using both natural and artificial illumination. Close-ups, environmental portraits, and photographing groups will be covered. Work will also include the creation of quality prints and the building of a successful portfolio for presentation. Additional studio hours required. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:272  DOCUMENTARY PHOTOGRAPHY  
This course studies the use of photography in exploring social or cultural issues. The methods of approach used by documentary photographers will be discussed and practiced, with students considering the possible impact of images on society. Students will use cameras to study subjects in their own environments and will consider various contexts for the presentation of photographs. Additional studio hours required. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:273  ARCHITECTURAL PHOTOGRAPHY  
Methods for photographing the exteriors and interiors of structures and buildings are studied in this course. The utilization of several camera formats, including the view camera and digital SLR, will be undertaken. The control of perspective with the camera and current software, along with the balance of lighting, will also be emphasized. Work will include the making of fine quality prints and appropriate image presentation. Additional studio hours required. Prerequisites: ART:165 or ART:172 and Reading Proficiency.

ART:275  PHOTO IMAGING I: PHOTOSHOP  
This course is an investigation of processing of continuous tone image files. Software tools and adjustment controls will be learned. Students will investigate scanning, color and tonal management, image repair and compositing, and printing. A portfolio of prints will be created emphasizing the individual expressiveness of the student. Additional lab hours required. Prerequisite: Reading Proficiency.

ART:280  FINAL CUT  
Students will produce professional quality video content using Macintosh Final Cut non-linear editing software. Students will create digital video content and process project through the software. Clips will be edited; sound, transitions and titles will be added. Students will conceive, photograph, edit and complete a short movie. Additional lab hours required. Prerequisites: ART:275 and Reading Proficiency.

AT:100  HARDWARE CONFIGURATION AND TROUBLESHOOTING: MACINTOSH/WINDOWS  
This course will address setting up the computer and connecting peripheral devices such as cameras, scanners and printers; partitioning the hard drive, adding RAM, installing software and virus protection, and troubleshooting simple problems. Advanced topics include networking and using a server. Additional lab hours may be required. Prerequisite: Reading Proficiency.
AT:101 COLOR MANAGEMENT 3
This course investigates the use of dedicated software to analyze and color calibrate the computer monitor with related peripheral devices such as cameras, scanners, printers and film recorders. Students will learn the principles of color management, and how to create color signatures or profiles for each device and to integrate the system for color accuracy and consistency. Additional lab hour required. Prerequisites: ART:275 and Reading Proficiency.

AT:105 DIGITAL PRINTING 3
This course is a survey of digital printing possibilities. Methodologies for converting electronic files to printed media are investigated. Varieties of printing technologies are evaluated for appearance, color fidelity, resolution, saturation and permanence. Where applicable to the process examined, variations in media (paper, canvas or film) will be tested. Additional lab hours required. Prerequisites: ART:275, ART:165 and Reading Proficiency.

AT:106 MOTION MEDIA DESIGN 3
This course will instruct students in the use of still imagery, typography, sound, special effects, video and other digital media to create animated, motion graphic sequences. Additional lab hours required. Prerequisites: ART:275 and Reading Proficiency.

AT:108 COMPUTER PAINTING AND DRAWING: COREL PAINTER 3
Students will utilize a variety of computer drawing software programs to create life drawings utilizing digitizing tablets. Assignments will include still life as well as the human figure. The techniques of using the pressure sensitive drawing tablet will be investigated to allow the creation of expressive line, mass and shading. A portfolio of drawings in both color and monochrome will be submitted at the conclusion of the course. Additional lab hours required. Prerequisites: ART:131 with a grade of “C” or better, ART:109 and Reading Proficiency.

AT:109 UNIVERSAL DOCUMENT EXCHANGE: ADOBE ACROBAT 3
Students will create documents that can be exchanged in multiple software and web applications, while preserving fonts, colors, images, layouts and all original formats. Students will explore linking and logic tree structure for the production of interactive computer based training as well as interactive business communication and collaboration. Additional lab hours required. Prerequisites: ART:131 and Reading Proficiency.

AT:120 COMPUTER DRAWING I: ILLUSTRATOR 3
This course is an investigation of vector imaging software used for the creation of drawings, typography and logotypes. Tools, palettes and menus will be learned, and methods of creating original expressive works will be developed. Students will investigate scanning reflective art, tracing, creating shapes, line control, color fills, and printing. Additional lab hours required. Prerequisites: ART:109 and ART:131 with grades of “C” or better, and Reading Proficiency.

AT:121 WATERCOLOR I 3
A foundation course covering basic watercolor techniques and materials including washes, wet-into-wet, glazing, shading, color mixing and layering. Course will emphasize development of skills, diverse approaches and an individual style. Through the study of both contemporary and traditional watercolors, students will become familiar with the amazing potential of this medium. Class will paint a variety of subjects including still lifes and nature. Additional studio hours required. Prerequisite: Reading Proficiency.

AT:124 BOOKMAKING 3
Students will learn about the history and aesthetics of books, and will explore (through hands-on studio production) bookmaking and binding techniques. Form, concept, craft, problem-solving ability, creative experimentation, and historical knowledge will all be stressed. Additional lab hours required. Prerequisite: Reading Proficiency.

AT:131 AIRBRUSH I 2
A comprehensive study of the airbrush and its specialized uses. Illustrations, technical rendering, and advertising design projects will be demonstrated through airbrush technique. Additional studio hours may be required. Prerequisite: Reading Proficiency.

AT:135 COMMUNICATION AND DESIGN FOR THE WORLD WIDE WEB I 3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Additional lab hours required. Prerequisites: ART:133 and ART:131 or ART:227 and Reading Proficiency.

AT:143 COMMUNICATION AND DESIGN FOR THE WORLD WIDE WEB II 3
Expand Web site interactivity. This course explores methods of refining basic web site creation and incorporating sophisticated techniques such as cascading style sheets, animation and sound plug-ins, and addressing browser differences. Additional lab hours required. Prerequisites: MCM:135 or AT:135 or IS:135 and Reading Proficiency.

AT:144 WWW SPECIAL TOPICS 3
This course specializes in advanced enhancements to WorldWideWeb design. Students will learn to encode properties that make the web site more dynamic and interactive. Students will use the latest software to enhance web pages with interactive and animation techniques. Additional lab hours required. Prerequisites: MCM:135 or AT:135 or IS:135 and Reading Proficiency.

AT:146 3D MODELING I: SURFACE MODELING 3
This course focuses on the development of three-dimensional models for use in multimedia, industrial design, and character development. Creation of 3D objects and spatial environments will be studied, in addition to photorealistic rendering, texture mapping and lighting techniques. Additional studio lab hours required. Prerequisites: ART:131 or ART:275 and Reading Proficiency.

AT:151 INTERIOR SPECIFICATIONS, MATERIALS, AND METHODS 3
This course is an in depth analysis of materials used in interior environments. Students will gain experience in the process of researching, evaluating, selecting, and specifying appropriate materials for interior environments. Special emphasis is placed on textiles and sustainable materials. Prerequisite: Reading Proficiency.

AT:152 LIGHTING DESIGN 3
This is a lecture/studio course where students will learn methods of successful lighting design and applications of lighting details to working drawings for residential and commercial environments. Students will learn specifications and how to write a lighting schedule. Additional studio hours required. Prerequisite: Reading Proficiency.

AT:175 VIDEO ART I 3
An investigation into video art as a personal expressive media for the individual artist, including work with specific software programs, sound equipment, film, and other tools used in the contemporary art world. Students will have the opportunity to investigate these technologies as they combine the various media to make artistic statements based on personal concerns and aesthetic decisions. Prerequisites: ART:165 and Reading Proficiency.

AT:176 PHOTOGRAPHY WORKSHOP 1
Photography workshops will cover a variety of subjects in photography. Multiple sections on different topics may be offered during the same semester. Topics can include: bookmaking, hand coloring, emulsion lifts, medium format photography, night photography, etc.. Additional hours required. Prerequisite: Reading Proficiency.

AT:177 JEWELRY AND METALSMITHING 2
This course will introduce students to jewelry design and metalsmithing techniques. Students will be exposed to a variety of fabrication methods from a selection of cold-joining, soldering, sawing and piercing, metal forming, roll-printing, hammer and chasing, toll texturing, bezel stone-setting, pin backing systems, casting, and surface finishing. Additional lab hours required. Prerequisite: Reading Proficiency.

AT:201 MIXED MEDIA 3
An introduction to mixed media (assemblage) art; the complementary component for design, drawing and figure drawing. An incorporation of all aspects of picture-making with an emphasis on experimentation, process and concepts with paint integration in the visual arts. Additional lab hours required. Prerequisites: ART:107, ART:109 and Reading Proficiency.
AT:204 COMIC BOOK ILLUSTRATION I 3
Students interested in Comic Book Illustration learn the basics and techniques associated with this popular genre. Various materials and techniques will be explored to produce formatted comic strips. Additional studio hours required. Prerequisites: ART:138 and Reading Proficiency.

AT:205 DIMENSIONAL ILLUSTRATION I 3
Students interested in Illustration will go beyond usual two-dimensional art methods to create dimensional art. Various materials and techniques will be explored to introduce unique three-dimensional sculpture-based art methods to students. Additional studio hours required. Prerequisites: ART:138 and Reading Proficiency.

AT:206 3D MINIATURE STUDIO SET DESIGN 3
Students interested in creating 3D Miniature Studio Sets will learn the basics of designing and constructing miniature sets for various entertainment venues and other related uses. The student will utilize skills learned in Drawing for Graphics and Illustration classes to execute imaginative sets. Additional studio hours required. Prerequisites: ART:138 and Reading Proficiency.

AT:207 DIGITAL ILLUSTRATION I 3
Digital Illustration I is a comprehensive exposure to the methods and theories of creating illustrations using the computer as the final medium. A special emphasis will be placed on creative processes and using computer graphic software to produce illustrations for portfolio presentation. Additional lab hours required. Prerequisites: ART:131 and Reading Proficiency.

AT:208 FANTASY ILLUSTRATION I 3
Students interested in Illustration will learn the basics and techniques of this popular genre used on book and gaming covers. The student will utilize skills learned in drawing for graphics and illustration to execute imaginative and creative illustrations. Additional studio hours required. Prerequisites: ART:138 and Reading Proficiency.

AT:210 DRAWING PROBLEMS 3
This course focuses on drawing problems of an advanced nature. It will stress the continued development of individual ideas formulated in ART:210. Additional lab hours required. Prerequisites: ART:210 and Reading Proficiency.

AT:212 SPECIAL TOPICS IN PHOTOGRAPHY 3
This course allows for advanced and specialized study within the medium of photography, concentrating on a specific set of materials or aesthetic issues, during the course of the term. A variety of topics, outside of the normal curriculum studies, can be offered on a rotating basis. Additional studio hours required. Prerequisites: ART:165, ART:166 and Reading Proficiency.

AT:213 ADVANCED CERAMICS 3
A self-directed learning experience for students. Course work may include throwing, glaze formulation, hand-building and kiln firing. Additional studio hours required. Prerequisites: ART:213 and Reading Proficiency.

AT:215 ADVANCED PRINTMAKING 3
A continuation of ART:115 and ART:215. Students will pursue a more individual course of instruction and portfolio development in the printmaking media. The student will choose from media taught in ART:115 and ART:215 to develop a portfolio of professional prints. Additional studio hours required. Prerequisites: ART:215 or permission of coordinator and Reading Proficiency.

AT:219 FIGURE SCULPTURE 3
This course is an intensive exposure to creating figurative sculpture. Students will build basic armatures for both portraits and figures and work in clay from the model. Basic methods of plaster casting (waste molds) may be offered as an option at the end of the semester. Additional studio hours required. Prerequisites: ART:111 and Reading Proficiency.

AT:221 WATERCOLOR II 3
An expansion and application of the basic watercolor techniques from the foundation course AT: 121 through a series of paintings. Course will emphasize color theory, composition and development of an individual style along with study of master watercolorists both past and present. Students will paint a variety of subjects including still lifes, landscape and the human figure. Development of individual response and fluency of technique will be emphasized. Additional studio hours required. Prerequisites: AT: 121 or permission of coordinator and Reading Proficiency.

AT:225 WATERCOLOR III 3
An expansion of AT: 221. The self-motivated student will work on advanced watercolor techniques in specific assignments and in self-directed paintings. Course will emphasize advanced color theory and development of content, subject matter, personal style and the ability to self-critique, with significant input from the instructor. Additional studio hours required. Prerequisites: AT: 221 or permission of coordinator and Reading Proficiency.

AT:226 WATERCOLOR IV 3
An expansion of AT-225. The advanced and self-motivated student will work on specific assignments and on self-directed paintings with significant input from the instructor. Emphasis will be on using the watercolor medium to create sophisticated compositions, a thematic body of work and a personal style. Additional studio hours required. Prerequisites: AT: 225 or permission of coordinator and Reading Proficiency.

AT:227 3-D STUDIO 3
This course provides students with the opportunity to pursue extended study in 3-dimensional studio disciplines. Additional studio hours required. Prerequisites: AT:213 or ART:216 and Reading Proficiency.

AT:228 FIGURE PAINTING 3
Drawing and painting from observation of the model in a variety of media. Emphasis will be placed on understanding the inherent structural and formal problems involved with depicting the human figure in its environment. Additional studio hours required. Prerequisites: ART:112 with a grade of “C” or better and Reading Proficiency.

AT:229 ADVANCED PAINTING PROJECTS 3
This course will develop the painting and perceptual skills of students. The course is taught with an emphasis on individual study. Additional studio hours required. Prerequisites: ART:214 and Reading Proficiency.

AT:230 FIGURE SCULPTURE II 3
This course is a continuation of AT:219 and will more intensely explore methods for creating figurative sculpture. Students will continue to work from models, increasing their understanding of structural anatomy and how it relates to surface forms. Additional studio hours required. Prerequisites: AT:219 and Reading Proficiency.

AT:233 STORYBOARDING/ANIMATICS 2
This course is an introduction to pre-production planning for special effects and animation as applied to multimedia, interactive media, video and film. The focus of the class will be communicating the drama of movement and special effects through effective design and pacing. Course topics include storyboarding, storyboarding formats and flowcharts, along with sound track and script interpretation. Additional lab hours required. Prerequisites: ART:131 and ART:230 with grades of “C” or better and Reading Proficiency.

AT:234 COMPUTER ANIMATION I 3
This course is an introduction to 3D computer animation. Students will learn basic computer animation techniques. By producing short animated segments, students will learn animation fundamentals such as: keyframing, lighting, camera work, texturing, sequencing, rendering, and post-production. Additional lab hours required. Prerequisites: ART:111 and AT:146 and Reading Proficiency.

AT:235 COMPUTER ANIMATION II 3
A continuation of 3D Animation I. Students further their skills in 3D Animation II by studying new techniques such as: 3D camera tracking, advanced keyframing, photo realistic rendering, advanced post production, and an introduction to character animation. Additional lab hours required. Prerequisites: AT:234 and Reading Proficiency.

AT:237 FIGURE SCULPTURE III 3
This is a continuation of AT:230, Figure Sculpture II. As students gain experience through advanced projects, emphasis will shift from acquiring foundation skills in three-dimensional figurative sculpture to concept development and individual direction. Additional studio hours required. Prerequisites: AT:230 and Reading Proficiency.
AT:242  HISTORY OF GRAPHIC COMMUNICATIONS  3
This is a survey course on the history of Graphic Communications. This course will begin with the development of language and will trace the evolution of word and image throughout history using the works of designers and illustrators that have influenced the continuing development of the discipline. Prerequisite: Reading Proficiency.

AT:246  ADVANCED COMPUTER ART APPLICATIONS  3
This course is for individuals who wish to further explore the use of computer graphics as they can be applied to the advertising and business communication industries. Considerable latitude will be given as to areas of concentration, but all studies will stress the creative possibilities of the medium. Additional lab hours required. Prerequisites: ART:131 with a grade of “C” or better and Reading Proficiency.

AT:251  COMPUTER AIDED KITCHEN AND BATH DESIGN  3
Utilizing 3-D design software, students will learn to layout, design and specify residential kitchens and baths. Students will create 2-D and 3-D visual presentations and renderings of kitchen and bath interiors. Prerequisite: Reading Proficiency.

AT:252  ADVANCED AUTOCAD FOR INTERIOR DESIGN  3
This course will reinforce AutoCAD use by designing on the computer. The students will integrate auxiliary software, do basic perspectives and color plotting of representation, and will learn vendor type add-on software. The students will use the Internet for research and drawing transmission. Prerequisites: ART:154 and Reading Proficiency.

AT:254  WORKPLACE LEARNING: INTERIOR DESIGN  3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the interior design industry to enhance their preparation for entering the field. Minimum 150 hours in the workplace throughout the term. Prerequisites: Satisfactory completion of the first year of program, department approval and Reading Proficiency.

AT:267  COLOR PHOTOGRAPHY II  3
Advanced instruction in the theory of color, materials of color photography, and techniques of color printing. Students will work with transparencies and color reversal materials and explore large format color processes. A portfolio of color prints will be created by the student. Additional studio hours required. Prerequisites: ART:167 and Reading Proficiency.

AT:275  VIDEO ART II  3
A continued investigation into video art as a personal expressive media for the individual artist, including work with computers, sound equipment, photography, and other tools used in the contemporary art world. Students will have the opportunity to investigate these technologies as they combine the various media to make artistic statements based on personal concerns and aesthetic decisions. This course is specifically for the fine artist who wishes to use “low end” and/or “consumer” equipment as a creative media. Emphasis is on relatively complex projects and collaborative ventures, and further developing an individual style of personal expression with these strategies and technologies. Additional lab hours required. Prerequisites: AT:175 or permission of instructor and Reading Proficiency.

AT:276  PHOTO IMAGING II: PHOTOSHOP  3
This course explores intermediate methods of working with continuous tone images in an efficient manner. Topics include refinements in tonal and color adjustment tools, masking tools, typography tools, color modes, sharpening procedures, and compositing techniques. A portfolio of color images will be produced by the end of the course emphasizing the individual expressiveness of the student. Additional studio hours required. Prerequisites: ART:275, ART:108 (may be taken concurrently) and Reading Proficiency.

AT:277  PHOTO IMAGING III: PHOTOSHOP  3
This course explores advanced methods of working with continuous tone images. In addition to a general review of the image processing software, topics include such subjects as incorporating color management into the workflow, predictive evaluation of numeric density readings, and a survey of printing device parameters. A portfolio of color images will be produced by the end of the course emphasizing the individual expressiveness of the student. Additional lab hours required. Prerequisites: AT:276 and Reading Proficiency.

AT:279  NON-SILVER PHOTOGRAPHY  3
An introduction to processes which use light sensitive materials other than silver bromide paper to produce imagery. Working from photographic negatives, students will have the opportunity to produce prints using the following methods: Van Dyke Brown printing, Cyanotype, Kwik-print and Photoscreen printing. Additional studio hours may be required. Prerequisites: ART:165 or department approval and Reading Proficiency.

AT:280  ADVANCED PHOTOGRAPHY  1-4
This class is an advanced studio course that will emphasize both the conceptual and technical challenges of creating a cohesive, related body of work for either a portfolio or exhibition. Additional studio hours required. Prerequisites: ART:165, ART:166 and Reading Proficiency.

AT:281  SCULPTURAL MOLD MAKING  1-3
This course offers students individual attention in the variety of approaches to mold making within the field of art. Instruction may focus on any number of applications, including plaster waste, alginate, rubber, silicone, or fiberglass mold making. Objects to be molded and cast will vary along with the appropriate approach. Additional studio hours required. Prerequisites: ART:116, AT:219 and Reading Proficiency.

AT:282  WORKPLACE LEARNING: GRAPHIC COMMUNICATIONS  1-3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the business to enhance their preparation for entering the field. Minimum of 50 hours per credit in the workplace throughout the term. Prerequisites: ART:134, ART:138 or department approval and Reading Proficiency.

AT:283  DIGITAL MEDIA PORTFOLIO  1
Preparing effective presentations of creative work within current digital formats is the focus of this course. Students will learn to edit, record and prepare material for the development of an effective portfolio, aiding the completion of their studies in various career programs. Additional lab hours required. Prerequisites: ART:131 and Reading Proficiency.

AUT:150  AUTOMOTIVE FUEL AND INDUCTION SYSTEMS  3
This course is a study of fuel and induction systems which includes gasoline fuel delivery systems, and diesel engines. Diagnosis and repair techniques as well as basics of the control systems will be covered. Corequisite: AUT:151

AUT:151  AUTOMOTIVE ENGINE OPERATION  3
This course will be concerned with theory, design and repair procedures of the automotive engine including valves and lower engine service. Additional lab hours required.

AUT:156  AUTOMOTIVE ELECTRICITY  3
This course is a study of the fundamentals of automotive electricity, magnetism, induction, and the use of wiring diagrams. This course also includes operating principles, diagnosis and repair of starting systems, charging systems, ignition systems, batteries, lighting and accessory circuits. Additional lab hours required.

AUT:158  CHARTS, DIAGRAMS AND HANDBOOK USAGE  2
This course teaches the use of handbooks, with emphasis upon interpreting specifications and automotive charts and diagrams.
AUT:163 WORKPLACE LEARNING I: FORD ASSET PROGRAM
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field. Minimum of 350 hours in the workplace throughout the term. Prerequisites: AUT:156 and AUT:168.

AUT:164 WORKPLACE LEARNING II: FORD ASSET PROGRAM
This experiential course provides the student an additional opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field. Minimum of 350 hours in the workplace throughout the term. Prerequisites: AUT:163, AUT:167 and AUT:169.

AUT:165 WORKPLACE LEARNING III: FORD ASSET PROGRAM
This experiential course provides the student an additional opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field. Minimum of 350 hours in the workplace throughout the term. Prerequisites: AUT:164, AUT:150 and AUT:151.

AUT:166 WORKPLACE LEARNING IV: FORD ASSET PROGRAM
This experiential course provides the student an additional opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field. Minimum of 350 hours in the workplace throughout the term. Prerequisites: AUT:165, AUT:258 and AUT:259.

AUT:167 AUTOMOTIVE ELECTRONICS
This course deals with advanced electrical systems including basics of electronic engine control systems, electronic functions, electronic system diagnosis and repair. Additional lab hours may be required. Prerequisite: AUT:156.

AUT:168 SUSPENSION AND STEERING I
This course will be concerned with the design principles, diagnosis and repair of the front and rear suspension systems including front-end alignment, 4-wheel alignment, manual and power steering assemblies and related components to include gears and linkages, as well as tire and wheel balance. Additional lab hours required. Prerequisite: AUT:168.

AUT:169 SUSPENSION AND STEERING II
Continuation of AUT:168 including the design, principles of operation, diagnosis and repair of the following components: conventional brake systems, anti-lock brake systems, electronic steering and ride control systems. Attention is given to live car diagnosis and repair procedures related to frame, suspension, steering, and brake components. Additional lab hours required. Prerequisite: AUT:166.

AUT:170 INTRODUCTION TO DEALERSHIP SERVICE
This course will introduce the students to electronic service information and software used in the service department as well as warranty procedures and service labor time standards. Emphasis will also be placed on safety procedures and MSDS sheets. Additional lab hours required. Corequisites: AUT:156, AUT:163 and AUT:168. Prerequisite: Open only to students currently enrolled in the Ford ASSET Program.

AUT:256 AUTOMOTIVE POWERTRAIN

AUT:257 AIR CONDITIONING AND AUXILIARY SYSTEMS
This course emphasizes theory, operation and design of power accessories, restraint systems and air conditioning, to include proper techniques of dispensing, recovery and recycling of R-12 and R134a refrigerants. NOTE: Students will be required to be certified in the recovering and recycling of R12 refrigerants in accordance with EPA standards. Additional costs will be required. Corequisite: AUT:273. Prerequisites: AUT:259 and AUT:167.

AUT:258 MANUAL DRIVETRAINS

AUT:259 EMISSIONS AND DRIVABILITY DIAGNOSIS
This course emphasizes proper diagnostic procedures and use of proper test equipment such as oscilloscopes, exhaust analyzers, meters, and Powertrain Control test equipment. Additional lab hours required. Corequisite: AUT:258. Prerequisites: AUT:150 and AUT:167.

AUT:271 DIAGNOSTIC EQUIPMENT AND EMISSIONS
Students will learn proper diagnosis and troubleshooting procedures and related test equipment including oscilloscopes, infra-red exhaust analyzers, meters, gauges and diagnostic lane exposure. Additional lab hours required. Prerequisites: AUT:150, AUT:167 and AUT:169.

AUT:272 ACCESSORIES, CONTROLS AND AIR CONDITIONING
This course emphasizes theory, operation and design of power windows, power seats, speed controls, vacuum systems, other accessories, and air conditioning. Additional lab hours may be required. Prerequisites: AUT:271, AUT:281 and AUT:291.

AUT:273 AUTOMATIC TRANSmissions AND transaxles
This course emphasizes the topics, theory, design and repair procedures of automatic transmissions and transaxles. Additional lab hours required. Prerequisites: AUT:150, AUT:167 and AUT:169.

AUT:281 AUTOMOTIVE FIELD WORK I
This is an advanced course with practical application on customer’s vehicles, involving student work on the diagnosis, testing, and repair of vehicles. Students have the responsibility of all shop functions. Emphasis of lab work will include five of the ASE service specialty areas. Additional lab hours required. Corequisites: AUT:271, AUT:273, AUT:291. Prerequisites: AUT:150, AUT:156, and AUT:169.

AUT:282 AUTOMOTIVE FIELD WORK II
Continuation of AUT:281. Emphasis of lab work will include all eight ASE service specialty areas. Additional lab hours required. Prerequisites: AUT:273, AUT:271, and AUT:281.

AUT:291 AUTOMOTIVE SERVICE MANAGEMENT
This is a Service Advisor training course complete with necessary management practices enabling a student to understand the set-up of the automotive service department. The studies include customer relations, repair order writing, and economics of shop operations. Additional hours required.

AVI:101 GENERAL MECHANICS, DRAWINGS AND SAFETY
This course covers several foundational topics for studying aviation maintenance. Safety in the work environment and mechanical drawings are covered, along with weight and balance requirements and working with pressurized fluid lines in a variety of aircraft systems. The general curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B, are Aircraft Drawings, Weight and Balance, and Fluid Lines and Fittings. Additional lab hours required. Prerequisite: Reading Proficiency.

AVI:102 BASIC ELECTRICITY FOR AVIATION TECHNICIANS
This course covers principles of electricity needed for aviation technicians. Core material includes static and current electricity, terminology, magnetism, and circuits. Theory, testing and maintenance of batteries are included and solid state devices are introduced. The general curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B, is Basic Electricity. Additional lab hours required. Prerequisite: Reading Proficiency.

AVI:103 STRUCTURAL MATERIALS AND CORROSION CONTROL
In this course, students learn materials identification, metalworking and fabrication processes. They also learn nondestructive testing procedures, corrosion treatment and prevention. The general curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B, are Materials and Processing, and Cleaning and Corrosion Control. Additional lab hours required. Prerequisite: Reading Proficiency.
Course Descriptions

AVI:104 FEDERAL REGULATIONS AND GROUND OPERATIONS
This course concerns the Federal Aviation Regulations (FAR) governing aircraft maintenance and mechanics' privileges and responsibilities regarding maintenance. Students learn research techniques, the correct use of FAA forms and how to make maintenance record entries. Ground operations encompasses shop and flight line safety, including tire, jacking and hazardous materials procedures, towing, taxing and tie-down procedures, fueling procedures and standard hand signals. The general curriculum subjects in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B are Maintenance Publications, Mechanic Privileges and Limitations, Maintenance forms and Records and Ground Operations and Servicing. Additional lab hours required. Prerequisite: Reading Proficiency.

AVI:105 BASIC PHYSICS FOR AVIATION
This course covers principles of physics with applications in aviation maintenance. Topics include matter, energy, work, power, force, motion, and gas/fluid mechanics. The course introduces aerodynamics for fixed and rotor wing aircraft. The general curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B, is Basic Physics. Additional lab hours required. Prerequisite: Reading Proficiency.

AVI:106 QUANTITATIVE APPLICATIONS
In this course important principles of aerodynamics and computational skills essential for aviation technicians are reinforced through mathematical applications. Applications include topics such as weight, center of gravity, cylinder displacement and compression ratio. The general curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix B, is Mathematics. Additional lab hours required. Prerequisite: Reading Proficiency.

AVI:121 AIRCRAFT NON-METALLIC STRUCTURES AND FINISHES
This course covers aircraft maintenance principles that apply to the exterior surfaces and internal structures of an aircraft. Students learn about wooden structures, fabric coverings and the various paints and sealants that are used to protect them. The airframe curriculum subjects included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, are Aircraft Coverings, Aircraft Finishes and Wood Structures. Additional lab hours required. Prerequisites: AVI:103 and Reading Proficiency.

AVI:122 AVIATION WELDING
Various types of welding, soldering and brazing used in aircraft structural materials are introduced in this course. Students will work with sheet steel, tube steel and other metals. The airframe curriculum subject in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, is Welding. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:123 AIRFRAME FUEL SYSTEMS AND FIRE DETECTION
Students learn about the inspection, service and repair of fuel systems and components, and aircraft fire detection and extinguishing systems. The airframe curriculum subjects included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, are Aircraft Fuel Systems and Fire Protection. Additional lab hours required. Prerequisite: AVI:101 and Reading Proficiency.

AVI:124 AIRCRAFT METALLIC STRUCTURES
This course covers sheet metal and non-metallic aircraft structures introducing student to various materials used in fabrication and repair including fasteners, rivets, and sheet metal flat layouts. Students study composite structures, inspection methods, fabrication and repair procedures. The airframe curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, is Sheet Metal and Non-metallic Structures. Additional lab hours required. Prerequisites: AVI:103 and Reading Proficiency.

AVI:125 AIRCRAFT FLUID AND PNEUMATIC POWER SYSTEMS
This course covers the principles of hydraulic and pneumatic systems in aircraft and their purpose, inspection, service and repair. This includes in dept study of various landing gear and components, braking systems, wheels, tires and struts with emphasis on disassembly, inspection, removal and replacement of these systems and components. The airframe curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, appendix C, are Aircraft Landing Gear Systems and Hydraulic and Pneumatic Power Systems. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:126 RIGGING, INSPECTION, CABIN ENVIRONMENT, ICE AND RAIN
In this course students learn assembly procedures for aircraft components including flight control systems. They also learn about ice and rain control systems, and cabin temperature and pressure systems. The FAA regulations and procedures for inspecting an aircraft are also included. The airframe curriculum subjects included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, are cabin Atmosphere Control Systems, Ice and Rain Control Systems, Assembly and Rigging, and Airframe Inspection. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:127 COMMUNICATION/NAVIGATION SYSTEMS
In this course students learn how aircraft communication and navigation systems work and how to inspect and check system components. The airframe curriculum subjects included in this course are required by Federal Aviation Regulations (FAR) Part 147, Appendix C, are Communication and Navigation Systems, Position Warning Systems and Aircraft Instrument Systems. Additional lab hours are required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:128 AIRCRAFT ELECTRICAL SYSTEMS
This course covers the operation and maintenance of electrical and power distribution systems on aircraft as well as the fabrication and installation of electrical wiring or components. The airframe curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix C, is Aircraft Electrical Systems. Additional lab hours required. Prerequisites: AVI:102 and Reading Proficiency.

AVI:131 POWER PLANT ELECTRICAL SYSTEMS
Students learn the principles and procedures governing charging systems and motors. The course will emphasize inspecting, servicing and repairing electrical system components in an aircraft power plant. The power plant curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D is Engine Electrical Systems. Additional lab hours required. Prerequisites: AVI:102 and Reading Proficiency.

AVI:132 IGNITION AND STARTING SYSTEMS
Students learn the principles and procedures governing ignition and starting systems. Course material will include inspecting, servicing and repairing ignition and starting system components in an aircraft power plant. The power plant curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D is Ignition and Starting. Additional lab hours required. Prerequisites: AVI:102 and Reading Proficiency.

AVI:133 AIRFLOW, EXHAUST, LUBRICATION AND ENGINE INSTRUMENTS
This course covers the inspection, service and maintenance of non-engine accessory systems and instruments critical for the proper operation of reciprocating and turbine engines. The power plant curriculum subjects included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D, are Induction and Engine Airflow Systems, Engine Cooling Systems, Engine Exhaust and Reversing Systems, Lubrication Systems and Engine Instrument System. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

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AVI:135  PROPELLER SYSTEMS  3
The development and application of fixed-pitch through constant speed propellers is presented in this course. Students inspect, replace, service or repair propellers, their accessories or auxiliary systems. The use of maintenance publications and appropriate documentation of maintenance activities will be emphasized. The power plant curriculum subject include in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D is Propellers. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:136  POWER PLANT FUEL AND FIRE PROTECTION SYSTEMS  3
Students learn about aircraft fuel, engine fuel systems and components, and fuel metering devices. Carburetors and injection systems are covered along with fuel systems, fire protection systems, pumps valves, filters and metering units. The power plant curriculum subjects included in the course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D are Fuel Metering Systems, Engine Fuel Systems and Engine Fire Protection Systems. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:137  TURBINE ENGINES  4
Theory and application of various types of turbine engines are provided in this course. Course material includes removal, replacement, installation, inspection, overhaul and repair and adjustment of turbine engines. The power plant curriculum subjects included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D are Turbine Engines, Auxiliary Power Systems and Unducted Fans. Additional lab hours required. Prerequisites: AVI:101 and Reading Proficiency.

AVI:138  POWER PLANT INSPECTIONS  1
This course requires students use skills developed in the power plant courses to inspect turbine or reciprocating engines, propellers, engine accessories and auxiliary systems. Students will use extensive research of maintenance publications and effective documentation of inspection activities. The power plant curriculum subject included in this course and required by Federal Aviation Regulations (FAR) Part 147, Appendix D, is Engine Inspection. Additional lab hours required. Prerequisites: AVI:131 and Reading Proficiency.

BAKING AND PASTRY

BAP:101  INTRODUCTION TO BAKING THEORY  3
This course introduces the principles of food science and nutrition as they apply to baking and pastry arts. The Scientific Method is used to explore pastry ingredients and their function in product preparation and storage. Emphasis will be placed on formulation, ingredients, and sensory evaluations. Additional lab hours required. Prerequisites: CUL:101 and Reading Proficiency.

BAP:105  BREADS, ROLLS, AND BAKERIES  3
This course introduces the techniques in preparation of assorted breads: quick breads, yeast-raised, laminated, and enriched doughs for the bakeshop as well as cookies, pies, and basic bakery staples. The use of baking equipment, scaling and shaping techniques, inventory control, baker’s mathematics, and sanitation are covered. Additional lab hours required. Prerequisites: BAP:101 with a minimum grade of “C” and Reading Proficiency.

BAP:110  PRODUCTION PASTRY TECHNIQUES  3
This course is designed to give the student working knowledge of traditional and contemporary methods of producing puff pastry, pate a choux, cream puffs, custom, tarts, and mousse. Fundamentals of production and finishing techniques are introduced. Additional lab hours required. Prerequisites: BAP:105 with a minimum grade of “C” and Reading Proficiency.

BAP:115  CAKE PRODUCTION AND DECORATION  3
This course is designed to expose students to the proper procedures for producing traditional and contemporary cakes. Emphasis will be placed on mixing methods of batters, fillings, and icings. Skills taught include cake decoration, piping techniques, writing with chocolate, and proper use of a pastry bag. Additional lab hours required. Prerequisites: BAP:110 with a minimum grade of “C” and Reading Proficiency.

BAP:150  BAKE SHOP BASICS FOR CULINARIANS  3
This course is an introduction to the fundamentals of baking and pastry utilized in the culinary industry. Students will learn the theories of baking science, mathematics, and production techniques, along with the principles and procedures for producing basic breads, custards, mousses, pastries, and bakeries. Additional lab hours required. Prerequisites: CUL:101, HRM:133 and Reading Proficiency.

BAP:160  DESIGN FOR THE PASTRY ARTS  2
This course will introduce students to the basic principles of drawing and design as it relates to the baking and pastry industry. Students will work with two-dimensional and three-dimensional formats to create a series of assigned projects. The study of color and color theories will also be explored. Additional lab hours required. Prerequisite: Reading Proficiency.

BAP:201  ARTISAN AND DECORATIVE BREAD  2
This course will cover various styles of producing artisan and decorative bread. Instruction will include techniques of production utilizing various processes of fermentation. Elements of showpieces and decorative breads will be produced in classes yielding attractive displays. Fundamentals of Baking will play a large role in everyday production activities. Additional lab hours required. Prerequisites: BAP:115 with a minimum grade of “C” and Reading Proficiency.

BAP:205  ICE CREAM AND FROZEN DESSERTS  2
This course introduces the multiple production techniques of frozen desserts. Students will be taught the fundamentals of balancing formulations, controlling texture, and developing flavor profiles, with an emphasis on the creation of both classical and modern frozen desserts. Consumer marketing and evaluation will also occur during this class. Additional lab hours required. Prerequisites: BAP:201 with a minimum grade of “C” and Reading Proficiency.

BAP:210  CHOCOLATE CANDIES AND SHOWPIECES  2
During this course, students will learn and utilize proper tempering techniques of chocolate. Hand-dipped and molded candies will be produced utilizing various methods. Variations of chocolates, fillings, manufacturing techniques, and decorations will be utilized in daily activities. Cocoa-based coloring and texturing mediums will be introduced and used to produce showpieces. Additional lab hours required. Prerequisites: BAP:205 with a minimum grade of “C” and Reading Proficiency.

BAP:215  PLATED DESSERTS  2
This course focuses on the presentation and preparation of plated desserts. Contemporary versions of traditional desserts will be created utilizing several styles of plate presentation. Advanced flavor development and menu planning will be introduced. Students will simulate a la carte restaurant plating techniques to present finished desserts. Additional lab hours required. Prerequisites: BAP:210 with a minimum grade of “C” and Reading Proficiency.

BAP:220  SUGAR CANDIES AND SHOWPIECES  2
This course introduces students to the process of artistic design, drawing, and creation of two- and three-dimensional centerpieces utilizing sugar and pastillage. Students will also produce sugar-based candies utilizing various production methods. Additional lab hours required. Prerequisites: BAP:215 with a minimum grade of “C” and Reading Proficiency.

BAP:260  BAKING AND PASTRY ARTS CAPSTONE  3
This culminating course focuses on the synthesis of all knowledge and skills obtained in the course of Baking and Pastry. Culinary certification through the American Culinary Federation. Coursework will include written and practical baking assessments in preparation for this industry-recognized examination. Additional lab hours required. Prerequisites: BAP:220 with a minimum grade of “C”, CUL:150, HRM:112, HRM:128, HRM:134, HRM:146, HRM:201, HRM:205 and Reading Proficiency.

BIOLOGY

BIO:003  BRIDGES TO BIOLOGY  1
Bridges to Biology is a non-transferable, preliminary course which prepares students for Introductory Biology. This course gives students experience in applying information management and study skills necessary for success in laboratory and coursework in the natural sciences. Additional hours required.
Course Descriptions

BIO:100 INTRODUCTION TO LIFE SCIENCE LABORATORY SKILLS 3
This course is part of the Certificate of Specialization in Life Science Laboratory Assistant program. Students will practice basic lab skills in a research laboratory setting. Pipetting, solution and media preparation, dilutions, sterile technique, separation methods, lab math, quality control, documentation, and other appropriate skills are taught with an emphasis on standard lab instrumentation, calibration or verification, and maintenance. Additional lab hours required. Prerequisite: BIO:111, MTH:030 and Reading Proficiency.

BIO:102 CLINICAL PHYSIOLOGY 3
An orientation to the human body, cell structure and function, histology of body cells, and the relationship of body systems to the overall health of the individual. Includes an introduction to the anatomy and physiology of selected organ systems. Additional lab hours required. Prerequisite: BIO:111 and Reading Proficiency.

BIO:103 PROBLEMS IN ANATOMY 3
A course dealing with the anatomy of the human body; study of the structure of cells, tissues, organs, and systems with emphasis on those subjects important to embalming. Additional lab hours required. Prerequisites: BIO:111 and Reading Proficiency.

BIO:104 BASIC LABORATORY METHODS FOR BIOTECHNOLOGY 3
This course introduces basic laboratory skills in preparation for Biotechnology I. Topics and techniques include safety, sterile technique, laboratory math, quality systems, documentation, collection of data, metrology, filtration, solution and mini prep, and other appropriate laboratory methods. Additional lab hours required. Prerequisites: MTH:030 or MTH:040 with a minimum grade of "C" and Reading Proficiency.

BIO:105 TOPICS IN EVOLUTION 3
This is an introductory course emphasizing both evolutionary mechanisms and evolutionary history. Areas of interest will include evolution as a process, the development of biological diversity, reconstructing past evolutionary events, and the evolution of major groups, including humans. Prerequisite: Reading Proficiency.

BIO:106 HUMAN HEREDITY 4
This course will introduce students to basic concepts in human heredity. Areas of emphasis will include patterns of inheritance, population genetics, the genetics of immunity and cancer, genetic engineering, gene therapy, and reproductive technologies. Additional lab hours required. Prerequisite: Reading Proficiency.

BIO:109 HUMAN BIOLOGY 3
This course is an introduction to basic human structure and function, including cell theory; genetics, systems biology, ecology and evolution. This course does not fulfill any of the Allied Health and Nursing program requirements at St Louis Community College. Prerequisite: Reading Proficiency.

BIO:110 GENERAL ZOOLOGY 4
This course provides a survey of the animal kingdom with emphasis on comparative anatomy, physiology, ecology and evolution of the major invertebrate and vertebrate groups. Additional lab hours required. Prerequisite: Reading Proficiency.

BIO:111 INTRODUCTORY BIOLOGY I 4
Introductory Biology provides a consideration of the principles of biology, with emphasis on the molecular approach to the structure and function of living organisms. This course is for liberal arts students and majors in physical education, physical and occupational therapy, nursing, and other allied health areas. (Credit is not allowed for both BIO:111 and BIO:140). Additional lab hours required. Prerequisite: Reading Proficiency.

BIO:113 MODERN ASPECTS OF BIOLOGY 3
This course provides a consideration of the principles of biology as they relate to socially relevant issues in nutrition, reproduction, sexuality, heredity, and disease. Prerequisite: Reading Proficiency.

BIO:117 CONSERVATION AND ECOLOGY (LECTURE) 3
This course is designed to focus attention on the forces at work in nature. The interrelationships of living things to their environment and to each other are discussed and in particular man’s impact on these relationships. Man’s use and abuse of renewable and non-renewable natural resources is also considered. Prerequisite: Reading Proficiency.

BIO:120 FIELD ZOOLOGY 3
A natural history of animals using a wide variety of Missouri habitats. Topics will include insects and other invertebrates, fish, amphibians, reptiles, birds, mammals, conservation and the history of wildlife populations in Missouri. Techniques for collection, preservation or live maintenance and identification will be covered. Not intended for Biology majors. Prerequisite: Reading Proficiency.

BIO:122 HUMAN SEXUALITY 3
Human sexuality includes not only the biological component of male and female sexuality but also attitudes, values and feelings about one’s own gender and sex role. Consequently, in dealing with sex as a natural biological function, the expression of which is a dimension of psychosocial behavior, the sexual development and/or differentiation of men and women from conception to maturity will be stressed. Same course as PSY:125. Prerequisite: Reading Proficiency.

BIO:123 ANIMAL BEHAVIOR 3
Animal behavior is an introductory course in invertebrate and vertebrate animal behavior. Emphasis will be placed on biological clocks, migrational patterns, reproductive strategies, hormones that drive behavior, social behavior, and the role of genetics and evolution in determining behavior. Prerequisite: Reading Proficiency.

BIO:124 GENERAL BOTANY I 4
Students will be introduced to the biological aspects of plant life, including cell structure and function, anatomy, morphology, physiology, taxonomy. Additional lab hours required. Prerequisite: Reading Proficiency.

BIO:140 PRINCIPLES OF BIOLOGY II 4
Quantitatively oriented for pre-medicine, pre-dentistry, pharmacy, biology and other science majors. A consideration of the principles of biology, with emphasis on the molecular approach to the structure and function of living organisms. (Credit is not allowed for both BIO:111 and BIO:140). Additional lab hours required. Prerequisites: CHM:105 and Reading Proficiency.

BIO:141 PRINCIPLES OF BIOLOGY II 4
A continuation of BIO:140 with emphasis on selected topics in biology covering population genetics, evolution, survey of living plants and animals, ecology and conservation of natural resources. (Credit is not allowed for both BIO:112 and BIO:141). Additional lab hours required. Prerequisites: BIO:140 and Reading Proficiency.

BIO:144 MARINE BIOLOGY 3
This course introduces students to marine organisms and ecosystems. The interplay of organisms and their environment and other aspects of marine ecology are stressed. Prerequisite: Reading Proficiency.

BIO:145 FIELD EXPERIENCE IN MARINE BIOLOGY 1-2
This course consists of field experiences in marine biology either in Florida or a Caribbean destination. Students learn field techniques for collecting and studying a variety of marine organisms. Emphasis is placed on ecology and identification of marine organisms. The course is only offered in conjunction with or following BIO:144 Marine Biology (the prerequisite course). This course may be taken for 1 hour credit (1 week field experience) or 2 credit hours (2 week field experience). Prerequisites: BIO:144 with grade of "C" or better and Reading Proficiency.

BIO:146 DESERT ECOLOGY 3
This course is designed to acquaint the student with the special geologic and climatic conditions necessary for the creation of a desert. It will familiarize students with the unique adaptations of plants and animals to the desert environments in various parts of the world. Emphasis will be placed on characterizing and comparing the four North American Desert ecosystems. Prerequisite: Reading Proficiency.
BIO:147 FIELD EXPERIENCE IN DESERT BIOLOGY 1-2
This course will be a field experience to the desert southwest. The emphasis
will be identification of landforms, plants and animals of the desert habitat.
May be 1 or 2 credits depending on length of field trip. Additional hours
required. Prerequisite: BIO:146 with grade of “C” or better and consent of
instructor. Reading Proficiency.

BIO:148 OZARK ECOLOGY 3
This course introduces students to one of the most biological diverse ecosystems
in the Midwest. It will focus on the interaction of plants and animals with
unique Ozark natural communities such as oak-hickory forests, glades, bluffs,
caves, springs, and streams. Management and land use practices affecting this
ecosystem will be reviewed. An optional 1-2 week field experience course
(BIO:149) is available to students who successfully complete this lecture course.
Prerequisite: Reading Proficiency.

BIO:149 FIELD EXPERIENCE IN OZARK ECOLOGY 1-2
This course focuses on first-hand field experience in the Ozark mountains and
valleys. Emphasis will be placed upon field identification of plants and animals
associated with the diverse Ozark natural communities and these organisms' adaptations to these ecosystems. This field experience may be taken for 1
or 2 credit hours depending upon the length of the field trip (1 or 2 weeks).
Prerequisites: BIO:148 with grade of “C” or better or approval of instructor and
Reading Proficiency.

BIO:151 BIOLOGY OF HUMAN HEALTH AND DISEASE 3
This course examines human health and disease from a biological perspective.
We will explore the evolution of microbes and human disease. This course will
also look at the influences that regular exercise, diet, and genetic factors have
on everyday good health. The mechanisms, manifestations, and prevention of common diseases, such as heart disease and cancer, will also be stressed.
Prerequisite: Reading Proficiency.

BIO:152 QUANTITATIVE METHODS IN BIOTECHNOLOGY 2
This course is designed to instruct students in the common calculations
encountered in a cellular-molecular research setting. Prerequisites: MTH:140
and CHM:101 or CHM:105 and Reading Proficiency.

BIO:153 INTRODUCTION TO TROPICAL BIOLOGY 3
This course introduces students to tropical biology. The student will investigate
the biological and ecological processes that generate and maintain biodiversity
in tropical systems. The student will address issues of conservation, disturbance
and management, as well as the sustainable use of natural resources, such as
medicinal plants, by indigenous cultures. Prerequisite: Reading Proficiency.

BIO:154 HUMAN REPRODUCTION,
EMBRYOLOGY, AND DEVELOPMENT 3
This course places emphasis on the biological aspects of reproduction. The
structure, function, hormonal control systems, embryology, developmental
biology, diseases, disorders and treatments for the male and female reproductive
systems are discussed. Special topics in cell biology and genetics will be
addressed. Prerequisite: Reading Proficiency.

BIO:155 ZOOS AND AQUARIA: PRESERVING NATURE 3
This course introduces students to the application of biological concepts to
captive aquatic and terrestrial species. The course will investigate the role
that zoos and aquaria play in maintaining biodiversity, animal rehabilitation,
assisted reproduction, conservation, and public education. This course will
also address skills required for employment opportunities in these fields.
Prerequisite: Reading Proficiency.

BIO:156 NATIVE LANDSCAPING FOR
WILDLIFE AND PEOPLE 3
The field study course focuses on which native wildflowers, grasses, shrubs,
and trees furnish food and cover for wildlife and provide attractive native
landscapes of flowers, fruits, and leaves for people. Highlights include
1) investigating biodiversity and sustainability of natural communities, 2)
selecting best-adapted species, and 3) designing, planting, and maintaining
native landscapes. Prerequisite: Reading Proficiency.

BIO:203 GENERAL MICROBIOLOGY I 4
Introduction to microbes with emphasis on morphology, culture techniques
and biochemical activities of bacteria, viruses and fungi. A consideration
of human disease producing organisms with regard to their infection and
resistance. Additional lab hours required. Prerequisites: BIO:111 with grade
of “C” or better; or one year of high school biology and chemistry (with labs)
within previous five years of registration date; or permission of the department
chairperson of Biology and Reading Proficiency.

BIO:207 ANATOMY AND PHYSIOLOGY I 4
A study of the organization of cells into tissues, organs, and organ systems, with
special in-depth study of the integumentary, skeletal, muscular, nervous and
endocrine system, and the sensory receptors. Additional lab hours required.
Prerequisites: BIO:111 with grade of “C” or better; or one year of high school
biology and chemistry (with labs) within previous five years of registration
date; or permission of the department chairperson of Biology and Reading Proficiency.

BIO:208 ANATOMY AND PHYSIOLOGY II 4
A continuation of BIO:207 with consideration given to the integrative functions of the cardiovascular, digestive, respiratory, urogenital and reproductive
systems. Additional lab hours required. Prerequisites: BIO:207 with a minimum
grade of “C” and Reading Proficiency.

BIO:209 KINESIOLOGY 3
Kinesiology is the study of human movement. It involves applying the
anatomy of the musculo-skeletal system to functional movement as a basis
to understanding of exercise. Additional lab hours required. Prerequisites:
BIO:207 and Reading Proficiency.

BIO:215 HUMAN BODY SYSTEMS 5
This course is a study of the organization and integration of the body’s systems.
The course progresses from the organization of cells into tissues, organs, and
organ systems, to an in-depth study of the physiology, diseases, and other
abnormal conditions of the body. Additional hours required. Prerequisites:
BIO:111 with a C or better or approval of department chair and Reading Proficiency.

BIO:218 MICROBIOLOGY FOR BIOTECHNOLOGY 4
A course for biotechnology majors providing a detailed exposure to structure,
metabolism, genetics and growth characteristics of microbes and viruses as
well as the role they play in disease, ecological and industrial applications. The
structure and function of the immune system will also be covered. Additional
lab hours required. Prerequisites: BIO:140, CHM:105 and Reading Proficiency.

BIO:219 BIOTECHNOLOGY I 5
This course introduces basic biotechnology skills in preparation for
Biotechnology II. Topics and techniques may include safety, cGMP, agarose
gel electrophoresis, plasmid construction, ELISA, PAGE, PCR, mammalian
cell culture, rapid plant genotyping and other molecular research techniques.
Additional laboratory hours required. Prerequisites: BIO:104, BIO:140,
BIO:152, GE:101, all with a minimum grade of “C” and Reading Proficiency.

BIO:220 BIOTECHNOLOGY II 5
A project-oriented course applying the fundamental DNA and protein
manipulation techniques used in biotechnology/bioengineering research
laboratories in academia and industry. Additional lab hours required.
Prerequisites: BIO:219 or consent of the instructor and Reading Proficiency.

BIO:221 WORKPLACE LEARNING: BIOTECHNOLOGY 3
This workplace-based course provides the student the opportunity to apply
together, skills and concepts learned in the classroom, learn new skills, and explore
career possibilities while supervised by a professional in the field and a
faculty member. Students will observe and participate in the functions of the
industry to enhance their preparation for entering the field. Minimum of 50
hours per credit hour in the workplace throughout the term. Additional hours
required. Prerequisites: Prior or concurrent enrollment in BIO:220 and Reading Proficiency.
Course Descriptions

BIO:223 RESEARCH TECHNIQUES IN BIOLOGY 1-3
Students will participate in research projects that can include introduction to HPLC, cell culture, histology techniques, or research in molecular ecology or molecular genetics. Exposure to data processing, data analysis, poster or manuscript preparation and presentation may also be included. Contact the instructor for current research project information. Prerequisites: MTH:140, CHM:101 and BIO:111 or BIO:140 and Reading Proficiency.

BIO:224 INTRODUCTION TO BIOINFORMATICS 2
This course provides the Biotechnology undergraduate major with an understanding and preliminary working knowledge of the concepts, methods and tools used in Bioinformatics. Prerequisites: BIO:219 or consent of the instructor and Reading Proficiency.

BIO:225 GENETICS 5
This course for life science majors reviews the fundamental principles of inheritance, including classical genetic theory, as well as recent advances in the molecular basis of heredity. Additional hours required. Prerequisites: BIO:140, CHM:105 and Reading Proficiency.

BIO:226 ADVANCED TOPICS IN BIOTECHNOLOGY 3
This lecture/laboratory course consists of current techniques used in biotechnology research and industry. Topics can include, but are not limited to, techniques from biomedical, pharmaceutical, agricultural, environmental, microbiological, bioprocessing, biocomputing, and/or bioethical aspects of biotechnology. Life science research and industry scientists will be employed as instructors. Additional lab hours required. Prerequisites: Prior or concurrent enrollment in BIO:219 or consent of the program coordinator or department chair, and Reading Proficiency.

BIOMEDICAL ENGINEERING TECHNOLOGY

BE:153 WORKPLACE LEARNING: BIOMEDICAL ENGINEERING TECHNOLOGY 4
This workplace-based course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the industry to enhance their preparation for entering the field. Minimum 50 hours per credit hour in the workplace throughout the term. Prerequisites: BE:150, BIO:102, and EE:132 and Reading Proficiency.

BE:160 WORKPLACE LEARNING: BIOMEDICAL ELECTRONICS TECHNOLOGY 4
This workplace-based course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the industry to enhance their preparation for entering the field. Minimum 50 hours per credit hour in the workplace throughout the term. Prerequisites: EE:132 or EE:133, and Reading Proficiency.

BE:254 BIOMEDICAL APPLICATIONS 5
This course develops competencies, including maintenance, troubleshooting and repair, with such basic hospital equipment as transducers, amplifiers, processors, display modules, and respiratory and radiography instruments. Additional lab hours required. Prerequisites: BE:251 and Reading Proficiency.

BUILDING INSPECTION TECHNOLOGY

BIC:101 BASIC BUILDING INSPECTION TECHNIQUES 3
This course offers the student an introduction to the general principles of building inspection. It includes current techniques of field inspections with emphasis on wood, steel frames, modern masonry and concrete design as employed in construction of buildings. Prerequisite: Reading Proficiency.

BIC:102 HOUSING INSPECTIONS AND PROGRAMS 3
A course covering housing codes and housing inspection techniques. The need for the implementation of housing programs and their impact on the community is included. Prerequisite: Reading Proficiency.

BIC:103 BUILDING CODES AND ORDINANCES 3
This course offers a detailed study of national, state, and local ordinances geared to public safety, land use controls, and building codes. It will include a detailed summary of use philosophy and development of the latest edition of BOCA Building Codes. Prerequisite: Reading Proficiency.

BIC:104 HOUSING INSPECTION PROBLEMS 3
Housing evaluation skills as taught in this course shall cover: space requirements, sanitation requirements, comfort requirements, electrical requirements, maintenance standards, and environmental needs. The course should prepare persons for the task of evaluating existing residential housing. This preparation shall consist of teaching: 1) requisite skills in detecting deficiencies; 2) know-how in correcting deficiencies; 3) systematic procedures for documentation and control of housing inspections. Prerequisite: Reading Proficiency.

BIC:200 PLUMBING AND MECHANICAL INSPECTION 4
An introduction to the theory of residential and commercial, industrial and institutional details of plumbing systems, safety principles, heating, cooling and ventilation, layouts and code inspection problems. Prerequisites: MTH:124, PSI:101 and Reading Proficiency.

BIC:201 ELECTRICAL INSPECTION 2
Electrical inspection of buildings, residential, commercial, institutional, and industrial, based on the National Electrical Code, including electrical wiring procedures and layouts. Prerequisites: MTH:124, PSI:101 and Reading Proficiency.

BIC:202 ADMINISTRATION OF BUILDING REGULATIONS 3
This course offers an introduction to the effective administration of building and zoning regulations. Particular attention will be given to the major methods and procedures for the enforcement of building codes and ordinances. Procedures for the building department operations will also be discussed. Prerequisites: BIC:101, BIC:103 and Reading Proficiency.

BIC:203 PLAN REVIEW I (NON-STRUCTURAL) 3
This course provides the student with an understanding of building plans for residential, commercial, industrial and institutional building as related to the requirements of various codes and the zoning ordinances. Solutions to problems will be taught through the study of specific situations, employing an authentic set of plans. The student is taught to identify the problems on the plan and then to solve them by correct application of plan review. Prerequisites: FIR:210, BIC:103 and Reading Proficiency.

BIC:204 PLAN REVIEW II (STRUCTURAL) 3
This course provides the student with an understanding of building plans with emphasis on structural elements of building design. The student will be instructed in review and calculations of loads and sizing of structural elements of a building, including footings, foundations, beams and columns, walls, roofs, and floors. Prerequisites: BIC:203, ME:243 and Reading Proficiency.

BIC:205 SOILS, GRADING AND WASTE WATER CONTROL 3
This course offers the student the technical information necessary for the inspection of construction sites. It includes site investigations, soil analysis, solid mechanics, geology, grading, drainage, and retaining wall design and inspection. Prerequisites: MTH:124 and Reading Proficiency.

BUSINESS ADMINISTRATION

BUS:101 SMALL BUSINESS MANAGEMENT 3
A comprehensive survey course which deals with the theoretical and practical aspects of starting and operating a small business. Each major function of business (accounting, production, marketing) is discussed with particular reference to small business. Students taking this course are normally not encouraged to enroll subsequently in BUS:104 due to similarity of course content. Prerequisite: Reading Proficiency.
BUS:103 BUSINESS MATHEMATICS 3
This course includes a review of basic arithmetic: fractions, decimals, ratios, non-decimal numbering systems, and graphical representation of numbers. It also covers fundamental problems involving interest, mark-ups, commissions, payroll, taxes, depreciation, consumer credit, insurance and security transactions. Students will analyze simple financial statements, discounts, volume/profit relationships, and banking records. Prerequisite: Reading Proficiency.

BUS:104 INTRODUCTION TO BUSINESS ADMINISTRATION 3
A survey course, designed to give the student a general knowledge of the modern business world and the environment within which it exists and an awareness of the principles of the major functions in managing a business, such as finance, personnel, production, and marketing. Prerequisite: Reading Proficiency.

BUS:116 ENTREPRENEURSHIP 3
This comprehensive course deals with the theoretical and practical aspects of the student entering business for himself/herself. Covers opportunities, evaluations, operations, and expansion of entrepreneurial situations. Prerequisite: Reading Proficiency.

BUS:201 ELEMENTARY STATISTICS 3
This course introduces the student to the basic principles and methods of statistical measurement and statistical inference. Descriptive statistical concepts include data organization and presentation, measures of location and dispersion, probability theory and distributions. Applications of statistical inference include random sampling techniques and sampling distributions, interval estimation, hypothesis testing for large and small samples, ANOVA, correlation, regression analysis, and nonparametric testing. Prerequisites: MTH:160 or MTH:160A or MTH:160B or MTH:160C and Reading Proficiency.

BUS:202 STATISTICAL ANALYSIS 3
This course introduces the student to statistical concepts and techniques used by management in the decision-making process. Descriptive statistics includes the display and summary of data, discrete and continuous probability distributions and random variables. Inferential statistics includes parametric and nonparametric tests of significance, correlation and regression analysis, confidence intervals, and analysis of the variance. Forecasting tools include time series analysis and the derivation and use of index numbers. Prerequisites: MTH:177 and Reading Proficiency.

BUS:250 WORKPLACE LEARNING: BUSINESS AND ECONOMICS 1-3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the business to enhance their preparation for entering the field. Minimum 50 hours per credit hour in the workplace throughout the term. Prerequisites: Department approval and Reading Proficiency.

BUSINESS LAW

BLW:101 BUSINESS LAW I 3
A survey course which considers an introduction to the judicial system, as well as principles of law in the following areas: legal ethics, constitutional law contracts, torts, products, liability, intellectual property and business crime. Prerequisite: Reading Proficiency.

BLW:201 LEGAL ENVIRONMENT OF BUSINESS 3
This course covers an introduction to law and the judicial system, business organizations, contracts, torts, property, agency or administrative law, antitrust, labor-management, international and other topics such as law related to energy, health, safety and the environment. Prerequisites: Student must have sophomore standing with a cumulative GPA of 2.0 or higher and Reading Proficiency.

CHEMISTRY

CHM:002 PREPARATION FOR CHEMISTRY 3
This course presents some basic science and mathematical concepts and skills which students need to prepare them to take a college chemistry course. Prerequisite: Previous or concurrent enrollment in MTH:030, or one year of high school algebra.

CHM:101 FUNDAMENTALS OF CHEMISTRY I 5
Fundamental of Chemistry I is a one semester course which presents the fundamental concepts and symbolism of chemistry with applications to everyday life. The course is suited for allied health students and for students not planning to major in science. Laboratory work presents opportunity to use laboratory equipment, emphasizes observations and measurements, and provides elementary quantitative and qualitative analysis. Additional hours required. Prerequisites: MTH:030 with a minimum grade of "C", placement into MTH:140 or higher on the Math placement test and Reading Proficiency.

CHM:102 FUNDAMENTALS OF CHEMISTRY II 4
Continuation of CHM:101. Topics covered are of particular interest to students in respiratory therapy, nursing, and health-related areas in general. Additional lab hours required. Prerequisites: CHM:101 or CHM:105 with a grade of "C" or better and Reading Proficiency.

CHM:105 GENERAL CHEMISTRY I 5
General Chemistry I is a one-semester course designed for science-related majors that emphasizes the fundamental principles of chemistry. Topics include measurement, physical and chemical processes, nomenclature, atomic structure, quantum theory, stoichiometry, molecular structure, bonding theory, physical properties of gases, thermochemistry, and properties of solutions. Upon completion of the course, students should be able to demonstrate an understanding of the fundamental chemical laws and concepts and will obtain prerequisite chemical knowledge needed for advancement to General Chemistry II. Additional lab hours required. Prerequisites: MTH:140 (at least one and a half years of high school algebra) and CHM:101 with a minimum grade of "C" or one year of high school chemistry, and Reading Proficiency.

CHM:106 GENERAL CHEMISTRY II 5
Topics include kinetics, thermodynamics, electrochemistry, and lab work in qualitative and quantitative analysis. Additional lab hours required. Prerequisites: CHM:105 and (MTH:160 or MTH:160A or MTH:160B or MTH:160C) with grades of "C" or better and Reading Proficiency.

CHM:109 CHEMISTRY FOR ENVIRONMENTAL CAREERS 4
Basic principles, terminology, theories, calculations and laboratory operations in chemistry for environmental careers. Additional lab hours required. Prerequisite: Reading Proficiency.

CHM:114 INDUSTRIAL CHEMISTRY 3
This is a non-laboratory lecture and demonstration course covering elementary chemistry with emphasis on potentially dangerous chemicals in fires and in other industrial situations. The course is not intended for chemistry or engineering majors. Prerequisite: Reading Proficiency.

CHM:121 CHEMICAL TECHNOLOGY I 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technician. An inorganic chemistry review will be provided with the following topics covered: statistical analysis, physical properties, and gravimetric analysis. Additional hours required. Corequisite: GE:101. Prerequisites: CHM:101, MTH:140 and Reading Proficiency.

CHM:122 CHEMICAL TECHNOLOGY II 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technician. Topics covered in lecture and lab are: titrimetric, volumetric, and spectrophotometric analysis (UV, visible, atomic absorption). Additional hours required. Prerequisites: CHM:121 and Reading Proficiency.

CHM:206 ORGANIC CHEMISTRY LECTURE I 3
An introductory course in the theory of Organic Chemistry, stressing reaction types and mechanisms. Prerequisites: CHM:106 with a grade of "C" or better and Reading Proficiency.
CHM:207 ORGANIC CHEMISTRY LECTURE II 3
A continuation of CHM:206 including relevant new topics such as polymers and biochemicals. Prerequisites: CHM:206 with a grade of "C" or better and Reading Proficiency.

CHM:210 ORGANIC CHEMISTRY LAB I 2
This course is an introduction to the laboratory work in organic chemistry. The emphasis of the course is on generally-employed laboratory techniques for purification and characterization of organic compounds and an introduction to laboratory instrumentation. Additional lab hours required. Prerequisites: concurrent or prior enrollment of CHM:206 with a grade of "C" or better and Reading Proficiency.

CHM:211 ORGANIC CHEMISTRY LAB II 2
This course is a continuation of CHM:210 Organic Chemistry Lab I. The emphasis of the course is on synthesis of organic compounds, including multistep syntheses, and on characterization and analysis of organic compounds and exploration of instrumentation. Additional lab hours required. Prerequisites: Concurrent or prior enrollment in CHM:207 with a minimum grade of "C" and CHM:210 with a minimum grade of "C" and Reading Proficiency.

CHM:212 BIO-ORGANIC AND ANALYTICAL CHEMISTRY 4
An introduction to analytical chemistry, organic chemistry and biochemistry. Laboratory work is primarily quantitative analysis. Primarily for students interested in the clinical laboratory technology program. Not intended for students in pre-medicine or planning to major in chemistry. Prerequisites: CHM:101 or CHM:105 and Reading Proficiency.

CHM:213 CHEMICAL TECHNOLOGY SEMINAR 2
Present basic electricity and electronic theory, techniques, and hardware to chemical technology students who have no previous formal training in this area. Manual skills (soldering, wire splicing, minor electrical repairs, troubleshooting) will be emphasized. This course presents a practical exposure to simple electronic schematic interpretations, location of test points and component identification. Some elementary breadboarding using commercially available training kits will be presented. The use of various volt/ohm meters and test equipment will be introduced. Real and simulated electrical/electronic troubleshooting situations will be presented using actual analytical chemistry instrumentation. Prerequisites: Concurrent enrollment in CHM:221 or permission from instructor and Reading Proficiency.

CHM:214 ADVANCED CHEMICAL TECHNOLOGY SEMINAR 2
Emphasis on specialized laboratory techniques and procedures in advances in analytical chemistry instrumentation. An introduction to chemical literature searches both manually and by computer will be presented using both in-house and external consultants and facilities. This course will explore the opportunities and profession of chemical technicians. Specialized resources, advances, and professionals will be presented in seminar format. Specialized topics (ethics, chemical waste disposal and separations) will be included. Prerequisite: Concurrent enrollment in CHM:222 or permission from the instructor and Reading Proficiency.

CHM:221 CHEMICAL TECHNOLOGY III 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory is introduced with laboratory work focusing on organic separation and synthesis techniques. Infrared spectrophotometric analysis of a variety of samples complements the laboratory work. Additional hours required. Prerequisites: CHM:122 and Reading Proficiency.

CHM:222 CHEMICAL TECHNOLOGY IV 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory is continued with nuclear magnetic resonance spectrophotometric analysis complementing the laboratory work. Gas chromatographic techniques are covered for both qualitative and quantitative analysis. Additional hours required. Prerequisites: CHM:221 and Reading Proficiency.

CHM:231 CHEMICAL TECHNOLOGY V 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Organic chemistry theory and lab practice is introduced complemented with mass spectrophotometric analysis. High pressure liquid chromatographic techniques for both qualitative and quantitative analysis are covered. Additional hours required. Prerequisites: CHM:222 and Reading Proficiency.

CHM:232 CHEMICAL TECHNOLOGY VI 5
The specific purpose of this course is to provide part of two years of training for a career as a chemical technologist. Biochemical theory is introduced with laboratory work focusing on biochemical separation and purification techniques. Electrophoretic analysis of a variety of samples complements the laboratory work. Additional hours required. Prerequisites: CHM:231 and Reading Proficiency.

CHINESE

CHI:101 ELEMENTARY CHINESE I 4
A practical, beginning course in speaking and understanding modern spoken Chinese. It is designed for persons who want to learn some Chinese, who want to travel to China, or who have previous limited experience in Chinese. Attention is given to proper pronunciation, to practicing the words and basic structures used most frequently in daily conversation and to learning the social conventions and Chinese culture necessary for interpersonal communication with native speakers of modern Chinese. Prerequisite: Reading Proficiency.

CHI:102 ELEMENTARY CHINESE II 4
Continuation of CHI:101. Concentration will be placed on vocabulary acquisition and the oral use of the language. Prerequisites: CHI:101 and Reading Proficiency.

CIVIL ENGINEERING TECHNOLOGY

CE:108 CONSTRUCTION METHODS 3
This course covers many of the principles, materials, and methods used in light construction. Topics include building codes, construction standards and specializations, wood and wood products, concrete, masonry, glass, plastics, aluminum products, bituminous products, gypsum products, asbestos cement products, construction methods systems, foundation systems, slabs-on-ground, floor/ceiling systems, wood framed floors, wall systems, masonry walls, roof/ceiling systems, stucco, and terrazzo. Prerequisite: Reading Proficiency.

CE:115 CONSTRUCTION MATERIALS AND METHODS 3
This course is an introduction to the elements of building construction principles and materials. Students will learn the background and history of building materials and systems; review sustainable design, materials, and construction concepts; and review industry standards, specifications, codes and barrier-free design. Prerequisite: Reading Proficiency.

CE:116 CONSTRUCTION BLUEPRINT READING 3
The interpretation of construction working drawings and specifications for residential and commercial building projects. Architectural, structural, and utility drawings will be covered. Prerequisite: Reading Proficiency.

CE:117 STATICS AND STRENGTH OF MATERIALS 3
This course deals with the fundamental principles of structural design. Topics include the analysis of structures to determine internal and external forces and the design of members and connections based on allowable bending, tension, compression and shearing stresses. The graphical analysis of statics problems is included. Students considering careers as architects or engineers should enroll in this course, rather than in Structures for Technicians. Additional lab hours required. Prerequisites: MTH:124 or equivalent and Reading Proficiency.

CE:118 SUSTAINABLE CONSTRUCTION 3
The emphasis in this class is on the ‘green building’ revolution, its socioeconomic importance and impact, how sustainable construction differs from the traditional approach, the Leadership in Energy and Environmental Design (LEED) and Green Globes rating systems and how these rating systems impact various aspects of a building and its components and systems. Prerequisite: Reading Proficiency.

CE:130 INTRODUCTION TO CONSTRUCTION 3
An introductory course providing an overview of the total construction process including city and regional planning, construction management, contracting, labor and management relations, the design process, estimating and bidding, scheduling and purchasing, construction, and equipment. Prerequisite: Reading Proficiency.
CE:131 CONSTRUCTION ESTIMATING  3
The total estimating and bidding process. Topics will include: bid form
contracts, specifications, overhead, unit costs, quantity surveys, subcontract
bids, pricing, checking and alternates. Students should be able to read
construction drawing prior to enrolling in this course. Prerequisites: CE: 116
and Reading Proficiency.

CE:132 CONSTRUCTION SCHEDULING  3
Construction scheduling methods to include bar graphs and Critical Path
Method with emphasis on manual and computerized design, calculations, and
interpretation using both arrow and precedence diagramming. Prerequisites: 1
year Algebra and Reading Proficiency.

CE:151 INTRODUCTION TO CIVIL
ENGINEERING AND ARCHITECTURE  3
This course is an introduction to many of the varied factors involved in
building design and construction including building components and systems,
structural design, storm water management, site design, utilities and services,
cost estimation, energy efficiency, and careers in the design and construction
industry. Additional lab hours required. Prerequisites: CE:121 or EGR:147 or
department approval.

CE:230 CONSTRUCTION MATERIALS AND TESTING  3
The properties and standard tests used in construction on soils, aggregates,
britimum products, and concrete. Additional lab hours required. Prerequisites:
Concurrent with ME: 243 and Reading Proficiency.

CE:234 STRUCTURAL ANALYSIS  3
Applications of loads and their transmission through structures; stability and
determinacy; shear and moment in beam/column structures; analysis of trusses;
fluence diagrams; deflection of beams. Prerequisites: Concurrent with ME:
243 and Reading Proficiency.

CE:235 CONSTRUCTION OFFICE PRACTICE  3
The interactive role of organizations in the construction process; the structure
of alternative construction delivery systems, such as general contractor,
construction manager, and design-build contractor; specification and building
codes; cost control reporting systems for construction. Prerequisite: Reading
Proficiency.

CE:236 REINFORCED CONCRETE DESIGN  3
Design and investigation of reinforced concrete beams, columns, slabs, and
footings using the Strength Method in accordance with the 1977 ACI Building
Code. Prerequisites: ME: 243 and Reading Proficiency.

CE:237 STRUCTURAL STEEL DESIGN  3
Investigation and design of structural steel beams, columns, tension members,
welded and bolted connections. Prerequisites: ME: 243 and Reading Proficiency.

CE:238 ENVIRONMENTAL SYSTEMS  3
The general characteristics of environmental systems that includes water
supply, waste water treatment, air pollution, solid waste management, and
hazardous waste disposal. Prerequisite: Reading Proficiency.

CE:240 SURVEYING I  3
This introductory course in land surveying will explore the theory, history and
practice of plane surveying. It includes the use and care of transits, levels,
and tapes, as well as their more modern counterparts. The emphasis of the
course is placed on laboratory problems including but not limited to: area
measurements, elevation determinations, angle collection methods, traverse
calculations, and topographic map compilation. Office and field methods are
covered. Additional hours required. Prerequisites: MTH:134 or MTH:144 or
MTH:170 or MTH:185 and Reading Proficiency.

CE:243 INTRODUCTION TO ENVIRONMENTAL ENGINEERING  3
This course provides an overview of environmental engineering principles
as they pertain to water resources, water pollution, air pollution and solid/
hazardous wastes. Initially, the focus is on population, energy, ecology,
meteorology and human impacts to establish the underlying concepts that are
important to the study of environmental engineering. Subsequently, the focus
shifts to water resources and supply as well as pollution from water, air, and
wastes. Treatment and environmental management methods for the various
types of pollution and environmental problems are presented in a quantitative
manner. The course is quantitative in nature and relies on a background of
chemistry, physics, and mathematics. Prerequisite: Reading Proficiency.

CE:247 LEGAL ASPECTS OF BOUNDARY SURVEYING  3
Topics covered will include legal principles of surveying, Missouri survey law,
legal principles of boundaries, property, monumentation, legal descriptions,
deed interpretations, and legal aspects of surveying and professional liability.
Prerequisites: CE:240 or department approval and Reading Proficiency.

CE:248 FUNDAMENTALS OF LAND SURVEYING  3
This course includes essential elements necessary in the initiation and follow
through of any property survey; evidence of ownership, historical information
in the subdivision of public lands, methods of measurements, description
of property and legal requirements for recording. Prerequisites: CE:240 or
department approval and Reading Proficiency.

CE:250 SURVEYING II  3
This is an intermediate course in land surveying techniques applicable to the
office and field practices. It explores the theory, history and practice of route
surveying, including the use of simple horizontal curves, vertical curves,
spirals, super-elevations and earth-work computations as applied to highway
and railroad surveying. Additional introductory topics may include but are not
limited to: photogrammetry, astronomy and GIS. Additional hours required.
Prerequisites: CE:240 and Reading Proficiency.

CE:253 SURVEYING OFFICE PRACTICES  3
In this course students will gain experience in the software, hardware,
techniques and skills necessary to function in a survey or design office.
Students will become familiar with: estimating, budgeting, scheduling,
personnel management, writing legal descriptions, subdividing and planning
procedures applications, as well as typical ordinances and regulations.
Prerequisites: CE:240 and Reading Proficiency.

CLINICAL LABORATORY TECHNOLOGY

CLT:100 ORIENTATION TO THE MEDICAL LABORATORY  1
Orientation to the profession of medical technology, its functions, specialties
and responsibilities. The philosophy and ethics of the practice of medical
technology are considered and interpersonal relationship of technologist
to medical staff, laboratory staff, patient and other departments. Medical
terminology will be stressed as well. Prerequisites: Admission to program and
Reading Proficiency.

CLT:101 MEDICAL MICROBIOLOGY  3
Theory and principles of micro-organisms and human disease. Growth
requirement of micro-organisms with consideration of media, biochemical
reactions, susceptibility testing will be studied. Application of theory will be
practiced in laboratory sessions. Additional lab hours required. Prerequisites:
Admission to program and Reading Proficiency.

CLT:102 ROUTINE ANALYSIS  2
Theory and principles including basic physiology of the kidney and study of the
body fluids such as urine, gastric contents, bile, pleural fluid. The techniques
and theoretical bases of urine testing and normal and abnormal finding.
Practical application will be taught. Prerequisite: Reading Proficiency.

CLT:103 HEMATOLOGY  3
Theory and principles of physiology of blood forming organs, blood cell
maturations, blood dyscrasia, techniques of staining, counting and differentiating
cell morphology. Also, the theory and principles of the mechanism of
coagulation with analysis of the various factors. Prerequisites: CLT:100 or
CLT:101 and Reading Proficiency.
Course Descriptions

CLT:104 PATHOGENIC BACTERIOLOGY I 4
The study of micro-organisms with emphasis on the bacteria in diseases of man. Theory and principles of isolation, identification, biochemical reactions, growth requirements, susceptibility testing will be considered. Theory and practical application will include lecture, demonstration, laboratory practice, slides, films and examinations. Additional lab hours required. Prerequisites: CLT:101 and Reading Proficiency.

CLT:105 BASIC MEDICAL LABORATORY SKILLS 4
Practice of basic skills common to most clinical laboratories with emphasis on “doing” rather than principles of laboratory testing. Skills such as staining, phlebotomy, pipetting, use of the microscope, practice of diagnostic procedures will be stressed. Prerequisites: CLT:100, CLT:101, CLT:102, CLT:103, CLT:104 and Reading Proficiency.

CLT:200 PATHOGENIC BACTERIOLOGY II 4
The role of micro-organisms in diseases of man with emphasis on differential culture methods is presented, also consideration of media, biochemical reactions, sensitivity and growth requirements. Included is bacteria rickettsia, viruses, mycology and parasitology. Theory principles and practical application will include such methodology as lecture, demonstration, laboratory practice, slides, films and examinations. Additional lab hours required. Prerequisites: CLT:101 or CLT:104 or CLT:105 and Reading Proficiency.

CLT:201 CLINICAL CHEMISTRY I 5
Stresses theory and principles of quantitative and qualitative analysis of body fluids such as blood, urine and spinal fluid as well as feces, calculi and other material. Information about physiology will be included to increase understanding of need for testing, instrumentation and quality control will be taught. Prerequisites: CHM:101, CHM:212, CLT:105 and Reading Proficiency.

CLT:202 CLINICAL PRACTICE I 4
Practical experience is attained in one of the clinical affiliated laboratories. The students rotate through each of the major departments of the clinical (medical) laboratory and are closely supervised by bench technicians and faculty. Rotation and practical experience is gained in microbiology, clinical chemistry, blood bank, hematology, urinalysis, serology and immunology departments. Prerequisites: CLT:105 and Reading Proficiency.

CLT:204 BLOOD BANK 2
Introduction to the basic immunologic and genetic principles governing blood groups and transfusion reaction. Theory and principles of routine laboratory testing procedures will be presented. Additional lab hours required. Prerequisites: CLT:105 and Reading Proficiency.

CLT:205 PATHOLOGY CORRELATION CONFERENCE 1
The inter-relationships of laboratory tests correlated with the disease will be stressed. Significance of laboratory testing and results will be taught with a dynamic overview to diagnosis, and prognosis. Additional hours required. Prerequisites: CLT:202, CLT:204, CLT:210 and Reading Proficiency.

CLT:206 CLINICAL CHEMISTRY II 4
Continuation of CLT:201. In addition, enzyme, hormone, and automation with some practical application will be taught. Prerequisites: CLT:201 and Reading Proficiency.

CLT:207 CLINICAL PRACTICE II 4
A continuation of CLT:202. Twenty-four hours clinical practice each week in hospital or private laboratories. Prerequisites: CLT:202 and Reading Proficiency.

CLT:210 IMMUNOLOGY AND SEROLOGY 2
Study of theory and principles of immunological reaction including antigen antibodies, complement, humoral and cellular response and other body defenses and reaction to infections and non-infectious agents. Serological methodology will also be discussed, demonstrated and practiced. Additional hours required. Prerequisites: CLT:101 and Reading Proficiency.

COLLEGE ORIENTATION

COL:080 ACCESS TO COLLEGE 2
This course is designed as a pilot project called ATC (Access to College) between St Louis Community College-Floresissant Valley and Ferguson-Floresissant Special School District. This course will be for developmental, dual enrolled students in the ATC program. There are two concurrent courses that will be taught in this program - COL:080 and ADA College Preparation Courses. The purpose of the COL:080 course is to facilitate a successful transition experience for students with disabilities who are enrolled in the ATC program. Through interactive learning, ATC students will be introduced to the process as it applies to higher education. Students will learn about college-level study skills and college resources to assist them in their personal and academic adjustment to college. Prerequisite: Students must be enrolled in the ATC (Access to College) Program.

COL:100 FRESHMAN ACADEMIC ORIENTATION 1
Through interactive learning experiences, Freshman Academic Orientation introduces students to college level thinking skills, interpersonal skills, and effective study skills necessary for academic success. Students have the opportunity to participate in a faculty/student academic mentoring program. Prerequisite: Reading Proficiency.

COL:101 COLLEGE SURVIVAL AND SUCCESS 3
This course is designed to facilitate a successful academic experience for first semester Gateway to College students. Students will be assisted in the personal, academic and social adjustments needed for college success. Learning styles, stress management, identification of personal strengths and weaknesses in learning, managing time, and the integration of school, work, and family are emphasized. Credit will not be given for this course if COL:100 and/or COL:507 is also taken. Co-requisite: Concurrent enrollment in the Gateway to College program is required. Prerequisites: Approval from the Gateway to College staff and Reading Proficiency.

COMMUNICATIONS

COM:101 ORAL COMMUNICATION I 3
This is the basic course in speech communication. It offers students an opportunity to explore effective one-to-one, small group, and large group oral communication processes. Emphasis is placed on a theoretical/conceptual approach as well as skill development and application or oral communication concepts to various communication settings and relationships. Prerequisites: Reading Proficiency and concurrent enrollment in RDG:030 or ENG:070.

COM:102 ORAL COMMUNICATION II 3
This course focuses on interpersonal communication skills. The techniques used in this class will include videotaping, class discussion, one-on-one encounters and group interaction. Interpersonal theory will be examined to give the student a comprehensive approach to communication. Prerequisite: Reading Proficiency.

COM:103 SMALL GROUP COMMUNICATION 3
A study of the principles and concepts of small group communication. Students are encouraged to develop and improve their skills for business management, education, community activities and interpersonal communication. Prerequisite: Reading Proficiency.

COM:104 PERSUASION 3
This course examines the principles of persuasion as they apply to a wide variety of communication formats and situations. Students are given the opportunity to analyze and create persuasive messages that pertain to work, relationships, the mass media, and the arts. The course focuses on the skills necessary to become a more effective sender and receiver of persuasive communication. Prerequisite: Reading Proficiency.

COM:105 INTERVIEW PROCESS 3
This course will provide students with an understanding of the interview process, the principles involved, types of interview questions and their uses, and interview structures. Prerequisite: Reading Proficiency.
COM:107 PUBLIC SPEAKING 3
This course studies the role of public speaking in communication through the theory and practice of researching, organizing, and delivering of public presentations. Audience analysis, critical listening, and the ethical dimensions of communication are also emphasized. Skills are developed through practicing speech fundamentals and analyzing contemporary and classical presentations. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

COM:110 ORGANIZATIONAL COMMUNICATION IN A GLOBAL AGE 3
This course examines the communication systems and behaviors within organizations functioning in a global society. Students develop systematic improvement of communication skills as employer and/or employee necessary for success in national and transnational organizations. Additionally, students gain a more in-depth understanding of the way communication functions in organizations including variations in management styles, intercultural communication competence, and effective business presentations and writing. The course also includes opportunities to practice using and evaluating effective communication skills in diverse organizational contexts. Prerequisite: Reading Proficiency.

COM:111 VOICE AND ARTICULATION 3
Principles and practices of improving voice, articulation, pronunciation, foreign and regional dialects. Primary emphasis on individual speech improvement. Frequent use of audio-video tape for self evaluation. Prerequisite: Reading Proficiency.

COM:114 ORAL INTERPRETATION OF LITERATURE 3
This course focuses on the analysis and effective oral communication of literature. Course goals include increasing appreciation and understanding of literature through performance and the development of an expressive and responsive communication style. Prerequisite: Reading Proficiency.

COM:120 GENDER COMMUNICATION 3
This course is aimed at understanding and improving how men and women communicate. Self-disclosure practices, nonverbal symbols and language style will be explored. The images of men and women in society and the media will be discussed. Students will develop strategies to improve communication behaviors. Prerequisite: Reading Proficiency.

COM:200 COMMUNICATION BETWEEN CULTURES 3
This course introduces the topic of Intercultural Communication, including the communication process, perception, verbal/nonverbal symbols, beliefs, values, world view, norms, identity, and social institutions. Barriers such as stereotyping, language, and culture shock are examined as well as case studies, cultural research, relationships, and communication skills. Prerequisite: Reading Proficiency.

COM:201 INTERPERSONAL COMMUNICATION 3
This course will take a theoretical case study examination of interpersonal communication. Relational issues as they pertain to communication will be examined in depth. These issues will include: conflict, stages of relationships, power, assertiveness, message analysis, and self-awareness. Prerequisite: Reading Proficiency.

CRIMINAL JUSTICE

CRJ:101 AMERICAN CORRECTIONAL SYSTEM 3
A study of the correctional process from law enforcement through the administration of justice, probation, parole, prisons and correctional institutions. A study of the history and philosophy of corrections. Prerequisite: Reading Proficiency.

CRJ:102 REHABILITATION, PAROLE, AND PROBATION 3
Analysis and evaluation of the concept and practices of rehabilitation in contemporary correctional systems; discussion of correctional institutions and the various field services. Development, organization, operation and result of systems of probation and parole. Prerequisites: CRJ:101 and Reading Proficiency.

CRJ:111 RULES OF CRIMINAL EVIDENCE 3
The study of basic rules of evidence applicable to the investigation of criminal activities and other related police duties. Emphasis is placed on the question of admissibility of evidence and the practical application of procedural and substantive guarantees. Prerequisite: Reading Proficiency.

CRJ:122 INTRODUCTION TO CRIMINAL JUSTICE 3
The history and philosophy of the system of criminal justice in America, identifying the various sub-systems; role expectations, and their interrelationships; theories of crime, punishment and rehabilitation. Prerequisite: Reading Proficiency.

CRJ:123 JUVENILE JUSTICE 3
The organization, functions and jurisdiction of juvenile agencies; the detention of juveniles and the processing of neglected and abused children. The intent, application, and procedures of the Missouri Juvenile Code; juvenile case disposition, rights of juveniles, crime prevention methods and reporting procedures. Prerequisite: Reading Proficiency.

CRJ:124 CRIMINAL LAW AND PROCEDURES 3
An introduction to the study of criminal, common, and statutory law within the context of enforcement. Prerequisite: Reading Proficiency.

CRJ:206 MANAGEMENT OF HUMAN CONFLICTS 3
Explores the areas of potential conflict that can occur between members of the criminal justice community and various ethnic, racial, and regional subcultures. The root causes of the potential conflicts in both criminal justice organizations and occupational subcultures will be investigated. Issues of prejudice and discriminatory practices, both real and perceived, will be discussed as factors contributing to conflict. Proactive and reactive intervention techniques will be addressed in order to learn how to keep potential conflict from becoming actual conflicts. Prerequisite: Reading Proficiency.

CRJ:207 POLICE SUPERVISION 3
A comprehensive overview of police personnel, recruiting, selection, training, promotion, personnel development, discipline, control, communication, labor relation issues, and current problems and theories facing the first line level police manager. Emphasis is placed on both individual and organizational development. Prerequisite: Reading Proficiency.

CRJ:208 CORRECTIONAL POLICIES AND PROCEDURES 3
The study of policies, procedures and supervision in the field of Corrections. Prerequisites: CRJ:101, CRJ:102 or consent of department and Reading Proficiency.

CRJ:209 CRIMINAL JUSTICE PRACTICUM 3
A field work experience in Criminal Justice organizations. Students are expected to commit themselves to 120 hours of work experience during the semester. Prerequisites: Corrections Option—CRJ:122, CRJ:101 and CRJ:102. Law Enforcement Option—CRJ:122, CRJ:124 and CRJ:111. Reading Proficiency. Concurrent enrollment in CRJ:211.

CRJ:211 CRIMINAL JUSTICE PRACTICUM SEMINAR 3

CRJ:212 CRIMINAL INVESTIGATION 3
The study of the criminal act and its investigation, including specific crimes against persons and property. The process of fact-gathering and problem of legally admissible proof will be considered. Prerequisite: Reading Proficiency.

CULINARY ARTS

CUL:101 SAFETY AND SANITATION 1
This course will prepare students to take the ServSafe Food Protection Manager Certification exam. Content focuses on the sanitation and safety issues involved with handling food through the foodservice process. The course will cover the causes and prevention of foodborne illness, laws for consumer protection, pest prevention, and the principals of Hazard Analysis & Critical Control Points (HACCP). Additional hours required. Prerequisite: Reading Proficiency.
CUL:105  FOOD PREPARATION THEORY  3
The student will gain familiarity with tools, equipment, kitchen organization, recipe conversions, and professionalism. The student will receive theory in the preparations of stocks, soups, sauces, classical vegetable cuts, and basic cooking principles for meat, poultry, seafood, sandwiches, hors d’oeuvre, garde manger, beverages and an introduction to baking principles. Corequisites: CUL:101 and HRM:134. Prerequisites: Reading Proficiency or concurrent enrollment in RDG:030.

CUL:110  FOOD PREPARATION PRACTICAL I  3
The student will master competencies for tools and equipment, kitchen organization, converting and following recipes, applying safety and sanitation, vegetable cuts (American Culinary Federation competition cuts), stocks, soups, sauces, basic cooking methods, and introduction to meat, and poultry preparation. Additional hours required. Prerequisites: Grades of “C” or better in CUL:101 and CUL:105 and Reading Proficiency.

CUL:115  FOOD PREPARATION THEORY & PRACTICAL II  3
This course introduces the student to the subject of meats and their application in foodservice operations. Students will learn about the muscle and bone structure of beef, veal, pork, lamb, poultry and fish; fabrication methods for sub-primal and foodservice cuts; and proper tying and trussing methods. Topics will include meat inspection, quality and yield grading, cost and yield testing, purchasing specifications, preferred cooking methods for all meats, proper knife selection, and butchery equipment. Sanitation and safety standards will be stressed throughout. Additional hours required. Prerequisites: CUL:110 with a minimum grade of “C” and Reading Proficiency.

CUL:120  FOOD PREPARATION THEORY & PRACTICAL III  3
The student will master the foundation of cooking techniques and theories from Food Prep Theory I & II. Emphasis is placed on individual as well as team production. The focus is on cooking fundamentals, ratios, and formulas in a professional kitchen. Additional hours required. Prerequisites: CUL:115 with a minimum grade of “C” and Reading Proficiency.

CUL:150  CULINARY ESSENTIALS FOR THE PASTRY ARTS  3
This course will introduce students enrolled in the Baking and Pastry Arts curriculum to the fundamentals of savory food production. Proper methods of preparing stocks, soups, sauces, classical vegetable cuts, and basic cooking principles for meat, poultry, seafood, sandwiches, breakfast, starches, vegetables, and salads will be paramount. Additional hours required. Prerequisites: CUL:101, HRM:134 and Reading Proficiency.

CUL:201  GARDE MANGER  3
This course is designed for cold food production and Charcuterie. The course will allow the student to develop fundamental principles of the cold kitchen including methods of salad and sandwich preparation, Aspic Gelee, Chaud Froid, Hors de oeuvres, canapes and appetizers, buffet and platter presentations, ice and vegetable carvings, pickling, smoking and condiments. Students will also gain an understanding of various cheese categories and their culinary uses. Additional hours required. Prerequisites: BAP:130 and CUL:120 with minimum grades of “C” and Reading Proficiency.

CUL:205  GLOBAL CUISINE  3
In this course students prepare, taste, serve, and evaluate traditional, regional dishes of Europe and the Mediterranean, Asia, Africa and Middle East. Emphasis will be placed on ingredients, flavor profiles, preparation, and techniques representative of various global cuisines. Additional hours required. Prerequisites: BAP:150 and CUL:120 with minimum grades of “C” and Reading Proficiency.

CUL:210  NUTRITIONAL COOKING  3
This course is a study of nutritional cooking. We know that a healthy diet is based on eating a wide variety of high quality foods that provide balanced nutrition. This course is designed to acquaint foodservice professionals with the knowledge and skills to do so. Additional hours required. Prerequisites: Grades of “C” or better in HRM:128, CUL:115 and BAP:150 and Reading Proficiency.

CUL:215  AMERICAN REGIONAL CUISINE  3
This course introduces the student to regional American cuisine from nine distinct regional culinary and two specialty traditions within North American cuisine. Students will gain the opportunity to develop professional culinary skills in classic and contemporary formats. Additional hours required. Prerequisites: CUL:120 and BAP:150 with minimum grades of “C” and Reading Proficiency.

CUL:230  ICE CARVING  2
In this course, the student will learn the process of making Ice Sculptures. The student will learn the process of making ice, the tools used, and safety. The student will gain the experience of transforming a transparent, fragile, cold and wet block of ice into something “alive”. Additional hours required. Prerequisites: Grade of “C” or better in CUL:201 and Reading Proficiency.

CUL:235  CULINARY COMPETITION SKILLS  3
The student will expand skills that were taught in Garde Manger and Baking. This course will focus on competition techniques in accordance to the American Culinary Federation guidelines. Additional hours required. Prerequisites: Grade of “C” or better in CUL:201 and BAP:150 and Reading Proficiency.

CUL:250  CULINARY ARTS CAPSTONE  6
The course will be operational in nature by requiring the student to use both technical knowledge and managerial ability to organize and complete a commercial simulation of a one meal operation. The application of theory will be used and tested in the lab setting. Additional hours required. Prerequisites: CUL:201, CUL:205, CUL:215 all with a minimum grade of “C” and HRM:205 and Reading Proficiency.

DEAF COMMUNICATION STUDIES

DCS:001  CONVERSATIONAL SIGN II  3
This course is designed for anyone interested in taking only one or two courses to converse with a deaf friend, colleague, fellow student, etc. Students will learn fingerspelling, approximately 1000 words organized into conversational themes or topics. This is not a preliminary course to the Deaf Communication Studies Program.

DCS:104  AMERICAN SIGN LANGUAGE I  5
This course is for students planning to pursue sign language studies in depth. Intensive exposure is given to ASL, allowing development of beginning level communication skills used with Deaf persons. Comprehension of target language is emphasized. ASL linguistic and cultural features are presented in the context of learning experiences. Prerequisite: Reading Proficiency.

DCS:105  AMERICAN SIGN LANGUAGE II  5
Intensive exposure is given to ASL, allowing continued development of intermediate level communication skills utilized in interaction by Deaf persons. Emphasis is given to comprehension and production skills. Linguistic and cultural features are presented in the context of language learning experiences. Prerequisites: DCS:104 and Grade of “C” or better or permission of department and Reading Proficiency.

DCS:106  AMERICAN SIGN LANGUAGE III  5
Continued exposure is given to ASL, allowing greater development of expressive and receptive ASL communication skills. Linguistic features of ASL and cultural features of the American Deaf community are presented in the context of language learning experiences. Prerequisites: Department permission and Reading Proficiency.

DCS:107  FINGERSPELLING  3
This course develops expressive and receptive fingerspelling skills based on word and phrase recognition principles. Because a manual alphabet is used by deaf people, it is essential to develop communication skills in ASL or FSE. Prerequisites: DCS:104 and Reading Proficiency.

DCS:108  ORIENTATION TO INTERPRETING  3
An overview of interpreting as an occupation. Topics include interpersonal skills, professional ethics, parameters of responsibility of the paraprofessional, examination of community resources, and legal ramifications. Prerequisites: DCS:106, DCS:109 with a grade of “C” or better and Reading Proficiency.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>DCS:109</td>
<td>ETYMOLOGY FOR INTERPRETERS</td>
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<td>This course instructs students in the fundamentals of language building, interpreting, translating English idioms in the correct meaning, and identifying the variation of: verbal versatility, multiple meanings, multiple signs, and contextual clues. Concentrated attention is given to English and sign vocabulary development. Students will learn discourse and comparative analysis techniques. Corequisite: DCS:106. Prerequisites: ENG:101 with a grade of “C” or better and department permission and Reading Proficiency.</td>
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<tr>
<td>DCS:110</td>
<td>DEAF THEATRE STUDIES</td>
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<td>This course addresses the special considerations of sign language performance. Emphasis is placed on developing theatrical sign and mime skills. Lectures and field trips are included. The course is open to Deaf and non-Deaf students. Prerequisites: Department permission and Reading Proficiency.</td>
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<tr>
<td>DCS:111</td>
<td>THEORY OF AMERICAN SIGN LANGUAGE</td>
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<td>A course to examine the structural and grammatical principles of ASL. An introductory study of the linguistic and semiotic problems of equivalency in English and American Sign Language will be studied. By incorporating linguistic information into the text analysis process, quality interpretation of English and ASL will result. Prerequisites: Prior or concurrent enrollment in DCS:104 with a grade of “C” or better and Reading Proficiency.</td>
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<td>DCS:115</td>
<td>INTRODUCTION TO DEAF COMMUNICATIONS STUDIES</td>
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<td>This course surveys the aspects of deafness by familiarizing students with the physiology of the ear, causes and types of hearing losses, social and psychological aspects of deafness, national and community organizations (i.e. NAD, RID), and history of deaf education. Prerequisite: Reading Proficiency.</td>
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<td>DCS:116</td>
<td>AMERICAN SIGN LANGUAGE SEMANTICS</td>
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<td>This course is designed to expand student’s knowledge, recognition, and understanding of American Sign Language semantics and semantic units. Focus will be on interpreting and translating ASL idiomatic expressions into equivalent English meaning and usage: developing a recognition of cultural variations of sentence types, time, pronominalization, subjects and objects, classifiers, locatives, pluralization and temporal and distributional aspects. Emphasis will be on cross-cultural influences on language usage and thought. Prerequisites: DCS:104 and DCS:115 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:117</td>
<td>SIGN THEATRE</td>
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<td>This class will explore and mount a small theatre of the deaf production. Theatrical sign and mime skills will be utilized. All students will be involved in developing the ASL translation of a script, building sets and props, and performing. The show will perform for elementary school children on Fridays during class time. Prerequisites: DCS:106 and DCS:110 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:118</td>
<td>SIGN SEMINAR</td>
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<td>This course is designed to provide increased interactive opportunities for students to continue development of their knowledge of vocabulary and grammatical features of ASL. Instructional approaches include discussion, expansion and explanation in the target language. In addition, the course focuses on colloquialisms, varying registers and socially restricted vocabulary in numerous contexts. Prerequisites: DCS:105 with a grade of “C” or better and Reading Proficiency.</td>
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<td>DCS:119</td>
<td>THEORY OF AMERICAN SIGN LANGUAGE LAB</td>
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<td>This course is designed to reinforce concepts taught in DCS:111 (Theory of American Sign Language) within individualized and small group settings. Additional hours required. Corequisite: DCS:111. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>DCS:120</td>
<td>FINGERSPELLING LAB</td>
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<td>This course is designed to reinforce concepts taught in DCS:107 (Fingerspelling) within individualized and small group settings. Additional hours required. Corequisite: DCS:107. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>DCS:121</td>
<td>AMERICAN SIGN LANGUAGE IV</td>
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<td>This course provides continued in-depth exposure to ASL allowing greater development of expressive and receptive ASL communication skill. Advanced linguistic and cultural features are presented in the context of language learning experiences. Prerequisites: DCS:106 with a grade of “C” or better. Reading Proficiency.</td>
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<td>DCS:206</td>
<td>CONSECUTIVE INTERPRETING</td>
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<td>Introduces basic skills necessary for an individual to interpret ASL to English or English to ASL. The course is built around a sequencing of drills and incorporates video and deaf signs. The Code of Ethics is reinforced in the classroom. Prerequisites: DCS:106 and DCS:109 with grades of “C” or better or permission of department and Reading Proficiency.</td>
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<tr>
<td>DCS:207</td>
<td>SIMULTANEOUS INTERPRETING</td>
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<td>Introduces basic skills necessary to simultaneously transiterate Contact/PSE to English or English to Contact/PSE. The course is built around sequencing of drills and exercises and incorporates videos and deaf signs. The Code of Ethics will be reinforced in context. Prerequisites: DCS:106 and DCS:109 with grades of “C” or better or permission of department and Reading Proficiency.</td>
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<tr>
<td>DCS:209</td>
<td>INTERPRETING/TRANSLITERATING LAB</td>
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<td>Designed to reinforce concepts discussed in DCS:206/207 within individualized and small group settings. Concurrent enrollment in DCS:206 or DCS:207. Additional lab hours required. Prerequisite: Reading Proficiency.</td>
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<td>DCS:210</td>
<td>SIGN TO VOICE INTERPRETING</td>
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<td>The purpose of this course is to provide the student an opportunity to build skills in interpreting and transliterating into spoken English from ASL and various contact varieties. Prerequisites: DCS:206, DCS:207 and COM:111 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:211</td>
<td>SPECIALIZED INTERPRETING</td>
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<td>Various interpreting settings are explored, including educational, legal, medical, mental health, religious, platform, rehabilitation, and performing arts. The course also develops an understanding of additional types of communication techniques, such as interpreting for those who are deaf-blind, oral or exhibit minimal language skills. Prerequisites: DCS:105 and COM:111 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:212</td>
<td>DEAF HISTORY AND CULTURE</td>
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<td>This course helps students understand historical values and traditions within the culture of Deaf people. Traditions include use of humor, success stories and behaviors of empowerment. Values include the importance of clubs, perspectives on education of Deaf children, interpreter services and the preservation of ASL. Prerequisites: DCS: 211 with a grade of “C” or better or approval of department chair and Reading Proficiency.</td>
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<tr>
<td>DCS:213</td>
<td>PROFESSIONAL ISSUES AND ETHICS</td>
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<td>This course will explore the current role of the interpreter as a professional. Topics will include, but not be limited to, the art of cross-cultural mediation, ethical standards, application of interpreting theories, resume development and business practices. This course will prepare students for the workplace learning experience. Prerequisites: DCS:211 and DCS:216 both with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:214</td>
<td>INTERACTIVE INTERPRETING</td>
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<td>This skill development course will provide students with the opportunity to practice skills associated with interactive interpreting situations. Students will use both consecutive and simultaneous interpreting methods. Interactive interpreting refers to the process of initiating an interpretation both manual and verbal during a variety of interview and one-on-one situations (mental health, medical, employment, educational and business). Students will begin working with isolated cognitive subtasks (critical listening, analyzing the information, constructing the interpretation and generating the interpretation) of interpretation and work to integrate component skills to perform an interactive interpretation. Prerequisites: DCS:210, DCS:216 and DCS:217 with grades of “C” or better and Reading Proficiency.</td>
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### Course Descriptions

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>DCS:215</td>
<td><strong>INTERPRETER SEMINAR</strong></td>
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<td>This course is designed to provide increased interactive opportunities for students to continue the development of their knowledge of the interpreting process. Instructional approaches include discussion, expansion, and explanation of interpreting and transliterating. In addition, the course focuses on cross cultural mediation and discourse analysis. Prerequisites: DCS:206 and DCS:207 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:216</td>
<td><strong>EDUCATIONAL INTERPRETING - CLASSROOM APPLICATIONS</strong></td>
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<td>This course is designed to focus on the principles of interpreting within the framework of an educational system. Procedures and strategies for effective communication in the educational setting are discussed. The role of the educational interpreter to facilitate communication between Deaf individuals and their peers, educational instructors, staff and students is stressed. Also emphasized is the interpreter as a member of the educational team. Prerequisites: DCS:206 and DCS:207 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:217</td>
<td><strong>TRANSLATION APPLICATIONS OF ASL</strong></td>
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<td>This is a skill development course based on English written text analysis and American Sign Language equivalent meaning and appropriate interpretation with conceptual accuracy. Students will engage in the analysis, discussion and translation of ASL and/or English texts from one language into the other. Student demonstration of translations will be used to discuss meaning and degrees of equivalency. The discourse style of American English and Sign Language usage will be analyzed to distinguish the patterns of low and high context usage, linguistic structure and cultural differences. Prerequisites: DCS:216 with a grade of “C” or better or concurrent enrollment in DCS:216 and Reading Proficiency.</td>
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<tr>
<td>DCS:218</td>
<td><strong>PRE-WORKPLACE LEARNING</strong></td>
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<td>This course will prepare students to enter the workplace learning experience. Topics will include: professional organizations, certification, contextual factors, market analysis, time management, business management, consumer attitudes and minority accommodations. Prerequisites: DCS:206 and DCS:207 with grades of “C” or better and Reading Proficiency.</td>
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<tr>
<td>DCS:219</td>
<td><strong>WORKPLACE LEARNING: DEAF COMMUNICATION STUDIES</strong></td>
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<td>This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of interpreting to enhance their preparation for entering the field. Minimum of 150 hours in the workplace throughout the term. Prerequisites: DCS:206, DCS:207, DCS:218 with grades of “C” or better and Reading Proficiency.</td>
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### DENTAL ASSISTING

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<tr>
<th>Course Code</th>
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<tr>
<td>DA:143</td>
<td><strong>CHAIRSIDE ASSISTING: OPERATIVE DENTISTRY</strong></td>
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<td>This course provides the basic principles and theory of common restorative dental procedures. Emphasis is placed on instrumentation and materials preparation and use, and the assistant’s role in chairside restorative procedures. Corequisite: DA:164. Prerequisites: DA:144 and DA:151, current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<td>DA:144</td>
<td><strong>PRECLINICAL PRACTICE</strong></td>
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<td>This preclinical course gives the student an opportunity to apply knowledge and practice basic dental assisting skills and clinical support functions in the laboratory setting. Additional lab hours required. Corequisites: DA:149, DA:150, DA:151 and DA:159. Prerequisites: Current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:149</td>
<td><strong>DENTAL TERMINOLOGY</strong></td>
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<td>An introduction to the structure and function of teeth and oral cavity components. Additional topics include dental charting and restorative terms. Prerequisites: Current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:150</td>
<td><strong>INFECTION CONTROL IN DENTISTRY</strong></td>
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<td>This course will cover the process of disease transmission, methods and agents for sterilization and disinfection, universal precautions, and means of protection for the dental team and patient. Corequisite: DA:144. Prerequisites: Current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<td>DA:151</td>
<td><strong>FUNDAMENTALS OF CHAIRSIDE ASSISTING</strong></td>
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<td>This course introduces the student to patient and treatment room preparation, data collection, four-handed dentistry techniques common to all dental procedures, and recognition and management of medical emergencies. Corequisite: DA:144. Prerequisites: Current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<td>DA:157</td>
<td><strong>DENTAL RADIOLOGY</strong></td>
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<td>This course will cover radiation production, safety and protection, exposure and processing procedures, and quality assessment of radiographs. Lab emphasis placed on developing proficiency in intraoral exposure techniques. Additional lab hours required. Corequisite: DA:164. Prerequisites: Current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<td>DA:159</td>
<td><strong>DENTAL OFFICE PROCEDURES</strong></td>
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<td>An introduction to procedures associated with the business aspects of the dental office that include scheduling appointments, telephone and written correspondence, and records management. Corequisite: DA:144. Prerequisites: Current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:161</td>
<td><strong>DENTAL ASSISTING PRACTICUM</strong></td>
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<td>This course introduces the student to the dental office and provides an opportunity for the application of basic dental assisting skills and clinical support functions. Additional hours required. Prerequisites: DA:144, DA:164, and current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:162</td>
<td><strong>DENTAL SYSTEMS MANAGEMENT</strong></td>
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<td>An introduction to the use and application of dental computer software for data entry and records management. The student will learn how to use dental software and will explore its utilization potential in the modern dental office. Prerequisites: DA:159 and current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:164</td>
<td><strong>CLINICAL APPLICATIONS I</strong></td>
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<td>Theoretical knowledge is applied in the clinical lab setting. Emphasis is on developing skill in assisting with restorative procedures and manipulating dental materials. Additional lab hours required. Corequisites: DA:143, DA:157 and DA:165. Prerequisites: DA:144, current enrollment in Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:165</td>
<td><strong>DENTAL MATERIALS</strong></td>
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<td>This course presents the basic physical properties and technical aspects of materials used in restorative and laboratory procedures with emphasis on restorative materials, dental cements, gypsum products, and impression materials. Prerequisites: Current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:166</td>
<td><strong>DENTAL LAB PROCEDURES</strong></td>
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<td>This course is a continued study of dental materials, focusing on those materials used in the fabrication of appliances and prostheses. Lab sessions give the student an opportunity to develop skill in manipulation of material and use of lab equipment. Additional lab hours required. Corequisite: DA:174. Prerequisites: DA:164, DA:165, current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:167</td>
<td><strong>DENTAL RADIOLOGY II</strong></td>
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<td>A study of the principles of extraoral radiography, variations in intraoral radiographic procedures, physical properties and biological effects of radiation, and the appearance of normal anatomical structures and pathological conditions. Corequisite: DA:174. Prerequisites: DA:157, current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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<tr>
<td>DA:168</td>
<td><strong>INTEGRATED DENTAL SCIENCES</strong></td>
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<td>A study of basic anatomy and physiology with emphasis on structures of the head, neck, and oral cavity. Dental anatomy, oral embryology and histology, oral pathology, and pharmacology are also covered in this course. Prerequisites: DA:149, current enrollment in the Dental Assisting program and Reading Proficiency.</td>
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DA:169 PREVENTIVE DENTAL HEALTH
A study of the principles of preventive dentistry in terms of oral health maintenance and nutrition. This course emphasizes the dental assistant’s role in dental health teaching, patient motivation, and preventive intraoral procedures. Corequisite: DA:174. Prerequisites: Current enrollment in the Dental Assisting program and Reading Proficiency.

DA:172 DENTAL PRACTICE MANAGEMENT
A study of principles and procedures related to the daily operation and management of the dental office. Additional topics include resume preparation and interviewing skills, discussion of legal and ethical issues, and interpersonal work relations. Prerequisites: DA:159, DA:162, current enrollment in the Dental Assisting program and Reading Proficiency.

DA:173 CHAIRSIDE ASSISTING: DENTAL SPECIALTIES
This course covers the scope and function of the dental specialties, as well as terminology, instrumentation, and treatment procedures unique to each specialty. Emphasis is placed on the assistant’s role in chairside procedures and patient teaching. Corequisite: DA:174. Prerequisites: DA:151, DA:161, current enrollment in the Dental Assisting program and Reading Proficiency.

DA:174 CLINICAL APPLICATIONS II

DA:175 DENTAL ASSISTING PRACTICUM II
A continuation of practical experience in the general or specialty dental office. The student will acquire new skills and increase proficiency in four-handed dentistry techniques, lab procedures, and clinical support functions. Additional hours required. Corequisite: DA:174. Prerequisites: DA:161, current enrollment in the Dental Assisting program and Reading Proficiency.

DA:176 DENTAL ASSISTING PRACTICUM III
The student will assume the role and responsibilities of the dental assistant as an integral member of the dental team during this final phase of clinical experience. Emphasis is placed on the application of theoretical knowledge and practical skills in performing advanced dental assisting procedures and clinical support functions. Additional hours required. Corequisite: DA:174. Prerequisites: DA:161, DA:175, current enrollment in Dental Assisting program and Reading Proficiency.

DA:201 EXPANDED FUNCTIONS I
Techniques and concepts of restorative and preventive expanded function procedures delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include placing retraction cord, making impressions for fixed and removable prostheses, extra-oral adjustment of prostheses, cementation of permanent appliances or prostheses, and placement of temporary soft liners. Additional lab hours required. Prerequisites: Current enrollment in the Dental Assisting program or department approval and Reading Proficiency.

DA:202 EXPANDED FUNCTIONS II
Techniques and concepts of prosthodontic expanded function procedure delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include: preliminary bending of archwires, placement and cementation of bands and brackets, removal of orthodontic bands and brackets, palliative care of orthodontic emergencies. Additional lab hours required. Prerequisites: Current enrollment in the Dental Assisting program or department approval and Reading Proficiency.

DA:203 EXPANDED FUNCTIONS III
Techniques and concepts of orthodontic expanded function procedures delegated to dental assistants in the state of Missouri as specified in the rules and regulations set forth in the Missouri Dental Practice Act. Procedures include: preliminary bending of archwires, placement and cementation of bands and brackets, removal of orthodontic bands and brackets, palliative care of orthodontic emergencies. Additional lab hours required. Prerequisites: Current enrollment in the Dental Assisting program or department approval and Reading Proficiency.

DENTAL HYGIENE

DHY:120 CONCEPTS OF PRE-CLINICAL DENTAL HYGIENE I
Development of basic foundations for competent delivery of preventive, therapeutic, and educational dental hygiene services to the public. Establish a solid knowledge base for assessment, planning, implementation and evaluation of patient care. Theory and practical aspects of prevention of disease transmission and pre-treatment patient evaluation are emphasized. Basic instrumentation design and technique for use are covered in depth. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level and Reading Proficiency.

DHY:121 CLINICAL APPLICATIONS LAB I
Application of introductory clinical assessment techniques. Theory and application of pit and fissure sealants. Proper positioning for the patient, operator, and dental unit for delivering effective patient treatment. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level and Reading Proficiency.

DHY:125 PERIODONTICS I
A study of the healthy periodontium and an introduction to gingival conditions and diseases. Acquired soft and hard deposits as well as the microbiology of periodontal diseases are covered in depth. Methods of basic oral physiotherapy are introduced. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:126 DENTAL RADIOLOGY I
A study of the production and effects of radiation. Emphasis is given to the effects of variations in exposure control factors, personnel and patient safety measures, and dental radiographic film and film processing. Anatomical landmarks, and their radiographic presentation are introduced. Techniques for placing, positioning, exposing, processing and mounting intraoral radiographs are covered in depth. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:127 ORAL ANATOMY
Introductory study of the teeth, as well as intraoral and perioral structures. Anatomical features of the teeth and oral cavity are covered in depth. Processes and techniques for constructing dental chartings and dentition findings documentations are detailed. The dental caries process is introduced. Rationales and techniques for the use of pit and fissure sealants, as a supportive primary preventive procedure, are presented. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency.

DHY:128 BIOMEDICAL SCIENCES FOR THE DENTAL HYGIENIST
This course is designed to acquaint the dental hygiene student with the basic principles of pathophysiology. It will deal with selected conditions of the cardiovascular, respiratory, immune, nervous and endocrine systems. Emphasis is on the relationship between these conditions and potential actions and treatment modifications in the dental health care setting. Prerequisites: Current enrollment in the Dental Hygiene program, BIO:207, BIO:208, CHM:101 and Reading Proficiency.

DHY:129 DENTAL-MEDICAL EMERGENCIES
Survey of defects/medical problems that have dental management implications and/or possible medical emergency sequence. Prompt, accurate and ethical emergency prevention, preparation and management techniques are detailed with related legal implications. Prerequisites: Current enrollment in the Dental Hygiene program and Reading Proficiency. One lecture hour per week.

DHY:130 CONCEPTS OF CLINICAL DENTAL HYGIENE II
Techniques for the assessment of medical status and dental conditions as a basis for the dental hygiene diagnosis, and learning theory as a basis for patient education, are covered. Fluoride, as an individual and a community primary preventive measure, is emphasized. Extrinsic stain removal principles are included. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:120, DHY:121 and Reading Proficiency.
Course Descriptions

DHY:131 CLINICAL APPLICATIONS LAB II
Application of clinical assessment techniques and carries prevention agents, and instrument care and maintenance. Theory and application of periodontal probe instrumentation, and prostheses and appliances care and maintenance. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level. DHY:120, DHY:121 and Reading Proficiency.

DHY:132 CLINICAL DENTAL HYGIENE II
Patient contact is established and coordinates with application of the theories, principles, and responsibilities related to dental hygiene practice at the student’s current level of knowledge. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:120, DHY:121 and Reading Proficiency.

DHY:136 DENTAL NUTRITION AND BIOCHEMISTRY
This course is designed to acquaint the student with the concepts of biochemistry and cell metabolism, especially those which are required for a clear understanding of nutrition. Major topics of the course include energy balance and the chemistry, digestion, and metabolism of proteins, carbohydrates and fats. Emphasis is on the importance and function of nutrients for health and disease prevention and the relation of nutrition and oral health. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, BIO:207, BIO:208, CHM:101 and Reading Proficiency.

DHY:137 ANATOMY AND EMBRYOLOGY OF THE HEAD AND NECK
This course covers the gross morphology and embryology of the structures of the head and neck. Lectures in embryology emphasize development of the face and oral structures. Lectures on gross morphology emphasize the cranial nerves (especially the trigeminal and facial), the muscles of mastication and facial expression, and the blood and lymphatic vessels of the head and neck. Prerequisites: Current enrollment in the Dental Hygiene program, BIO:207, BIO:208 and Reading Proficiency.

DHY:138 GENERAL AND ORAL PATHOLOGY
An introduction to general pathology with emphasis on oral pathosis. Oral diseases and oral manifestations of systemic diseases are studied in depth. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:127 and Reading Proficiency.

DHY:142 CLINICAL DENTAL HYGIENE SUMMER
Students continue to apply the learned theories, principles and responsibilities related to the field of dental hygiene practice in the dental hygiene clinic. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level. DHY:132, DHY:130, DHY:131 and Reading Proficiency.

DHY:215 PAIN CONTROL
Theory and clinical applications of pain control interventions appropriate for use within the context of dental hygiene care delivery. The psychology, physiology, and pharmacology of pain control are covered, with emphasis on the prevention, recognition and management of adverse reactions. Interventions within the legal scope of dental hygiene practice in Missouri are the focus of this course. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:137 and Reading Proficiency.

DHY:220 CONCEPTS OF CLINICAL DENTAL HYGIENE II
Introduction of additional clinical dental hygiene procedures including advanced periodontal instrumentation and skills to further develop the assessment and implementation of the dental hygiene diagnosis and treatment plan. Theories and principles for the use of power scalers, air polishers, pulp vitality testers, cast and models, tooth bleaching, and tray fabrication and use of the intraoral camera are covered. Research assignments for review of the current literature will continue. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:142, DHY:215, ENG:101 and Reading Proficiency.

DHY:221 CLINICAL APPLICATIONS LAB III
Application of clinical dental hygiene concepts learned in Clinical Dental Hygiene III. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:142, DHY:215 and Reading Proficiency.

DHY:222 CLINICAL DENTAL HYGIENE III
Students continue to apply the learned theories, principles and responsibilities related to the field of dental hygiene practice in the dental hygiene clinic and at community dental health facilities. Additional dental hygiene modalities will be implemented into patient treatment care. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:142, DHY:215, COM:101 and Reading Proficiency.

DHY:223 COMMUNITY PUBLIC HEALTH
This course is designed to provide a study of the history, economics, and management of the public health organization, its delivery, and supportive services. Included are the assessment and control of dental disease through dental personnel roles in schools, industry, civic, and public organizations. Emphasis is placed on examinations of the principles of public health, epidemiological methods of investigation, the US health care system, basic concepts in research and biostatistics and community based program planning. Introduction to techniques for evaluating dental/dental hygiene literature is established. Prerequisites: Current enrollment in the Dental Hygiene program, ENG:101, COM:101 and Reading Proficiency.

DHY:225 PERIODONTICS II
Advanced study of the periodontium in disease. Periodontitis, and its various presentations, is covered in depth, with emphasis on assessment methods and dental hygiene interventions. Basic surgical concepts are introduced. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:125, DHY:138, BIO:203, ENG:101 and Reading Proficiency.

DHY:226 DENTAL RADIOLOGY II
Advanced study of supplemental dental radiographic techniques and procedures used in contemporary dental practices and facilities. Emphasis is given to extraoral and digital radiography techniques. Supplemental procedures for edentulous and pediatric dental patients are presented. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:126 and Reading Proficiency.

DHY:228 DENTAL PHARMACOLOGY
A study of pharmaceutical classifications, properties and effects. Emphasis is given to the systemic effects of drugs and their dental implications in the management of various medical conditions. Prerequisites: Current enrollment in the Dental Hygiene program, BIO:203 and Reading Proficiency.

DHY:230 TRANSITION INTO PROFESSIONAL DENTAL HYGIENE PRACTICE
Dental hygiene care for cancer patients, dental implants and suspected cases of child abuse are introduced. The health care provider-patient legal relationship and state rules and regulations for the practice of dentistry and dental hygiene are emphasized. Employment-seeking skills are covered. This course includes a community service practicum learning component. Additional hours required. Prerequisites: Current enrollment in the Dental Hygiene program, DHY:220, DHY:221, DHY:222, DHY:223 and Reading Proficiency.

DHY:232 CLINICAL DENTAL HYGIENE IV
Patient care continues and coordinates with the application of the theories, principles, and responsibilities related to dental hygiene practice in the dental clinic and at off-campus community rotation sites. Students will also complete a community service practicum field experience as a component of this course. Additional lab hours required. Prerequisites: Current enrollment in the Dental Hygiene program, CPR health care provider level, DHY:220, DHY:221, DHY:222 and Reading Proficiency.

DIAGNOSTIC MEDICAL SONOGRAPHY
DMS:101 CLINICAL FOUNDATIONS OF ULTRASOUND
Topics covered in this course include general pathology and pathophysiology, ultrasound terminology, clinical laboratory tests and diagnostic procedures, patient interview and examination techniques, chart and referral evaluation and embryology. Prerequisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency.
DMS:102  MEDICAL ETHICS AND PROFESSIONAL ISSUES  2
This course will examine a number of topics including principles of psychological support, professional interaction skills, multicultural diversity, professional codes of conduct and scopes of practice, pertinent legal principles, administrative procedures and trends in healthcare systems. Prerequisites: Current enrollment in the program or permission of the program director and Reading Proficiency.

DMS:103  ULTRASONOGRAPHY AND INSTRUMENTATION I  2
Topics covered in this course include basic physical principles of ultrasound, Doppler principles and ultrasound equipment controls. Emphasis will be placed on control manipulation and parameters required for optimum sonographic examinations. Prerequisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency.

DMS:104  ULTRASONOGRAPHY AND INSTRUMENTATION II  3
Topics in the course include transducer parameters, principles of ultrasound instruments and modes of operation, principles of Doppler techniques, methods of Doppler flow analysis and acoustic artifacts. Prerequisites: Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency.

DMS:105  MEDICAL SONOGRAPHY I  3
This course will present normal sectional anatomy and patterns for the most common examinations within abdominal and OB/GYN sonography. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical sonographic patterns related to the most common abnormalities encountered in the clinical environment. Prerequisites: Current enrollment in the Medical Sonography learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency.

DMS:106  MEDICAL SONOGRAPHY SCANNING TECHNIQUES I  1
Laboratory demonstration and student performance of standard protocols for the most common abdominal, obstetric and gynecologic sonographic examinations, with emphasis on normal anatomy and pattern recognition. Additional lab hours required. Prerequisites: Current enrollment in the Medical Sonography learning concentration or permission of the program director and Reading Proficiency.

DMS:107  MEDICAL SONOGRAPHY PRACTICUM I  2
Observation and initial scanning experience of abdominal, obstetrical and gynecologic sonographic examinations. Additional hours required. Prerequisites: Current enrollment in the Medical Sonography learning concentration or permission of the program director and Reading Proficiency.

DMS:108  MEDICAL SONOGRAPHY II  3
Further study of the clinical applications of abdominal, obstetric and gynecologic sonography. Lecture topics include the pathologic basis, clinical signs and symptoms, related diagnostic procedures and typical sonographic patterns of common and rare conditions and abnormalities encountered in the clinical setting. Prerequisites: DMS:105 or permission of the program director and Reading Proficiency.

DMS:109  MEDICAL SONOGRAPHY SCANNING TECHNIQUES II  1
Laboratory demonstration and student performance of standard protocols for superficial structures and less common examinations within abdominal and OB/GYN sonography, with emphasis on normal anatomy and pattern recognition. Additional lab hours required. Prerequisites: DMS:106 or permission of the program director and Reading Proficiency.

DMS:110  MEDICAL SONOGRAPHY CLINICAL APPLICATIONS I  2
Review of abnormal abdominal sonographic examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:105 or permission of the program director and Reading Proficiency.

DMS:111  MEDICAL SONOGRAPHY PRACTICUM II  3
Clinical performance of abdominal, obstetrical and gynecologic sonographic examinations under the supervision of experienced sonographers. Additional hours required. Prerequisites: DMS:107 or permission of the program director and Reading Proficiency.

DMS:112  CARDIAC SONOGRAPHY I  3
This course will present normal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to cardiac sonography. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical findings related to the most common types of adult cardiac disease. Prerequisites: Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency.

DMS:113  CARDIAC SONOGRAPHY SCANNING TECHNIQUES I  1
Laboratory demonstration and student performance of standard protocols for transthoracic adult cardiac sonographic examinations, with emphasis on normal 2-D, M-Mode and Doppler pattern recognition. Additional lab hours required. Prerequisites: Current enrollment in the Cardiac learning concentration or permission of the program director and Reading Proficiency.

DMS:114  CARDIAC SONOGRAPHY PRACTICUM I  2
Observation and initial scanning experience of transthoracic adult cardiac sonographic examinations. Additional hours required. Prerequisites: Current enrollment in the Cardiac Sonography learning concentration, Diagnostic Medical Sonography Program or permission of the program director and Reading Proficiency.

DMS:115  CARDIAC SONOGRAPHY II  3
Presentation of the clinical applications of cardiac sonography including the pathophysiologic basis, clinical signs and symptoms and typical findings related to acquired and congenital adult cardiac disease. Prerequisites: DMS:112 or permission of the program director and Reading Proficiency.

DMS:116  CARDIAC SONOGRAPHY SCANNING TECHNIQUES II  1
Laboratory demonstration and performance of pulsed and continuous wave Doppler examinations and less common protocols in cardiac sonography including stress echo and the use of contrast agents. Additional lab hours required. Prerequisites: DMS:113 or permission of the program director and Reading Proficiency.

DMS:117  CARDIAC SONOGRAPHY CLINICAL APPLICATIONS II  2
Review of abnormal cardiac sonographic examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:112 or permission of the program director and Reading Proficiency.

DMS:118  CARDIAC SONOGRAPHY PRACTICUM II  3
Clinical performance of transthoracic adult cardiac sonographic examinations under the supervision of experienced sonographers. Additional hours required. Prerequisites: DMS:114 or permission of the program director and Reading Proficiency.

DMS:119  VASCULAR TECHNOLOGY I  3
This course will present normal sectional anatomy, hemodynamics, patient assessment and diagnostic testing related to Vascular Technology. An introduction to clinical applications will include the pathophysiologic basis, clinical signs and symptoms and typical findings related to the most common vascular examinations. Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the program director and Reading Proficiency.

DMS:120  VASCULAR TECHNOLOGY SCANNING TECHNIQUES I  1
Laboratory demonstration and student performance of standard protocols for the most common venous and arterial examinations, with emphasis on recognition of normal gray scale and Doppler patterns. Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the program director and Reading Proficiency.

DMS:121  VASCULAR TECHNOLOGY PRACTICUM I  2
Observation and initial scanning experience of arterial and venous vascular examinations. Additional hours required. Prerequisites: Current enrollment in the Vascular Technology learning concentration or permission of the program director and Reading Proficiency.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DMS:122</td>
<td>VASCULAR TECHNOLOGY II</td>
<td>3</td>
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<tr>
<td></td>
<td>Further study of the clinical applications of Vascular Technology including the pathophysiologic basis, clinical signs and symptoms, related diagnostic procedures and typical findings of common and rare conditions of the carotid and lower extremity vascular systems. Prerequisites: DMS:119 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:123</td>
<td>VASCULAR TECHNOLOGY SCANNING TECHNIQUES II</td>
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<td>Laboratory demonstration and performance of standard protocols for both common and rare examinations, including transcranial and periorbital Doppler, vein mapping and the upper extremity venous and arterial examinations. Additional lab hours required. Prerequisites: DMS:120 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:124</td>
<td>VASCULAR TECHNOLOGY CLINICAL APPLICATIONS II</td>
<td>12</td>
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<td></td>
<td>Review of abnormal vascular examinations of the carotid and lower extremities in order to further develop critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:119 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:125</td>
<td>VASCULAR TECHNOLOGY PRACTICUM II</td>
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<td></td>
<td>Clinical performance of vascular procedures under the supervision of an experienced Vascular Technologist. Additional hours required. Prerequisites: DMS:121 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:201</td>
<td>ULTRASOUND PHYSICS AND INSTRUMENTATION III</td>
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<td>Topics in this course include quality assurance procedures, biological effects, 3-D ultrasound applications and a general review in preparation for the certification examinations in physics and instrumentation. Prerequisites: DMS:104 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:202</td>
<td>MEDICAL SONOGRAPHY III</td>
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<td>A study of the clinical applications of superficial structures, including the pathophysiologic basis, clinical signs and symptoms, related diagnostic tests and typical sonoarchitectural patterns of common and rare conditions encountered in the clinical setting. Additional hours required. Prerequisites: DMS:108 or permission of the program director and Reading Proficiency.</td>
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<td>DMS:203</td>
<td>MEDICAL SONOGRAPHY PRACTICUM III</td>
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<td>A continuation of clinical experience achievement of minimal competency in the most common examinations. Additional hours required. Prerequisites: DMS:111 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:204</td>
<td>MEDICAL SONOGRAPHY IV</td>
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<td>This course will present normal sectional anatomy and patterns, and the clinical applications for neonatal neurosonography and the pediatric abdomen and pelvis. The remainder of the course will consist of review in preparation for the certification examinations in Abdomen and OB/GYN sonography. Prerequisites: DMS:202 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:205</td>
<td>MEDICAL SONOGRAPHY CLINICAL APPLICATIONS II</td>
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<td>A further review of less common sonoarchitectural examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:110 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:206</td>
<td>MEDICAL SONOGRAPHY PRACTICUM IV</td>
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<td>Students will complete all clinical competency requirements for the specialties of abdomen, OB/GYN and superficial structures. Additional hours required. Prerequisites: DMS:203 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:207</td>
<td>CARDIAC SONOGRAPHY III</td>
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<td>Further study of the clinical applications of cardiac sonography including pediatric applications and other advanced and/or rare imaging techniques. Additional hours required. Prerequisites: DMS:115 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:208</td>
<td>CARDIAC SONOGRAPHY PRACTICUM III</td>
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<td>A continuation of clinical experience with achievement of minimal competency in the most common types of examinations. Additional hours required. Prerequisites: DMS:118 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:209</td>
<td>CARDIAC SONOGRAPHY IV</td>
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<td>Further study of the clinical applications of cardiac sonography, including fetal echocardiography. The remainder of the course will consist of review in preparation for the certification examination in cardiac sonography. Prerequisites: DMS:207 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:210</td>
<td>CARDIAC SONOGRAPHY CLINICAL APPLICATIONS II</td>
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<td>A further review of more rare abnormal cardiac sonoarchitectural examinations in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and the results of other diagnostic tests with the results of the sonographic examination. Prerequisites: DMS:117 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:211</td>
<td>CARDIAC SONOGRAPHY PRACTICUM IV</td>
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<td>Students will complete all clinical competency requirements for adult cardiac sonography. Additional hours required. Prerequisites: DMS:208 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:212</td>
<td>VASCULAR TECHNOLOGY III</td>
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<td>Further study of the clinical applications of vascular technology including abdominal Doppler applications and other advanced and/or rare examinations. Additional hours required. Prerequisites: DMS:122 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:213</td>
<td>VASCULAR TECHNOLOGY PRACTICUM III</td>
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<td>A continuation of clinical experience with achievement of minimal competency in the most common vascular examinations. Additional hours required. Prerequisites: DMS:125 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:214</td>
<td>VASCULAR TECHNOLOGY IV</td>
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<td>Topics in this course will include therapeutic interventions, intraoperative monitoring and the use of ultrasound contrast agents. The remainder of the course will consist of review in preparation for the certification examinations in Vascular Technology. Prerequisites: DMS:212 or permission of the program director and Reading Proficiency.</td>
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<tr>
<td>DMS:215</td>
<td>VASCULAR TECHNOLOGY CLINICAL APPLICATIONS II</td>
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<td>Review of abnormal vascular examinations of the cerebrovascular system, upper and lower extremity, and the abdomen in order to further develop the critical thinking skills required to correlate the clinical history, clinical signs and symptoms and the results of other diagnostic tests with the results of the sonoarchitectural examination. Prerequisites: DMS:124 and Reading Proficiency.</td>
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<tr>
<td>DMS:216</td>
<td>VASCULAR TECHNOLOGY PRACTICUM IV</td>
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<td>Students will complete all clinical competency requirements for the specialty of Vascular Technology. Additional hours required. Prerequisites: DMS:213 and Reading Proficiency.</td>
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<tr>
<td>DIE:101</td>
<td>DIESEL ENGINE OPERATION AND REPAIR</td>
<td>3</td>
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<td>This course examines through practical application the theories of operation, construction, maintenance, disassembly, and assembly of the diesel engine and its supporting systems; including lubrication system, cooling system, and engine brakes. Additional lab hours required. Prerequisite: Reading Proficiency.</td>
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<td>DIE:102</td>
<td>MEDIUM/HEAVY TRUCK SUSPENSION AND STEERING</td>
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<td>This course examines through practical application the types of suspension and steering systems found on medium and heavy trucks. Emphasis will be in areas of manual steering gears and columns, power steering gears, suspension system components, wheel alignment diagnosis, and wheel &amp; tire diagnosis and repair. Additional lab hours required. Prerequisite: Reading Proficiency.</td>
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<tr>
<td>DIE:103</td>
<td>MEDIUM/HEAVY TRUCK ELECTRICITY</td>
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<td>This course examines through practical application the theories of basic electricity and the diagnostic equipment used to perform general electrical system diagnosis of medium and heavy truck batteries, starting systems, charging systems, and lighting systems. Additional lab hours required. Prerequisite: Reading Proficiency.</td>
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</table>
DIE:104 ELECTRONIC INFORMATION SYSTEMS 3
This course will introduce the student to current repair and information systems for trucks. Emphasis will be on computer based systems and on interpreting specifications in both metric and English systems of measurement. Prerequisite: Reading Proficiency.

DIE:105 DIESEL FUEL SYSTEMS 3
This course examines through practical application the theories of operation, construction, maintenance, and service of diesel engine fuel systems including: air induction and exhaust systems, mechanical fuel injection systems, and electronic fuel injection systems. Additional lab hours required. Prerequisite: Reading Proficiency.

DIE:106 MEDIUM/HEAVY TRUCK BRAKES 3
This course examines through practical application the types of brake systems found on medium and heavy trucks. Emphasis will be in areas of air brakes, foundation brakes, parking brakes, anti-lock brakes, and power brakes. Additional lab hours required. Prerequisite: Reading Proficiency.

DIE:107 MEDIUM/HEAVY TRUCK ELECTRONICS 3
This course examines through practical application the theories of electronics and diagnostic equipment used to perform general electronic system diagnosis and repair of medium and heavy truck gauge and warning devices, electronic fuel injection, anti-lock brakes, and electrical accessories. Additional lab hours required. Prerequisites: DIE:103 and Reading Proficiency.

DIE:201 PREVENTIVE MAINTENANCE INSPECTION 3
This course examines through practical application the areas of inspection and maintenance on medium and heavy trucks. To include: engine, fuel system, cooling system, lubrication system, cab and hood, electrical, drive train, brakes, and tires and wheels. Additional lab hours required. Prerequisite: Reading Proficiency.

DIE:202 CO-OP WORK EXPERIENCE I - DIESEL TECHNOLOGY 3
A cooperative education work experience at a local truck or bus repair facility which allows students to apply skills learned in diesel technology courses. Students will also learn new skills and explore employment possibilities while supervised by employer and by a faculty member. Additional hours required. Prerequisites: 15 credit hours of DIE courses or department approval and Reading Proficiency.

DIE:203 TRUCK HEATING, VENTILATION AND AIR CONDITIONING 3
This course examines through practical application the types of air conditioning, heating, and ventilation systems found on medium and heavy trucks. Emphasis will be in the areas of system diagnosis, component repair, and refrigerant recovery, recycling, and handling. Additional lab hours required. Prerequisite: Reading Proficiency.

DIE:204 SERVICE AND PARTS MANAGEMENT 3
This course will introduce the student to current management practices of parts and service departments in modern truck repair shops. Shop tools, equipment, and safety will also be emphasized. Prerequisite: Reading Proficiency.

DIE:205 CO-OP WORK EXPERIENCE II - DIESEL TECHNOLOGY 3
Continuation of DIE:202. Additional hours required. Prerequisites: DIE:202 and Reading Proficiency.

DIE:206 MEDIUM/HEAVY TRUCK DRIVETRAINS 3
This course examines through practical application the types of manual and automatic transmission drivetrains found on medium and heavy trucks. To include: clutches, drive shaft and universal joints, and drive axles. Additional lab hours required. Prerequisite: Reading Proficiency.

DIETETIC TECHNOLOGY

DIT:102 FOOD MANAGEMENT 3
Students will study the components of food service management. Course emphasis is on menu planning and evaluation with a basic overview and application of concepts in procurement and receiving, production, distribution, meal service, equipment, facility design, cost control, quality control, and sanitation. Sanitation certification exam is given. Prerequisite: Reading Proficiency.

DIT:103 CLINICAL NUTRITION 3
Study of the roles of dietetics professionals in the nutrition care process, focusing on patient interviewing and counseling, conducting nutritional assessments, nutrition support and documentation in medical records. Dietary modifications for calorie and nutrient control, and various disease states, such as diabetes, cancer, cardiovascular disease and AIDS will be studied. Prerequisites: DIT:115 and Reading Proficiency.

DIT:106 FOOD MANAGEMENT PRACTICUM 3
Experience in food service departments of designated food service facilities. Assigned experiences are designed to complement and reinforce the corresponding lecture courses. Additional hours required. Prerequisites: Prior or concurrent enrollment in DIT:103, permission of the program coordinator and Reading Proficiency.

DIT:107 CLINICAL NUTRITION PRACTICUM 3
Experience in patient care areas of designated health care facilities. Assigned experiences are designed to complement and reinforce the knowledge gained in the corresponding lecture courses. Additional hours required. Prerequisites: Prior or concurrent enrollment in DIT:104, permission of the program coordinator and Reading Proficiency.

DIT:108 FOOD: PREPARATION AND SCIENCE LECTURE 3
This course explores the basic principles of food science, preparation and selection. Recognition and evaluation of standard products, function of ingredients, and the link of food service to nutrition and health will be emphasized. Discussions and demonstrations will focus on the nutrient content of food and principles of food science and preparation for nutrient retention and quality. Prerequisite: Reading Proficiency.

DIT:109 FOOD: PREPARATION AND SCIENCE LAB 2
Food science principles will be reinforced and applied in lab experiments and recipe production. The scientific method will be used in the exploration of food science and food preparation methods. Experiments and preparation will focus on nutrient retention and high quality products. Material from Food: Preparation/Science Lecture course will be reinforced. Additional lab hours required. Prerequisite: Reading Proficiency.

DIT:115 PRINCIPLES OF NUTRITION 3
This is an introductory nutrition class that relates to individual and family health. Topics include the functions and sources of food nutrients, how the body handles foods through digestion, absorption and metabolism, and planning health diets for a variety of people. Appropriate methods of weight control, sports nutrition, and eating disorders will be covered, as well as an overview of nutrition throughout the life cycle, food safety, and ethnic influences on the American diet. Prerequisite: Reading Proficiency.

DIT:201 FOOD SYSTEMS MANAGEMENT 3
Students will study the organization and management in the field of dietetics, with an emphasis on personnel management, staffing, scheduling, labor relations, diversity issues, communication, and performance appraisal. Management and leadership theories and concepts will be explored. Students will use computer software to assist with management functions. Prerequisites: DIT:103 and Reading Proficiency.

DIT:202 MEDICAL NUTRITION THERAPY 3
Study of the pathophysiology of selected disease states, the evaluation of nutrition status and appropriate nutrition intervention during various disease processes. Emphasizes the application of clinical nutrition skills, including counseling clients, interpretation of laboratory values, taking vital signs and documentation in the medical record. Prerequisites: DIT:104 and Reading Proficiency.

DIT:204 SEMINAR: STRATEGIES FOR PROFESSIONAL PRACTICE 2
This course covers techniques for teaching and learning in the field of dietetics, including the development of curricula, use of audio-visual materials, and public speaking. Communication with diverse populations, behavior modification and motivational skills in nutrition counseling will be addressed. Ethical practice in dietetics, personal management, and care of the terminally ill patient will also be covered. Prerequisite: 20 hours into the Dietetic Technology program or permission of program coordinator and Reading Proficiency.
Course Descriptions

DIT:206 SEMINAR: DIETETIC PRACTITIONER ISSUES 2
Discussion of the components of the health care delivery system, including alternative medicine, and private and governmental regulatory and provider agencies. Professional self-development, health care issues and trends, preparation for employment, and registration examination information will also be included. Prerequisites: DIT:204 and Reading Proficiency.

DIT:207 QUANTITY FOODS 3
Students will apply food preparation and management skills to a quantity food production system. Food preparation, sensory evaluation, menu planning, recipe development and expansion, food production and procurement, personnel management, sanitation, quality improvement, equipment, food cost calculation/control, and marketing techniques are emphasized. Facility design and financial management are discussed. Additional lab hours required. Prerequisites: DIT:103 and Reading Proficiency.

DIT:208 FOOD SYSTEMS MANAGEMENT PRACTICUM 4
Practical application of management concepts and tools. Provides an opportunity to observe and participate in food service management situations and use management tools, especially those related to budget and personnel administration. Additional hours required. Prerequisites: DIT:106, DIT:201 (may be taken concurrently), permission of the program coordinator and Reading Proficiency.

DIT:209 COMMUNITY NUTRITION PRACTICUM 4
Advanced nutrition practicum, with emphasis on staff performance. Students will function as staff members in patient care or community education settings. Additional hours required. Prerequisites: DIT:107, DIT:210 (may be taken concurrently), permission of program coordinator and Reading Proficiency.

DIT:210 COMMUNITY NUTRITION 3
Study of the roles and resources of community/public health nutrition professionals promoting wellness in the community. Assessment of community nutritional needs, and planning, implementing and evaluating nutrition education programs for various age groups under different socio-economic conditions. The legislative process, health care insurance industry, and domestic food assistance programs will also be covered. Prerequisites: DIT:115 or permission of the program coordinator and Reading Proficiency.

DIT:214 NUTRITION THROUGH THE LIFE CYCLE 3
A study of every stage of the life cycle, normal growth and development, common nutritional deficiencies, and nutrient needs, including the impact of lifestyles, culture, economics and values of nutritional intake. Basic assessment and practical methods of delivering nutrition education are also addressed. Prerequisites: DIT:115 and Reading Proficiency.

DIT:225 THE CULTURAL FEAST: AN INTRODUCTION TO FOOD AND SOCIETY 3
This course will examine, through the common ground of food, how cultural influences mold society. A central goal of the course-to broaden students' horizons and to make them aware of their own ethnocentric assumptions - will be accomplished through experiencing different foods and customs and through discussing cultural practices and values. Prerequisite: Reading Proficiency.

EARLY CARE AND EDUCATION

ECE:103 LANGUAGE AND LITERACY IN EARLY CARE AND EDUCATION 3
Students examine quality literature appropriate for children from infancy through age eight. Appropriate literacy experiences of reading, writing, and language are practiced. Students also examine methods of presentation and the creation of literature-based settings. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:104 PRINCIPLES OF EARLY CARE AND EDUCATION 3
This course focuses on the methodology for establishing developmentally appropriate care and education for young children. Topics include, designing appropriate physical environments, play development and facilitation, tailoring curriculum planning toward individual needs and interests of children, and classroom management styles. Prerequisites: ECE:101 and ECE:125 with grades of "C" or better and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:105 CHILD DEVELOPMENT LABORATORY 3
Students will actively participate in the daily operation of a quality early care and education setting for 6 hours each week, plus additional seminar meetings. A faculty supervisor will guide students through selecting, planning, and organizing curriculum in developmentally appropriate ways. Students will design learning experiences for young children. Prerequisites: ECE:104 (or concurrent enrollment), ECE:101 and ECE:125 all with minimum grades of "C" and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:107 EARLY CARE AND SPECIAL EDUCATION 3
Students will be introduced to the field of early care and special education with a focus on intervention and the role of the teacher. The course includes screening, assessment, and working with families. Five clock hours (minimum) of observation and field study is required. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:108 INFANT, TODDLER AND TWO-YEAR-OLD CHILDREN 3
This course is a study of the development of infants, toddlers, and two-year-olds. It includes current theories of development and a variety of caregiving practices for both the early care practitioner and parent. Students will observe and participate in an infant, toddler, or two-year-old setting a minimum of 10 hours during the semester. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:124 CHILD NUTRITION, HEALTH AND SAFETY 3
This course will focus on health, nutrition and safety issues in early care and education. Topics will include nutrition and nutrition education, menu planning, indoor and outdoor safety, childhood diseases and injuries and appropriate health and hygiene practices for caregivers, as well as for children. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:125 CHILD GROWTH AND DEVELOPMENT I 3
Students will study human development from conception to age eight, including physical and motor, cognitive, language, social and emotional development. There is an emphasis on the interrelationship of growth and behavior in young children. Eight clock hours (minimum) of observation is required. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:127 FAMILY AND TEACHER INTERACTIONS 3
Students will examine strategies and develop skills in effective communication with individual parents and families. Reflections on the contemporary American family, developing partnerships, utilizing community resources, parent education meetings, and home visiting will be included. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:200 GUIDING YOUNG CHILDREN 3
A practical study of child guidance literature that includes normative development, theory, and strategies for guiding children's behavior at home and in diverse settings. Observation and field study of children from infancy through age eight will be the foundation of this course. A minimum of eight clock hours of observation will be required. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.
ECE:201  MATH AND SCIENCE IN EARLY CARE AND EDUCATION  3
Students will design and implement developmentally appropriate experiences that enhance math and science concepts for children birth to age eight. Various cognitive theories and stages of development are integrated throughout the course. Topics include implementation strategies, sensory awareness, problem solving, thinking and questioning skills, exploration and discovery learning. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:202  MOVEMENT AND MUSIC IN EARLY CARE AND EDUCATION  3
The student will explore movement and music as it relates to the development and interests of young children. Students will prepare appropriate experiences in gross motor, fine motor, perceptual motor and auditory perception, targeted toward young children in diverse populations and settings. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:203  EARLY CARE AND EDUCATION PRACTICUM I  3
The student will continue practice in developmentally appropriate lesson planning, leading individual and group experiences, utilizing observation and reflection techniques, and demonstrating the ability to guide young children in positive ways. The student will participate in an early childhood setting for 9 hours each week, with additional seminar meetings. Prerequisites: ECE:104 and ECE:105 with minimum grades of “C” and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:204  MANAGEMENT OF EARLY CARE AND EDUCATION SETTINGS  3
This course focuses on the organizational and managerial structure of various center and home-based settings. Topics include licensing and accreditation standards, spatial design, fiscal responsibilities, employment procedures, staff development, marketing, and the planning and evaluation of center operations. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:205  CHILD AND SOCIETY  3
This course is an introduction to the sociology of child development, emphasizing the role of the family, school, and community in the socialization process. The effect of culture and political forces upon the delivery of appropriate early care and education is discussed, as well as available community resources for a diverse society. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:206  EARLY CARE AND EDUCATION PRACTICUM II  3
The student will demonstrate the ability to execute all teaching and caregiving aspects of the assigned early childhood setting. Planning, implementation, developmentally appropriate guidance methods, as well as professional job searching preparation is included. The student will participate in an early childhood setting for nine hours each week, with additional seminar meetings. Prerequisite: ECE:203 with a minimum grade of “C” and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:207  ACTIVITIES FOR SPECIAL INDIVIDUALS  3
Covers practical techniques for working with exceptional individuals including task analysis and behavior modification. Experience with screening instruments and charting behavior as part of developing and implementing individualized programs will be emphasized. Prerequisites: ECE:107 and Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECE:208  BEFORE AND AFTER SCHOOL CARE  3
This course focuses upon the development expectations and unique needs of the five through twelve-year-old in before and after school settings and summer programs. Legal issues, community resources, personnel relationships, nutrition and health concerns, communication with families, administrative procedures, and curriculum are discussed. Prerequisite: Reading Proficiency or concurrent enrollment in RDG:030 or ENG:070.

ECONOMICS

ECO:140  INTRODUCTION TO ECONOMICS  3
A study of basic economic concepts, institutions, and policies, (both macro and micro) necessary for a general understanding of the economy. Normally, Business Administration students and other students who need a six-hour undergraduate sequence in Economics, should take ECO:151 and ECO:152 instead of ECO:140. Prerequisite: Reading Proficiency.

ECO:151  PRINCIPLES OF MACROECONOMICS  3
This course presents an introductory description and analysis of economics from a national perspective. Included are the basic concepts relating to the demand and supply model, macroeconomic data, trends and fluctuations in macroeconomic variables, simple models of the macroeconomy, fiscal and monetary policy, and economic growth. Prerequisite: MTH:030 with a minimum grade of “C” and Reading Proficiency.

ECO:152  PRINCIPLES OF MICROECONOMICS  3
This introductory microeconomics course develops tools and models to explore the behavior of individuals and firms. The course develops the demand and supply model to examine outcomes in both output and input markets explores market failures, compares behaviors in competitive and noncompetitive markets, examines the economic concept of cost, and uses comparative advantage to explain both local and international trade. Prerequisites: MTH:030 with a minimum grade of “C”, or higher level math course or placement in higher level math course. Reading Proficiency.

EDUCATION

EDU:120  ART FOR CHILDREN  3
The course will acquaint the student with art media and methods appropriate for children. The student will develop projects to promote the child’s appreciation of art and to integrate art into the total curriculum. Prerequisite: Reading Proficiency.

EDU:210  TEACHING PROFESSION WITH FIELD EXPERIENCE  3
This course provides students an opportunity to observe teaching and learning for 30 hours or more in P-12 classrooms. Students are introduced to the requirements for teacher preparation and certification. Students will examine characteristics of effective teaching. The course is designed to assist students in determining if a career in teaching is an appropriate goal. Prerequisites: ENG:101 and Reading Proficiency.

EDU:211  FOUNDATIONS OF EDUCATION  3
This course is designed to examine the historical, philosophical, sociological, political, economic, and legal foundations of American public education. Students will explore the nature of school environments, design and organization of school curricula, and characteristics of effective schools and instruction in grades P-12. Educational structures, practices, and projections for the future will be studied. Prerequisites: ENG:101 and Reading Proficiency.

EDU:218  TECHNOLOGY FOR TEACHERS  3
In this course students will learn how to integrate instructional technology into the P-12 classroom. Students will study a variety of software programs, presentation technology, and telecommunication tools. The focus will also be on social, ethical, legal, and human issues surrounding the use of technology. Prerequisites: ENG:101 and Reading Proficiency.

EDU:219  EDUCATION OF EXCEPTIONAL LEARNERS  3
This survey course is an introduction to exceptional learners and their education in grades P-12. Students will attain knowledge, skills, and dispositions that will enable them to work effectively with exceptional learners in general education or special education. Prerequisites: EDU:227 and Reading Proficiency.

EDU:226  CHILDREN'S LITERATURE  3
This course will familiarize students with examples of good children’s books, for children from infancy to adolescence. It will also help students develop the ability to evaluate a book, analyze its appeal, and present it effectively. (Same course as ENG:226.) Prerequisite: Reading Proficiency.
Course Descriptions

EDU:227 EDUCATIONAL PSYCHOLOGY 3
This course is designed to help students apply psychological principles to teaching, learning, assessment and other educational practices in P-12 classrooms. It will focus on the learner and the learning process, teacher characteristics, and classroom processes that increase student motivation. Student diversity and appropriate instructional strategies for students with special needs will also be introduced. Prerequisites: EDU:210 and PSY:203, PSY:205 or PSY:214 and Reading Proficiency.

ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

EE:106 IBM PERSONAL COMPUTER INSTALLATION AND REPAIR 1
This course will help you learn how to install and repair the popular IBM series of personal computers. Connection and setup of monitors, printers, hard disks, and memory will be covered. Some previous electronics or computer experience is recommended but not required. Prerequisite: Reading Proficiency.

EE:109 PERSONAL COMPUTER CONFIGURATION 1
This course is designed to teach the student to configure the IBM-compatible personal computer for optimum performance. Emphasis will be placed on the interaction between peripheral equipment and applications. Prior experience with personal computers and DOS is highly recommended. Additional hours required. Prerequisites: EE:106 and Reading Proficiency.

EE:110 TECHNICAL ELECTRIC CIRCUITS I 4
This combination classroom and laboratory course is a study of the basics of electricity and electrical circuits. It includes such fundamentals as static electricity, resistance, Ohm’s Law, Kirchhoff’s Laws, power, series and parallel circuits, voltage dividers, magnetism and electromagnetic induction as well as an introduction to generators. Additional lab hours required. Prerequisites: Concurrent enrollment in MTH:124 and Reading Proficiency.

EE:111 TECHNICAL ELECTRIC CIRCUITS II 4
This course is the continuation of EE:110. The basic meter types as to construction and operation are first studied. The concepts of alternating current as to frequency, period, amplitude wave length, phase relationship, maximum instantaneous, average and peak values are then considered. Inductance, capacitance and reactivity are then studied from simple parallel or series circuits to complex circuits. Transformers, power and resources are also included. Additional lab hours required. Prerequisites: EE:110 and Reading Proficiency.

EE:112 TECHNICAL ELECTRONICS I 5
The basic principles of electronics will be introduced in this course. Semiconductor theory with emphasis on diodes and transistors. The diode and bipolar devices will be studied in their applications to rectifiers, small signal amplifiers and power amplifiers. Additional lab hours required. Prerequisites: Concurrent enrollment in EE:110 and EE:111 and Reading Proficiency.

EE:121 FUNDAMENTALS OF DIGITAL ELECTRONICS 3
This course is an introduction to Digital Electronics. Students will learn basic lab safety, electron theory, Ohm’s and Kirchhoff’s Laws, logic, number systems, binary addition and Boolean Expression applications. Students will design, construct, troubleshoot and evaluate design problems, and will present oral reports of their results. Students will also study PLDs, Flip-Flops, microprocessors, and shift registers and counters. Prerequisites: GE:121 or department approval.

EE:130 ELECTRIC CIRCUITS I 4
This course emphasizes basic DC circuit configurations, components, and calculations. Content continues with introductory AC circuits and calculations, oscilloscope overview, and transformers. Laboratory experiments reinforce topics. Troubleshooting concepts are addressed along with the theory content. Additional lab hours required. Prerequisites: MTH:140 or equivalent placement test scores or department approval and Reading Proficiency.

EE:131 ELECTRIC CIRCUITS II 4
This course emphasizes AC circuit components, configurations, and characteristics. Content includes circuit theorems, AC quantities and calculations, component characteristics, circuit analysis and applications. Hands-on laboratory experiments coincide with classroom topics. Troubleshooting concepts will be continually addressed along with the theory content. Additional lab hours required. Prerequisites: EE:130, MTH:144 or MTH:170 or MTH:185, and Reading Proficiency.

EE:132 ELECTRONIC DEVICES 5
This course introduces theory, characteristics and applications of most of the basic electronic devices used in industry. Basic practical circuits will be presented to reinforce the theory. Additional lab hours required. Prerequisites: Prior or concurrent enrollment in EE:131 and Reading Proficiency.

EE:133 ELECTRICAL/ELECTRONIC BRIDGE 4
This course covers single and three phase electrical power connections, electronics, DC and AC circuitry, and basic operational amplifiers, with a special emphasis on application to medical devices. Safety aspects of power circuits and electrostatic discharge (ESD) will also be covered, as well as lab exercises utilizing test equipment and simulator circuits. Additional lab hours required. Prerequisites: Approval of department chair or program coordinator and Reading Proficiency.

EE:203 OPERATING SYSTEMS 3
This course consists of a study of the relations between microprocessors, bus structures, interfacing procedures, input output networks, digital communication systems, and programming languages. This information should provide the student with a knowledge of how digital subsystems are combined to form operating systems. Prerequisites: EE:233, EE:242 and Reading Proficiency.

EE:204 THREE-PHASE POWER 4
This course includes a study of single- and three-phase systems and transformer theory. Practical applications of single- and three-phase loads are also covered. The circuit concepts of wye and delta connections shall be discussed using the two-wattmeter and three-wattmeter methods of measuring power, emphasizing analysis of circuit concepts. Prerequisites: EE:131, and MTH:144, or MTH:124 and MTH:134, or MTH:160 and MTH:170, or MTH:185 or program department approval. Reading Proficiency.

EE:211 TECHNICAL POWER TRANSMISSION-DISTRIBUTION 3
Considers basic wiring fundamentals, applications of series and parallel circuits, purpose of electrical testing instruments, feeder and branch circuit protection, fuse and circuit breaker protection, grounding practices and lightening protection; outline various types of power generating plants, hydro, steam, nuclear, and their purposes; defines transmission and distribution circuits and their functions of bringing electrical energy from generating plants to customers. Prerequisites: EE:111 and Reading Proficiency.

EE:230 ANALOG AND DIGITAL ELECTRONICS 3
A study of the operational amplifier as a scanner and integrator. The “bootstrap method” of analog computer patching. Digital fundamentals include number systems, Boolean algebra, logic circuits, memory devices, binary elements and input/output devices. Additional lab hours required. Prerequisites: PHY:115 and Reading Proficiency.

EE:233 DIGITAL LOGIC 4
Digital computer fundamentals from the systems and circuit approach and an introduction to the basic theory of analog computers. Additional lab hours required. Prerequisites: EE:130 or departmental approval and Reading Proficiency.

EE:235 ELECTRONIC COMMUNICATIONS 4
The fundamental theory and application of communications circuits and devices. The study of radar fundamentals, transmission lines, and electromagnetic interference will be included. Additional lab hours required. Prerequisites: EE:132 and Reading Proficiency.
EE:236  PLC/PROGRAMMABLE LOGIC CONTROLLER  3
This course presents the fundamentals of ladder logic (formerly relay logic) used in modern industrial controllers. Basic elements such as timers, counters, and sequencers are studied, as well as traditional methods of applying them to machine control. Students will program and perform laboratory experiments with programmable logic controllers, using the Allen Bradley SLC 500 family and the Micrologix series, with an introduction to control logic. Additional lab hours required. Prerequisites: GE:101 or EE:233 or ME:140 or department approval and Reading Proficiency.

EE:240  ELECTRICAL MACHINES  4
Direct current and alternating current motors and generators construction and characteristics are studied, as well as the associated starting and control circuits. The laboratory experiments will deal with related classroom work. Additional lab hours required. Prerequisites: EE:131 and Reading Proficiency.

EE:241  TRANSMISSION AND DISTRIBUTION OF POWER  3
This course is a general study of the sources of energy, types of generating stations, their comparative merits, transmission and distribution systems. Topics on transmission and distribution include types of construction, terminal facilities, equipment and protection against faults. Over-all system behavior, stability and industrial utilization of electrical energy are included. Attention is also given to the consideration of electric utility economics. Prerequisites: EE:131 and Reading Proficiency.

EE:242  INTRODUCTION TO MICROPROCESSORS  3
This course will focus on the structure of a microcomputer input/output central processor and control units, memory programming techniques, logic circuits and arithmetic operations. Additional lab hours required. Prerequisites: EE:130 or department approval and Reading Proficiency.

EE:260  ELECTRONIC PROJECT DESIGN AND FABRICATION  3
This course provides techniques in safety precautions, use of laboratory equipment and component familiarization. Students receive experience in soldering techniques, chassis fabrication such as bending, drilling and punching, wiring, harnessing, and general shop practice. This course also provides the student with specialized training in printed circuit board layout and production procedures. Students are required to select a project which must be assembled on PCB, tested for proper operation, and mounted in an appropriate housing. Students must submit the completed project with documentation of the fabrication procedures for final grade assignment. Additional lab hours required. Prerequisites: EE:132 or EE:208, EGR:104 and Reading Proficiency.

EMERGENCY MEDICAL TECHNOLOGY

EMT:121  EMERGENCY CARE, PRINCIPLES, AND TECHNIQUES  8
This course meets all the current requirements for Missouri State EMT-Basic licensure. It includes the assessment and care of the sick and injured, pediatric and geriatric emergencies, childbirth, defibrillation, lifting, and moving of patients, hazardous material situations and the use of adjunctive EMS equipment. Prerequisites: American Heart Association Cardiopulmonary Resuscitation (CPR) for Health Care Providers and Reading Proficiency.

EMT:122  EMT INTERNSHIP  6
This course is designed to give students hands-on experience with foundational skills and introduce paramedic topics related to medical terminology, paramedic procedures, and situations encountered in ambulance field work. The course includes 100 hours of EMT practicum in an assigned pre-hospital setting. Additional hours required. Prerequisites: EMT:121 and Reading Proficiency.

ENGINEERING GRAPHICS

EGR:050  FUNDAMENTALS OF DRAFTING  3
First course in drafting for persons with little or no previous drafting coursework. Practice of using drafting tools, board skills, good line work, lettering, geometric construction, accurate layout of multiview and pictorial drawings and basic dimensioning will be emphasized. Additional lab hours required.

EGR:100  ENGINEERING DRAWING  3
This course uses a combination of instruments and CAD systems for making drawings. The course includes use of instruments, lettering, geometrical constructions, technical sketching, principles of orthographic projection, pictorial drawing, descriptive geometry, sectional views and conventions, auxiliary views and dimensioning. Additional lab hours required. Prerequisites: EGR:050, previous drafting work or department approval and Reading Proficiency.

EGR:104  ELECTRONIC DRAFTING  2
Review of basic drafting with emphasis on technical sketching and lettering. Topics include schematic diagrams, block diagrams, electronic symbols, etched circuit layout, wiring diagrams, mechanical and electronic detail and assembly drawings. Additional lab hours required. Prerequisites: Reading Proficiency.

EGR:133  INTRODUCTION TO AUTOCAD I  2

EGR:139  3-D AUTOCAD WITH AUTOSHADE  2
3-D drawing concepts using AutoCAD Version 10. Generation of objects using true 3 dimensional database. User coordinate system, X,Y,Z coordinate system and x,y,z, point filters. Extensive practice with various 3-D surfaces. Use of viewpoint and view commands to select viewing angle or perspective view. Settings lights, camera, and scenes to generate shaded images and movies. Prerequisites: EGR:133 and Reading Proficiency.

EGR:140  COMPUTER AIDED DRAFTING AND DESIGN I  3
This course provides the student with knowledge and implementation of skills used in Computer Aided Drafting. Computer drawings will include geometric constructions, multiple views, sectional views, and dimensioning. Computer operations will include editing, filing and retrieving drawings to produce an industrial quality drawing using a plotter. Additional lab hours required. Prerequisites: EGR:100 and GE:101 or department approval and Reading Proficiency.

EGR:141  INTRODUCTION TO AUTOCAD II  2
Continuation of Introduction to AutoCAD 1. DOS for AutoCAD, Blocks, attributes, symbol libraries, bill of material extraction, screen and tablet menus, digitizing drawings, slides and slide shows, introduction to LISP language. Prerequisites: EGR:133 and Reading Proficiency.

EGR:143  INTRODUCTION TO MICROSTATION  2
The student will learn to use Microstation drawing software to set up drawings; control the levels, colors and linetypes; place and modify elements and patterns; dimension plots; and link drawing files. The student should possess basic knowledge of technical drawing. Prerequisite: Reading Proficiency.

EGR:145  COMPUTER SOLIDS MODELING  2
Students will learn to design and model objects using three dimensional solids modeling computer software. Extrusion, revolution, and sweeping are examples of techniques that will be studied. Students will model individual parts and assemblies of parts. The projection of working drawings and shaded pictorials will also be completed. Additional hours required. Prerequisite: Reading Proficiency.

EGR:147  INTRODUCTION TO ENGINEERING DESIGN  3
This course is an introduction to the elements of Engineering Design. Students will learn the history of design, design process, sketching and visualization, geometric relationships, and modeling. Elements of manufacturing production; marketing, analysis, and quality control will also be studied. Students will learn presentation techniques and develop a portfolio.

EGR:148  SOLID MODELING WITH UNIGRAPHICS  2
This course teaches the use of 3-D modeling using the Unigraphics CAD package. Students will productively develop solid models, detail drawings and product assemblies. The class introduces assembly modeling in the context of a real-life scenario that includes parts modeled by the student as well as existing part models. Prerequisite: Reading Proficiency.
Course Descriptions

EGR:255 ADVANCED COMPUTER AIDED DRAFTING 3
Topics covered in this course will include 2-D and 3-D drawing concepts, customizing menus, creating macros, symbol libraries, bill of material extraction, creating production drawings, modeling and shading. Assigned labs will include an extended project and portfolio development. Prerequisites: EGR:141 or EGR:140 or EGR:144 and Reading Proficiency.

EGR:256 SOLID MODELING WITH CATIA 2
This course is designed for students with 3-D modeling experience to learn the use of 3-D solid modeling using the CATIA CAD package. The student will productively develop solid models, detail drawings and product assemblies. Additional hours required. Prerequisite: Reading Proficiency.

EGR:257 UNIGRAPHICS FOR PART DESIGN 2
This course will focus on creating Unigraphics 3-D parametric models that capture design intent. Students will learn the concepts used to make geometry and models associative. Some of these concepts include creating parametric sketches, building assemblies, creating mating conditions and inter-part modeling to link geometry across part files. Additional hours required. Prerequisites: EGR:148 and Reading Proficiency.

ENGINEERING SCIENCE

ESC:100 ENGINEERING COMPUTER APPLICATIONS AND DESIGN 3
This course provides the student with basic skills in the use of Computer Aided Drafting (CAD), word-processing, spreadsheets, and computer math software. Students will be divided into teams to solve an engineering related design problem. They will need to conceptualize and build their project/product, and prepare and present a report. They will utilize the computer and applications software they have learned in the class as a tool in preparation and presentation of their report. Prerequisites: MTH:140 or higher and Reading Proficiency.

ESC:101 SCIENTIFIC COMPUTER PROGRAMMING 3
This course emphasizes instruction in computer programming language to solve engineering problems. Instruction will include such topics as: study of digital computer systems, programming techniques, program structure, coding, execution, debugging and verification of programs. Computer laboratory exercises will be conducted to analyze, interpret and synthesize engineering data. Prerequisites: MTH:160 (A, B or C) or higher and Reading Proficiency.

ESC:200 ENGINEERING CIRCUITS I 4
This is a problem-solving course that develops analytical skills important for all engineering disciplines as well as fundamental circuit theory for electrical engineers. The course covers circuit elements and the fundamental laws governing their behavior, network theorems, and analysis techniques, including transient responses. Circuit simulation using computer models and practical circuit testing are included in the laboratory work. Additional lab hours required. Prerequisites: PHY:122, concurrent enrollment in MTH:230 and Reading Proficiency.

ESC:201 ENGINEERING CIRCUITS II 4
This is a problem solving course that develops analytical skills important for all engineering disciplines as well as all fundamental circuit theory for electrical engineers. The course covers sinusoidal AC circuit analysis (including AC power and three-phase systems, mutual inductance and transformers, complex frequency, and filters. The primary focus of this course is on phasors and frequency-domain responses. Laboratory work will include circuit simulation using computer models, as well as practical limitations of these models. Additional lab hours required. Prerequisites: ESC:200 and Reading Proficiency.

ESC:203 ENGINEERING MECHANICS I 3
Application of the principles of mechanics to the solution of engineering problems involving particles and systems in equilibrium. Topics include force systems in equilibrium, centers of gravity, friction, moments of inertia. Where appropriate, vector analysis is used. Prerequisites: PHY:122 and Reading Proficiency.

ESC:204 ENGINEERING MECHANICS II 3
Application of the principles of mechanics to the solution of engineering problems involving particle and rigid body motion. Topics include linear, curvilinear relative motion, energy, impulse, and momentum. Where appropriate, vector methods are used. Prerequisites: ESC:203 and Reading Proficiency.

ESC:205 MECHANICS OF MATERIALS 3
Application of principles of mechanics to engineering problems of strength and stiffness. Topics include stress, strain, thin cylinders, beams, torsion, columns, and combined stresses at a point. Prerequisites: ESC:203 and Reading Proficiency.

ESC:206 STRENGTH OF MATERIALS LAB 1
This is the laboratory component of the Mechanics of Materials course (ESC:205). Students will perform tension, compression, shear, torsion, bending, and hardness tests on various materials in a materials testing laboratory. The students will be required to document their test data and write reports summarizing the test and results. Prerequisites: Concurrent or prior enrollment in ESC:205 and Reading Proficiency.

ESC:207 ENGINEERING THERMODYNAMICS 3
Energy transformations and the relation of energy to the states of matter. Fundamental laws, concepts and modes of analysis which underlie all applications of energy conversion in engineering. Prerequisites: MTH:230, PHY:223 and Reading Proficiency.

ENGLISH

ENG:001 THE SENTENCE 1
This course will help students master the fundamental of sentence writing and punctuation. It is a skill-building course.

ENG:002 SPECLING 1
This course will point out to the student specific spelling problems as well as provide the student with the means to eliminate such spelling problems.

ENG:003 SENTENCE COMBINING 1
Using a selected sequence of sentence building exercises, this course will help students develop a feel for both sentence structure and paragraph organization. It is a “skill-building” course, whose main purpose is to help students hear the stylistic options available to them and to help them see patterns of development, both in sentences and paragraphs.

ENG:004 GRAMMAR REVIEW 1
This course will provide instruction for students who need extensive help with writing problems which may include punctuation, capitalization, usage, sentence construction, coherence and organization.

ENG:005 WRITING IMPROVEMENT 1
Students work individually on writing style, documentation, and other problems of advanced expository writing.

ENG:006 WRITING EFFECTIVE PARAGRAPHS 1
This course will help students who have already mastered the writing of sentences to learn about writing longer forms. Beginning with the writing of good topic sentences, it will proceed to consider such issues as paragraph development, unity and coherence. Thus, it will provide an additional valuable support for students who intend to write essays, business letters, stories and other longer prose forms.

ENG:007 BUSINESS WRITING REVIEW 1
This course will provide instruction in business writing formats: e-mails, letters, memos, and/or reports.

ENG:013 ESL: ACADEMIC ENGLISH PREP 1
This course is designed for non-native English speakers who need to improve basic language skills before beginning the ESL Academic English sequence. Students will work individually with the assistance of the designated ESL support staff. Prerequisites: Michigan Test and writing sample.

ENG:014 ESL: ACADEMIC LISTENING COMPREHENSION 1
This course is designed to help non-native English speakers increase their ability in listening comprehension. Students will work individually with the assistance of the designated ESL support staff.
ENG:015 ESL: VOCABULARY DEVELOPMENT FOR NON-NATIVE SPEAKERS
This course is designed to help non-native English speakers increase their knowledge of English vocabulary, especially idioms and general academic vocabulary. Students will work individually with the assistance of the designated ESL support staff.

ENG:016 ESL: GRAMMAR REVIEW FOR NON-NATIVE ENGLISH SPEAKERS
This course provides practice for non-native English speakers who need supplementary instruction in English grammar. Students will apply grammar rules through writing and editing activities. Students will work individually with the assistance of the designated ESL support staff. Prerequisite(s): ENG:051 and/or ENG:061.

ENG:017 ESL: WRITING SKILLS
This course is designed for students who need to demonstrate improved skills in Academic English outcomes before proceeding to the next level. Students will work individually with the assistance of the designated ESL support staff. Prerequisite(s): ENG:050 or ENG:060 or ENG:070 and recommendation of instructor.

ENG:020 DEVELOPMENTAL ENGLISH
This course provides comprehensive review and intensive drill in the fundamentals of English sentences and paragraphs. Near the end of the semester, students will be counseled concerning their progress and what additional work they may need to accomplish their particular writing goals. Prerequisites: Previous or concurrent enrollment in appropriate reading course. Prior or concurrent enrollment in STR:050 with a minimum grade of "C".

ENG:030 INTRODUCTION TO COLLEGE WRITING
This course is designed primarily to help prepare students for successful work in College Composition I, through it may benefit anyone desiring to improve basic grammar and writing skills. The course focuses on fundamental writing problems through extensive work in the construction of sentences, paragraphs, and short essays. Previous or concurrent enrollment in a developmental reading course is encouraged. Near the end of the semester, students will be counseled concerning their progress and what additional work they may need to accomplish their particular writing goals. Prerequisites: ENG:020 with grade of “C” or better or recommendation of department. Prior or concurrent enrollment in STR:050 with a minimum grade of "C".

ENG:032 INTRODUCTION TO COLLEGE WRITING LAB
Students study a series of grammatical elements in order to eliminate structural and grammatical mistakes in their writing. Topics include sentence patterns, punctuation, and sentence combining.

ENG:050 ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS I
This course is designed for non-native English speakers who wish to develop English language skills necessary for success in college courses. Instruction in the course will promote overall English language proficiency, with an intensive focus on reading and writing. Additional hours in lab or with an ESL tutor may be required. Prerequisite: Recommendation of ESL staff.

ENG:051 ENGLISH GRAMMAR FOR NON-NATIVE SPEAKERS I
This course provides non-native English speakers with a review of basic English grammar rules, with attention given to form, meaning, and use. Students will apply rules through speaking and writing activities. Prerequisite: Recommendation of ESL staff.

ENG:053 LISTENING AND NOTE-TAKING FOR NON-NATIVE SPEAKERS
This course is designed for non-native speakers who are new to the higher education system in the USA. Students will develop all language skills, with a focus on listening and note-taking skills, vocabulary, and lecture and discussion structure and content. Prerequisite: Recommendation of ESL staff.

ENG:060 ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS II
This course is designed for non-native English speakers who have demonstrated general fluency in reading and writing English, and need to develop clarity in using English for academic purposes. Instruction in the course will focus on reading and writing responses to texts. Additional hours in lab or with ESL tutor may be recommended. Prerequisites: ENG:050 and ENG:051 with grades of “C” or better.

ENG:061 ENGLISH GRAMMAR FOR NON-NATIVE SPEAKERS II
This course provides non-native English speakers with an intensive review of basic English grammar, with emphasis on application of rules to academic reading and writing tasks. Prerequisites: ENG:050 and ENG:051 with grades of "C" or better.

ENG:062 SPOKEN COMMUNICATION AND PRONUNCIATION FOR NON-NATIVE SPEAKERS
This course is designed for non-native English speakers who wish to improve their comprehensibility in communication in English. The course will provide practice in stress, rhythm, and intonation patterns, and in troublesome consonant and vowel sounds. Prerequisite: Recommendation of ESL staff.

ENG:070 ACADEMIC ENGLISH FOR NON-NATIVE SPEAKERS III
This course is designed to facilitate non-native English speakers' performance in college-level courses which require moderate to heavy amounts of reading, writing, and note-taking. Students recommended to take ENG:070 will have achieved the reading and writing performance outcomes of ENG:050 and ENG:060, but still need to improve grammatical and lexical accuracy in a variety of writing tasks. Reading and writing assignments will be linked to assignments in content areas. Prerequisites: ENG:060 and ENG:061 with grades of "C" or better and ENG:053.

ENG:071 ENGLISH GRAMMAR FOR NON-NATIVE SPEAKERS III
This course is for non-native speakers of English to improve the grammatical accuracy in their written English. The course will provide students with intensive reinforcement and practice of structures taught in previous grammar courses. Written practice will emphasize personal essays and tasks related to shorter academic reading passages. Prerequisites: ENG:060 and ENG:061 with minimum grades of “C”, permission of ESL faculty or staff member.

ENG:081 GATEWAY TO LITERACY
-This course is specifically designed for Gateway to College students only. This course will combine the competencies of College English 020 and Reading 030. Successful completion of this course will prepare students for College Composition I.

ENG:082 INTRODUCTION TO COLLEGE WRITING WITH GRAMMAR
This course is specifically designed as a pilot. This course will combine the competencies and elements of ENG:030 and ENG:032. Successful completion of this course will prepare students for Composition I. Prerequisites: ENG:020 with “C” or better or accuplacer score.

ENG:083 BASIC WRITING SKILLS
This course will instruct students in the basic skills required to create grammatically sound, meaningful sentences in formal English. It is a skill-building course that is intended to help students master the fundamentals of sentence writing and punctuation. Students will also work to build upon basic skills in the areas of capitalization, usage, sentence construction, coherence, and organization. Prerequisite: English Accuplacer score of 0-40.

ENG:084 ENGLISH FOR DEAF INTERNATIONAL STUDENTS I
This course uses signed communication to teach foundational English vocabulary and grammar to Deaf students from outside of the US. Reading, writing, and associating American Sign Language signs with English meaning is emphasized. Topics include vocabulary for self-care, time, food, travel, clothing, and school. Basic reading and writing are introduced. Corequisite: DCS:104.
ENGLISH FOR DEAF INTERNATIONAL STUDENT II 6
This course is designed to teach intermediate everyday vocabulary and introduces technical vocabulary of the student's field of study. Reading focuses on understanding short texts in newspapers, magazines, and books. Writing focuses on basic sentence structure, common verb tenses, and introduces texts pertinent to the student's field of study. Corequisite: DCS:105. Prerequisite: ENG:084.

READING AND WRITING FOR DEAF INTERNATIONAL STUDENTS 5
This course is designed to teach comprehension of longer passages in course textbooks, popular and career-related periodicals, and career-related documents. Students write in response to readings and generate career-related texts such as resumes, memos, and e-mails. Students learn to work with an editor to achieve clarity of written English. Prerequisite: ENG:085.

CAREER ENGLISH 3
This course primarily focuses on the development of career-related writing techniques. Students will develop writing styles, writing processes, revision practices, and analytical skills necessary for the workplace. Prerequisites: ENG:030 and Reading Proficiency or concurrent enrollment in RDG:030.

COLLEGE COMPOSITION I 3
This course primarily focuses on the development of writing techniques. Students will develop effective writing styles, writing processes, revision practices, and analytical skills. Prerequisites: ENG:030 or ENG:070 with a grade of "C" or better or recommendation of department and Reading Proficiency or concurrent enrollment in RDG:030.

COLLEGE COMPOSITION II 3
This course builds on knowledge and skills learned in ENG:101 and primarily focuses on argumentative and persuasive writing techniques. Students will develop effective writing processes, writing styles, research abilities, analytical skills, and argumentative tools. Prerequisites: ENG:100 or ENG:101 with a grade of "C" or better or department approval and Reading Proficiency.

REPORT WRITING 3
This course offers instruction in the kinds of writing required in fields such as business, technology, and health science. Students plan, write, and revise letters, memos, reports, abstracts, and other forms of practical writing. Emphasis is given to writing for particular audiences to solve "real world" writing problems. Prerequisites: ENG:100 or ENG:101 with a grade of "C" or better or department approval and Reading Proficiency.

HONORS COLLEGE COMPOSITION I 3
This course is designed for students who have demonstrated above average ability. It covers the same subject matter as ENG:101, but offers a more challenging and a more rewarding experience for the students recommended for this course. Prerequisites: Permission of Honors coordinator and Reading Proficiency.

HONORS COLLEGE COMPOSITION II 3
This course is designed for students who have demonstrated above average ability in ENG:101. It covers the same subject matter as ENG:102, that is, argumentative writing, critical analysis, and research papers. But ENG:105 offers a more challenging and a more rewarding experience for the students recommended for this course. Prerequisites: ENG:101 or ENG:104 with a grade of "C" or better, permission of Honors coordinator and Reading Proficiency.

CREATIVE WRITING 3
This is a workshop for beginning and experienced writers. It is designed to encourage and guide students interested in writing poetry, fiction, and drama. Students will be required to produce a certain number of manuscripts, depending upon the form in which they are writing, and to read occasional brief selections. Prerequisite: Reading Proficiency.

WRITING PLAYS AND FILMSCRIPTS 3
This course is designed for the student who has already experimented with several types of creative writing and who wishes special work in a single area. A workshop format will be used with emphasis on the discussion of student work in class. Some lectures will be given, involving the various facets of the writer's role from planning to publication. Prerequisite: Reading Proficiency.

INTRODUCTION TO FICTION 3
This course is designed to teach intermediate everyday vocabulary and introduces technical vocabulary of the student's field of study. Reading focuses on understanding short texts in newspapers, magazines, and books. Writing focuses on basic sentence structure, common verb tenses, and introduces texts pertinent to the student's field of study. Corequisite: DCS:105. Prerequisite: ENG:084.

INTRODUCTION TO POETRY AND PLAYS 3
This course introduces to the student poetry and dramatic writing. Students will be required to produce a certain number of manuscripts, depending upon the form in which they are writing, and to read occasional brief selections. Prerequisite: Reading Proficiency.

AMERICAN LITERATURE 3
American Literature is designed to teach intermediate everyday vocabulary and introduces technical vocabulary of the student's field of study. Reading focuses on understanding short texts in newspapers, magazines, and books. Writing focuses on basic sentence structure, common verb tenses, and introduces texts pertinent to the student's field of study. Corequisite: DCS:105. Prerequisite: ENG:084.
ENG:214 CONTEMPORARY FICTION 3
This course focuses on the post-WWII novel and short story with emphasis on
the fiction of the past fifteen years. In it, students will look at each fictional
work as an artistic creation and also as a social document and will, thereby,
consider the ways in which contemporary art reflects and is reflected by the
customs and values of contemporary society. Prerequisite: Reading Proficiency.

ENG:215 POPULAR LITERATURE: FANTASY AND HORROR 3
The course will focus on major themes and writers in the horror and fantasy
genre (science fiction may be discussed but will not be the primary aim of
the course). By looking at major works of fantasy and horror from the gothic
romances to the 20th century, students will study the causes, effects and nature
of the genre. Readings will be supplemented by films. Prerequisite: Reading Proficiency.

ENG:216 WOMEN IN LITERATURE 3
An exploration of the role of women in fiction, drama, poetry and other literary
genres, with primary emphasis on works written by women. Prerequisite: Reading Proficiency.

ENG:217 MAJOR BLACK WRITERS 3
An examination of a selection of works by major black authors whose
writings have gained public attention by virtue of their excellence or historical
significance. Discussions will include considerations of topical relevance and
literary form and style. Prerequisite: Reading Proficiency.

ENG:218 LITERATURE OF AMERICAN MINORITIES 3
A study of American minority (racial and religious) experience and cultural
contributions to the nation by explaining them through literature. Prerequisite: Reading Proficiency.

ENG:224 FICTION WRITING 3
This is a workshop for the student who has already experimented with several
forms of creative writing and who wishes special, focused work in writing
stories. The workshop format will allow for in-depth discussion of student work
in class. Some lectures and other kinds of presentations will be given, involving
various aspects of the writer's activity from initial inspiration to preparation of
manuscripts for publication. Prerequisite: Reading Proficiency.

ENG:225 POETRY WRITING 3
This course is designed for the student who has already experimented with
several types of creative writing and who wants special work in the writing
of poems. A workshop format will emphasize consideration of student work.
Some lectures and presentations will be given, involving the various facets of
the writer's role from inspiration to preparing manuscripts for publication.
Prerequisite: Reading Proficiency.

ENG:226 CHILDREN'S LITERATURE 3
This course will familiarize students with examples of good children's books,
for children from infancy to adolescence. It will also help students develop the
ability to evaluate a book, analyze its appeal, and present it effectively. (Same
course as EDU:226.) Prerequisite: Reading Proficiency.

ENG:228 STUDIES IN LITERATURE 3
This course offers a basic introduction to literature, by being organized around
specific themes, historical periods, or genres, which may vary from semester to
semester. Students will learn how to read, analyze, write about, and appreciate
literature by focusing on particular issues raised by the related works that the
course addresses. Refer to “Schedule of Credit Courses” for current course
topics. Prerequisite: Reading Proficiency.

ENG:229 INTERMEDIATE WRITING WORKSHOP 3
This is a workshop for students of all ages and backgrounds with some creative
writing experience who want to begin or continue creative writing projects with
the support and help of an instructor and peers. Projects may include poetry,
fiction, scripts, personal essays, memoirs, and career-related writing. Students
will contract to do the kinds of writing projects they choose. Prerequisites: ENG:110 or permission of the instructor and Reading Proficiency.

ENG:230 ENVIRONMENTAL LITERATURE 3
This college-level course is a study of literature about nature and the
environment. The students will read and discuss a selection of non-fiction,
fiction, and poetry written by prominent authors about the natural world and
related topics. Prerequisite: Reading Proficiency.

ENG:231 WORLD LITERATURE 3
This course offers an introduction to literature organized around works by
writers from outside the United States. Its geographical focus varies from
semester to semester, as do its choices of literary genres. Students will learn
how to read, analyze, write about, and enjoy literature. They will learn to see
literature in its historical and cultural contexts. They will also grow by learning
about literature of other cultures. Prerequisite: Reading Proficiency.

ENG:233 WRITING CREATIVE NONFICTION 3
This course is for the student who wants to focus on nonfiction prose forms
such as personal essays, travel narratives, and/or biographies. This workshop
format will allow for in-depth discussion of students' writings in class.
Some lectures and presentations will be given, involving various aspects of
the writer's activity from initial inspiration to preparation for publication.
Prerequisites: ENG:101 with a grade of "C" or better or equivalent and Reading Proficiency.

ENG:234 LITERARY PUBLISHING 3
This course allows students to gain experience in the production practices of
literary publications. Students will become exposed to various stages of the
editing and publishing process as well as utilize design software to produce a
literary publication. Prerequisites: ENG:101 with a minimum grade of "C" and
Reading Proficiency.

FIN:100 PERSONAL FINANCE 3
This course involves the study of personal financial planning and is intended to
provide the student with a basis of knowledge that will enable the individual
to better manage their income while maximizing the value received for the
expenditures made. This course also addresses the safeguarding of assets and
will provide the student with the tools for developing their own financial
plan. Topics may include financial planning, developing personal financial
statements and plans, insurance needs, basic taxing theories, and stock market
options for personal financial planning. Prerequisite: Reading Proficiency.

FIN:201 FUNDAMENTALS OF FINANCE 3
Basic methods and principles of finance, such as money and banking,
financing working capital and fixed capital needs, stocks and bonds, the
marketing of securities, and the working of financial institutions. Prerequisites:
ACC:110 or department approval and Reading Proficiency.

FIR:100 FIRE DEPARTMENT APPARATUS 2
A study of the description and specification of the various fire department
apparatus found in the modern organization, special emphasis is given to
manufacturer’s specifications, analysis of the various codes and standards
of construction and methods of writing specifications for various pieces of
equipment. In addition, the instruction covers the principles of care
maintenance, and operation of the various types of apparatus including
principles of pumping, pumps, and accessories, power development and
transmissions and pumping practices. Prerequisite: Reading Proficiency.

FIR:102 FIRE CHARACTERISTICS 3
Characteristics and behavior of fire found in ordinary materials and special
materials such as oils and other combustible chemicals. A review of basic
chemistry with emphasis on combustion and internal combustion. Hazards
of liquids and gases, special techniques in regard to oxygen supplies.
Prerequisites: CHM:114 and Reading Proficiency.

FIR:103 FIRE SERVICE MANAGEMENT
AND ADMINISTRATION 3
Instruction in management and administration for the fire service including
the functions of management, planning, organizing, directing, controlling, the
management cycle, motivation, behavioral science, executive development,
educational development, and labor relations. Prerequisite: Reading Proficiency.
Course Descriptions

FIR:105 INSPECTION AND FIRE PREVENTION 3
Inspection surveying and mapping procedures associated with the organization and function of fire prevention. A survey of the various codes and standards; how these various standards are used in inspecting buildings for fire hazards; how to actually inspect a building with respect to existing fire protection equipment-structural details that must be known to avoid undue loss in case of fire. Opportunity will be provided to make at least one complete inspection and report on an operating industry. Prerequisite: Reading Proficiency.

FIR:106 TEACHING TECHNIQUES FOR FIRE DEPARTMENT PERSONNEL 3
The basic theories of learning and methods of instruction are discussed. The use of lectures, demonstrations, and visual aids as applied to the instruction of fire department personnel is illustrated. Practice is provided in the use of lesson plans, visual aids, tests, and other teaching devices including module on the use of microcomputers as an instructional device. Each student's application of a teaching procedure is critically discussed and evaluated. Prerequisite: Reading Proficiency.

FIR:110 BASIC FIRE PROTECTION AND ALARM SYSTEMS 3
A study of modern fire protection, including water supply, private fire protection methods, chemical extinguishers, and a study of various types of fixed and portable fire detection and alarm systems. This will include municipal, central station, proprietary and local alarm systems; heat, flame and smoke detectors; telephone, teletype and radio systems. Prerequisites: MTH:124 and Reading Proficiency.

FIR:111 FIRE FIGHTER I 4
This course presents students with the in-depth knowledge and performance skills necessary to function as members of a fire department and prepares students to sit for the state certification exam. Additional lab hours required. Prerequisite: Reading Proficiency.

FIR:112 FIRE FIGHTER II 4
This course presents students with the advanced knowledge and performance skills necessary to function as members of a fire department and prepares students to sit for the state certification exam. Additional lab hours required. Prerequisites: FIR:111 and Reading Proficiency.

FIR:202 FIRE INVESTIGATION 3
Methods determining point of origin, path of fire travel and fire causes; motives and methods for fire setting, recognizing and preserving evidence; arson laws, and types of arson fires, court testimony, reports and records. Prerequisite: Reading Proficiency.

FIR:204 FIRE FIGHTING TACTICS AND STRATEGY 3
Fundamental strategy and method of attack employed for various fire problems. Principles of fire fighting as applied to small and large scale fire problems and problems that are complex or unique in nature. Some practice with problems involving the use of tactics and strategy that employ equipment and manpower at various organizational levels. Prerequisite: Reading Proficiency.

FIR:205 FIRE SCIENCE HYDRAULICS 3
A study of the mechanics of liquids, particularly as pertains to water flow, hydrants, pumps, standpipes, hoses, nozzles, sprinkler systems as adapted to fire fighting practices. This involves interpretation of readings from various kinds of manometers, pressure gauges, and hydrostatic devices. Fluids in motion, head calculations, pumping problems, friction losses, cavitation, velocity of flow, use of pitot and venturi meters, are studied. Also the problems of supplying fire service pumps and efficiently using them is studied. Prerequisites: MTH:124 and Reading Proficiency.

FIR:207 CODES AND ORDINANCES 3
A detailed study of national, state and local ordinances applicable to the fire service and electrical, plumbing and building codes. Some coverage of problems in mutual aid pacts and agreements with other fire departments, and relations with civil defense and other government agencies. Prerequisite: Reading Proficiency.

FIR:208 HAZARDOUS MATERIALS 3
A second semester of basic fundamentals of chemistry used in fire science with emphasis on less common special hazards. Topics covered will include nuclear reactions, ionization, radiation detection equipment, peacetime uses of radioactive materials and control of resulting hazards. Prerequisite: Reading Proficiency.

FIR:210 ARCHITECTURAL STRUCTURAL REPRESENTATION-MATERIALS 3
Basic fundamentals of building plan reading including conventional delineation, symbols, abbreviations, methods of showing floor plans, elevations, and dimensions. Also basic characteristics of various materials and building structural systems when subjected to fire. Prerequisites: MTH:124 and Reading Proficiency.

FRENCH

FRE:101 ELEMENTARY FRENCH I 4
This is the beginning course which introduces the basic sentence structure and vocabulary necessary to participate in elementary French conversations. Additional course topics include: reading short French passages, aspects of contemporary culture, and a variety of grammatical forms useful in writing French prose. Supplemental online lab work is required. Prerequisite: Reading Proficiency.

FRE:102 ELEMENTARY FRENCH II 4
This course continues to focus on the topics introduced in FRE:101. These include more complex sentence structures and an expanded vocabulary necessary to participate in French conversations. Additional course topics include: reading short French passages of increasing complexity, elements of contemporary culture, and a number of grammatical forms useful when writing in French. Supplemental online lab work is required. Prerequisites: FRE:101 or 2 years of high school French and Reading Proficiency.

FRE:201 INTERMEDIATE FRENCH I 4
A continuation of FRE:102. Emphasis is on becoming proficient in using the language so that students can function in a francophone culture. Primary concentration is on developing speaking and listening skills. Testing is both oral and written. Prerequisites: FRE:102 or 3 or more years of high school French and Reading Proficiency.

FRE:202 INTERMEDIATE FRENCH II 4
The major emphasis is preparing students to be functioning members of a French speaking community. The student will gain the linguistic skills necessary to perform in everyday situations, Speaking and listening skills are further developed. Testing is both oral and written. Additional lab hours required. Prerequisites: FRE:201 or 4 or more years of high school French and Reading Proficiency.

FUNERAL DIRECTING

FD:101 FUNERAL MANAGEMENT/MERCHANDISING 6
The practices and procedures of establishing a funeral home are covered including personnel management, vital statistics, records and forms. Government regulations of OSHA, FTC and ADA are studied. An in-depth study of merchandising funeral goods including caskets and vaults is covered. Prerequisites: Admitted to Funeral Directing program and Reading Proficiency.

FD:102 FUNERAL SERVICE PSYCHOLOGY 3
This course studies the implications of grief and bereavement and the role of the funeral director in counseling the bereaved. The social role of the funeral director in the dynamics of grief and an investigation into the changing attitudes toward death is also studied. Prerequisites: Admitted to Funeral Directing program and Reading Proficiency.

FD:103 HISTORY OF FUNERAL SERVICE 3
The historic role of the funeral director is investigated from ancient to present day as well as projected directions and functions of the funeral profession. Ethical and legal implications of these changing trends are discussed. Various religious, ethnic, fraternal and military practices are studied. Prerequisites: Admitted to Funeral Directing program and Reading Proficiency.

FD:104 FUNERAL SERVICE LAW 3
This course identifies the methods of disposing of human remains and the legal responsibilities of the funeral director. Principles of both mortuary and business law are covered from the local, state and federal level. Cemetery regulations, liability and pre-need are also studied. Prerequisites: Admitted to Funeral Directing program and Reading Proficiency.
**Funeral Service Education**

**FNL:101 Orientation to Funeral Service** 2
An introduction to funeral service; ancient history, historical development, present funeral practices; values of funeral service; personal qualifications; ethics. Field trips to investigate current problem areas in funeral service. Prerequisites: Must have permission of program director and Reading Proficiency.

**FNL:102 Mortuary Law** 3
Principles of mortuary law; duties, rights and liabilities for final disposition. Business law; public and personal liability; business organization; licensing and zoning regulations. Probate proceedings, social security and life insurance benefits. Prerequisite: Must have permission of program director and Reading Proficiency.

**FNL:103 Embalming Chemistry** 3
This course is a survey of the basic principles of chemistry as they relate to funeral service. In this course there is a major emphasis on chemical principles and precautions involved in sanitation, disinfection, public health and embalming practice. The government regulation of chemicals currently used in funeral service is reviewed. Prerequisites: MTH:030, currently enrolled in Funeral Service Education program and Reading Proficiency.

**FNL:104 Funeral Service Equipment** 3
Designed to give the student a working knowledge of equipment items, manufacturing and use of such items. Study of caskets and vaults. Field trips and guest lectures. Prerequisites: Must have permission of program director and Reading Proficiency.

**FNL:106 Dynamics of Grief** 3
This course examines the dynamics of grief and its effect on the survivors following the death of a loved one. Various theories related to grief will be examined, as well as public attitudes about death and the funeral service profession. Specific helping skills utilized by the funeral director will be studied and practiced. Prerequisite: Reading Proficiency.

**FNL:200 Restorative Art** 4
A study of facial anatomy, color relationships and restorations. Students will develop skill in anatomical modeling and cosmetics. Additional lab hours required. Prerequisites: Sophomore standing in Funeral Service Education program and Reading Proficiency.

**FNL:201 Embalming** 3
Procedures and techniques of embalming, embalming theory and consideration of special treatments. Prerequisites: BIO:111, FNL:103, sophmore standing in Funeral Service Education program and Reading Proficiency.

**FNL:202 Funeral Management** 3
Current practice and procedures, funeral direction, psychological and sociological aspects of funeral service, funeral home operation, professional overview and image, professional regulations and effective personnel management. Prerequisites: Must have permission of program director and Reading Proficiency.

**FNL:205 Funeral Service Seminar** 1
Advanced management techniques and advanced technical procedures; research into current problems in funeral service; group discussion and problem solving. Practical applications and demonstrations of management counseling and funeral arrangement techniques. Prerequisites: Sophomore standing in Funeral Service Education program and Reading Proficiency.

**FNL:206 Embalming Practicum I** 2
One laboratory session for one semester in an appropriate situation. Practical experience in all phases of embalming. Additional lab hours required. Prerequisites: Previous or concurrent enrollment in FNL:201 and Reading Proficiency.

**FNL:207 Embalming Practicum II** 2
Students placed in local funeral homes to work under the direct supervision of licensed embalmer to gain knowledge of procedures used in embalming human remains for funeral services. Continuation of Embalming Practicum I with special emphasis on funeral directing and funeral home management. Prerequisites: Previous or concurrent enrollment in FNL:201 and Reading Proficiency.

**FNL:208 Pathology for Funeral Service** 3
Divisions and importance of pathology, nature and causes of diseases, to include: inflammation, repair and recuperation of tissue, tumors, diseases of the heart, respiratory and digestive systems are covered as well as microscopic examination of autopsy and surgical specimens. Prerequisites: Sophomore standing in Funeral Service Education program or department approval and Reading Proficiency.

**General Education**

**GEN:200 Capstone** 1
In this culminating experience of the general education curriculum, the student demonstrates the skills of higher order thinking, valuing, managing information and communicating through the independent, scholarly, self-directed project. Prerequisites: ENG:102 with a minimum grade of “C”, and COM:101 or COM:107 with a minimum grade of “C”, Sophomore standing, and Reading Proficiency. Recommended Preparation: 27 credit hours of general education coursework including completion of the global/intercultural requirement and the interdisciplinary studies requirement.

**General Engineering**

**GE:056 Fundamentals of Technology** 3
This course relates the fundamentals of technology to down-to-earth, everyday occurrences, problems, and devices. A unique instructional approach ties together parallel concepts for mechanical, electrical, fluid, and thermal systems. Skills used by all technicians are developed in practical hands-on laboratory experiences.

**GE:101 Technical Computer Applications** 3
This course is an introduction to the use of personal computers in technology. Topics of this course include PC hardware, operating systems, word processing, spreadsheets, graphics and the Internet. Prerequisite: Reading Proficiency.

**GE:121 Principles of Engineering** 3
This course is an introduction to the opportunities and responsibilities of Engineering. Students will learn the field of Engineering, and explore Engineering Careers. They will complete projects in Design, Engineering Systems, Thermodynamics, Fluid Systems, Electrical and Control Systems, Strength and Properties of Materials, and Production Process and Quality Control.

**GE:122 Engineering Design and Development** 3
Students will work in teams to design and build solutions to authentic engineering problems. Student teams will make progress reports to their peers, mentor and instructor, and will present their research paper and defend their projects to a panel of engineers, business leaders and instructors for professional review and feedback. Prerequisites: GE:121 and EGR:147 or ME:121 or ME:151 and EGR:100.

**GE:131 Engineering Technology Orientation** 1
This course introduces students to college level thinking skills, interpersonal skills, effective study skills and college services necessary for academic and professional success in engineering technology. Students will also be exposed to career opportunities and responsibilities in various fields of technology. Additional lab hours required. Prerequisite: Reading Proficiency.
Course Descriptions

GE:133 QUANTITATIVE METHODS IN ENGINEERING TECHNOLOGIES 2
This is a study of the mathematical and scientific applications found in engineering technologies. Topics include SI (metric) and customary (English) conversions, pythagorean applications, and triangular structures, and electrical resistance. Mechanical and electrical systems applications are demonstrated and investigated for each topic area. Prerequisites: MTH:030 or higher and Reading Proficiency.

GE:151 INTRODUCTION TO AEROSPACE ENGINEERING 3
This course will expose students to the world of aeronautics, flight and engineering. Through activity-based, project-based and problem-based learning students will be engaged in engineering design problems related to aerospace information systems, aeronautics, rocketry, propulsion, the physics of space science, space life sciences, principles of aeronautics, structures and materials, and systems engineering. Additional lab hours required. Prerequisites: EGR:147 and GE:121 or department approval.

GE:163 CONSTRUCTION DOCUMENTS AND COMMUNICATIONS 2
This course explores the fundamentals of contract documents which communicate design intent to contractors and builders in the construction industry. Students investigate and practice proper communication protocols to document decisions throughout a building’s design, construction and operational phases. Rating systems documentation will be included. Prerequisites: CE:116 with a minimum grade of “C”, and Reading Proficiency.

GE:240 PRODUCT DESIGN AND FABRICATION 4
This course presents students with an authentic engineering design challenge. Engineering technology students from a variety of disciplines, work together to define problems, evaluate possible solutions and build a functional prototype. The course brings together skills developed in other engineering and technology courses. Additional lab hours required. Prerequisites: Prior or concurrent enrollment in ME:152 or EE:233 or department approval, and Reading Proficiency.

GE:290 WORKPLACE LEARNING: GENERAL ENGINEERING 1-6
This workplace-based course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the industry to enhance their preparation for entering the field. Minimum 50 hours per credit hour in the workplace throughout the term. Prerequisites: Department approval and Reading Proficiency.

GEOGRAPHY

GEG:100 REGIONAL GEOGRAPHY: THE EASTERN WORLD 3
This geography course surveys the continents of Asia, Africa, Australia and the Pacific World including countries. The survey includes the physical, cultural, economic, and political roles of these countries within the family of nations. Prerequisite: Reading Proficiency.

GEG:101 REGIONAL GEOGRAPHY: THE WESTERN WORLD 3
This geography course includes a survey of the continents of Europe, Anglo-America and Latin America, the area’s major countries and their physical, cultural, economic, and political roles within the family of nations. Prerequisite: Reading Proficiency.

GEG:103 PHYSICAL GEOGRAPHY 3
A study of the physical earth, emphasizing the principles of weather, climate, natural vegetation soils and landforms. This course may be used to satisfy a natural science requirement. Prerequisite: Reading Proficiency.

GEG:106 U.S. AND WORLD GEOGRAPHY 3
This geography course surveys the continents of the Earth, including the nature of living environments of geographic areas and the geography of cities, their regional functions, location and cultural landscape. The survey includes weather, climate, resources, and land forms. Prerequisite: Reading Proficiency.

GEOLOGY

GEO:100 EARTH SCIENCE 3
This introductory geoscience course emphasizes basic principles of astronomy, geology, oceanography and meteorology. Topics covered include the origin of the Universe, solar system and Earth, minerals and rocks, plate tectonics, geologic time, prehistoric life and evolution, ocean structure and life, weather and climate change. Prerequisite: Reading Proficiency.

GEO:101 EARTH SCIENCE (LABORATORY) 2
Laboratory and field experiences illustrating the principles of earth science. Additional lab hours required. Prerequisites: GEO:100 concurrent enrollment and Reading Proficiency.

GEO:103 ENVIRONMENTAL GEOLOGY 3
This introductory geoscience course focuses on natural hazards and the human consequences associated with geologic processes. Topics include the study of plate tectonics, earthquakes, volcanoes, floods, tornadoes, storms, wildfires, climate change and global warming. Emphasis is placed on how those hazards affect humans and how human activity affects Earth’s environment. Prerequisite: Reading Proficiency.

GEO:104 PREHISTORIC LIFE 3
This is an introductory Historical Geology course that emphasizes paleontology and evolution through the fossil record. Topics covered include the origin of the Universe, the origin and evolution of Earth through geologic processes, plate tectonics, origin and evolution of life on Earth through four billion years of geologic time and hands-on study of fossils including dinosaurs. Prerequisite: Reading Proficiency.

GEO:111 PHYSICAL GEOLOGY 5
Introduction to the theoretical and practical aspects of the composition and structure of the earth. Additional lab hours required. Prerequisite: Reading Proficiency.

GEO:113 OCEANOGRAPHY 3
This introductory Oceanography course focuses on the geological aspects of oceanography combined with the physical, chemical and biological processes in the ocean. Topics covered include the origin of the Universe, Earth and life, plate tectonics, waves, atmosphere and marine life. Special emphasis is placed on worldwide, human-induced changes within the marine environment. Prerequisite: Reading Proficiency.

GEO:123 GEOLOGIC FIELD EXPERIENCES IN NORTH AMERICA 3
This field course studies the geology of North America. Topics include basic geologic mapping and measuring skills utilizing geological instrumentation, understanding geologic features, rock types, mineral identification and fossil identification through experiential learning. Planning session(s) prior to departure is required. Laboratory work is in a field setting and a major part of the course. Evening lectures and student presentations in the field are required. Additional hours required. Prerequisite: Reading Proficiency.

GERMAN

GER:101 ELEMENTARY GERMAN I 4
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary German conversation and to begin reading short German passages. Additional lab hours required. Prerequisite: Reading Proficiency.

GER:102 ELEMENTARY GERMAN II 4
A continuation of GER:101. Students complete the basic elements of German grammar, increase their vocabulary and gain added facility in speaking and reading German. Additional lab hours required. Prerequisites: GER:101 or 2 or more years of high school German and Reading Proficiency.

GER:201 INTERMEDIATE GERMAN I 4
A continuation of GER:102. Emphasis is on speaking German. A review of grammar assists the student in perfecting basic skills. A variety of up-to-date literary and cultural selections are read and form the basis for classroom discussions. Additional lab hours required. Prerequisites: GER:102 or 3 or more years of high school German and Reading Proficiency.
GLOBAL EDUCATION

GLE:101 GLOBAL EDUCATION STUDIES 1-3
This course will present an opportunity for students to travel to and to engage in the direct study of international cultures in order to foster an enhanced sensitivity to, appreciation of, and an understanding of the global community. Prerequisites: Permission of instructor and Reading Proficiency.

HEALTH INFORMATION TECHNOLOGY

HIT:101 MEDICAL TERMINOLOGY 4
This course provides a broad survey of the language of medicine and health technologies. Students learn to accurately spell and define common medical terms related to major disease processes, diagnostic procedures, laboratory tests, abbreviations, and treatments. Emphasis is placed on formation, definition and pronunciation. (Same as course IS:205). Prerequisite: Reading Proficiency.

HIT:102 HEALTH INFORMATION MANAGEMENT TECHNOLOGY 4
This course introduces healthcare data content and structure including its collection, arrangement, presentation, and verification. Healthcare data sets, primary and secondary record systems, and data quality and integrity are introduced. Students learn how IT supports healthcare delivery and they are introduced to health information systems concepts and applications. Prerequisite: Reading Proficiency.

HIT:103 HEALTHCARE DELIVERY SYSTEMS 2
This course describes the organization of healthcare delivery in the United States. Students are introduced to healthcare organizations, their structure and operations, external standards, regulations and initiatives including licensure, certification, accreditation, and HIPAA. Payment and reimbursement methodologies are discussed for each type of healthcare provider and setting. Prerequisite: Reading Proficiency.

HIT:104 BASIC PRINCIPLES OF DISEASE 2
This course provides an overview of disease processes affecting the human body via an integrated approach to specific disease entities, including the study of causes, diagnosis and treatment of disease. Typical health record data is interpreted. Prerequisites: BIO:215, HIT:101 and Reading Proficiency.

HIT:105 PHARMACOLOGY FOR HEALTH INFORMATION TECHNOLOGY PROFESSIONALS 1
This course provides an overview of pharmacy therapy available for clinical management of patient care. Specific disease states and the drugs used to alleviate and treat various conditions are studied. Prerequisites: BIO:215, HIT:101 and Reading Proficiency.

HIT:106 DIAGNOSIS CODING SYSTEMS I 3
This course introduces learners to clinical coding, classifications, taxonomies, nomenclatures and clinical vocabularies. Students will learn principles and applications of ICD-9-CM, ICD-10-CM, DSM-IV and the relationship of DRGs to coding. Use of computerized encoding and application software and work processes to support clinical classification and coding is required. Prerequisites: HIT:101, HIT:102, BIO:215 and Reading Proficiency.

HIT:107 PROCEDURE CODING SYSTEMS I 3
This course is an introduction to the clinical coding of ICD-9-CM Volume III, CPT-4 (Anesthesia, E&M, Surgical, Pathology/Laboratory, Radiology and Medicine), HCPCS Level II codes, ICD-10-PCS and other procedure coding systems. Reading and interpreting healthcare documentation to classify services and procedures, and using computerized encoding software are required. Prerequisites: HIT:101, HIT:102, BIO:215 and Reading Proficiency.

HIT:109 MEDICAL TRANSCRIPTION I 3
This course is designed to develop skill in keyboarding/formatting and in transcribing from machine dictation in a variety of medical documents, such as forms, correspondence, consultation and simple reports. Reinforcement of medical terminology and language skills, use of reference materials, ethics, and confidentiality are emphasized. Additional lab hours required. Prerequisites: HIT:101, IS:102 and Reading Proficiency.

HIT:110 HEALTHCARE LEGAL AND ETHICAL ISSUES 3
In this course learners investigate ethical issues in healthcare while examining the procedures and laws that regulate the content, confidentiality, disclosure, use, and retention of health information. Patient rights/advocacy, advanced directives, privacy, release of information, and security policies and procedures of healthcare organizations will be emphasized. Prerequisites: HIT:102 and Reading Proficiency.

HIT:201 HEALTH INSURANCE BILLING AND REIMBURSEMENT 3
This course prepares learners to compare and contrast health care payers, illustrate the reimbursement cycle, and comply with regulatory guidelines. Payment methodologies and systems are explored. Using computerized encoding and grouping software, the learner assigns DRGs, APCs, and RUGs. Chargemaster maintenance and reimbursement monitoring and reporting are emphasized. Prerequisites: HIT:103, HIT:106 and Reading Proficiency.

HIT:206 DIAGNOSIS CODING SYSTEMS II 3
This course is a continuation of Diagnosis Coding Systems I. Students are introduced to additional Diagnosis Related Groups (DRGs) and their relationship to coding. Prerequisites: HIT:106 and Reading Proficiency.

HIT:207 PROCEDURE CODING SYSTEMS II 3
This course is a continuation of Procedure Coding Systems I. Students use computerized encoding systems and healthcare data/content to assign appropriate CPT/HCPCS codes including Level II National Codes developed by the Centers for Medicare and Medicaid Services. Prerequisites: HIT:107 and Reading Proficiency.

HIT:208 ADVANCED CODING APPLICATIONS 2
Students will apply their knowledge of anatomy, the clinical disease process, diagnosis and procedural terminology and pharmacology for correct code assignment and sequencing using various clinical classification systems. Prerequisites: HIT:206, HIT:207, and Reading Proficiency.

HIT:209 MEDICAL TRANSCRIPTION II 3
This is an intensive course with emphasis on expanding medical terminology related to various specialties and on gaining skill in transcribing medical reports (history and physical examinations, consultations, operative notes, discharge summaries). Professionalism, decision-making, quality/productivity standards, and work priority are stressed. Additional lab hours required. Prerequisites: HIT:109 and Reading Proficiency.

HIT:210 PROFESSIONAL PRACTICE EXPERIENCE 2
This course allows students to experience the AHIMA e-HIM Virtual Lab in an environment that closely simulates real-world application of various technologies. Students apply problem-solving and analysis skills, and gain experience and familiarity with a range of healthcare applications including patient identification, administrative and reimbursement coding, data capture, and abstracting. Prerequisites: Permission of department chairperson or program coordinator and Reading Proficiency.

HIT:211 ELECTRONIC HEALTH SYSTEMS 3
This course emphasizes the role of information technology in healthcare, describes key elements of health information systems, defines the electronic health record (EHR), and establishes the context of the EHR within the scope of health information technology (HIT). Prerequisites: HIT:102, IS:103, IS:136, IS:151 and Reading Proficiency.

HIT:213 QUALITY AND PERFORMANCE IMPROVEMENT IN HEALTHCARE 3
This course introduces students to the theory, practice and management of quality performance and improvement through examination of peer review process, collection tools, data analysis and reporting techniques. Utilization, risk, and case management are blended concepts used throughout this course. Regulatory quality monitoring requirements and outcome measures monitoring are addressed. Prerequisites: HIT:102, HIT:103 and Reading Proficiency.
HIT:214 CALCULATING AND REPORTING HEALTHCARE STATISTICS 3
The focus of this course is the management of medical data for statistical purposes to include descriptive statistics such as means, frequencies, ranges, percentiles and standard deviations. Knowledge-based research techniques are explored. Vital statistics, registries and national guidelines regarding human subject research are examined along with IRB processes. Prerequisites: HIT:102, MTH:140 and Reading Proficiency.

HIT:291 WORKPLACE LEARNING: HEALTH INFORMATION TECHNOLOGY 2
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of health information technology to enhance their preparation for entering the field. Minimum 100 hours in the workplace throughout the term. Prerequisites: Permission of department chairperson or program coordinator and Reading Proficiency.

HISTORY

HST:100 AMERICAN CIVILIZATION 3
A study of American history, institutions and government. Special consideration will be given to the constitutions of the United States and Missouri. Intended primarily for students in career curricula. Credit not allowed for this course if credit is given for HST:101, HST:102, HST:103 or HST:104. Prerequisite: Reading Proficiency.

HST:101 UNITED STATES HISTORY TO 1865 3
United States History to 1865 surveys the cultural, economic, institutional, political, and social forces and events which have shaped the United States from the colonial period through the Civil War. Prerequisite: Reading Proficiency.

HST:102 UNITED STATES HISTORY FROM 1865 TO THE PRESENT 3
United States History from 1865 to the Present surveys the cultural, economic, institutional, political and social forces and events which have shaped the United States from the Civil War to the present. Prerequisite: Reading Proficiency.

HST:103 AMERICAN HISTORY I, HONORS 3
This course is a survey of American history from the European discovery of the Americas through the American Civil War. It explores the cultural, economic, political and social forces which have shaped the nation during that period. As an honors course it emphasizes small-group interaction in a seminar setting. Credit not allowed for this course if credit is given for HST:100. Prerequisites: Department Approval and Reading Proficiency.

HST:104 AMERICAN HISTORY II, HONORS 3
This course is a survey of American History from the Civil War through the present. It explores the cultural, economic, political and social forces which have shaped the nation during that period. As an honors course it emphasizes small-group interaction in a seminar setting. Credit not allowed for this course if credit is given for HST:100. Prerequisites: Department permission and Reading Proficiency.

HST:105 UNITED STATES IN THE TWENTIETH CENTURY 3
The United States in the Twentieth Century surveys the social, economic, political and intellectual forces which have shaped contemporary American life and institutions. This course will focus on change within America during the period 1898 to the present and will consider the effects of that change both on America and on America's relations with the rest of the world. Prerequisite: Reading Proficiency.

HST:107 THE AFRICAN AMERICAN EXPERIENCE, 1619 TO THE PRESENT 3
The African American Experience surveys the cultural, economic, institutional, political, social forces and events that have shaped the African American experience from early American origins to the present. This course will promote a better understanding of America's past by developing increased awareness of the history of African Americans, their problems and their accomplishments both individually and as a group. Prerequisite: Reading Proficiency.

HST:115 ANCIENT AND MEDIEVAL HERITAGE 3
This course is a survey of the Western World from Antiquity through the Renaissance, with concentrations on Egypt, Mesopotamia, Hebrews, the classical civilizations of Greece and Rome, Christianity and Medieval Europe and Islam. Attention is given to political developments, cultural achievements and literary sources and philosophical impact of each area as it applies to today's world. Prerequisite: Reading Proficiency.

HST:117 EARLY MODERN EUROPE 3
This course is a survey introducing the history of Western Civilization from the later Middle Ages through the French Revolution. Attention is given to the cultural, economic, intellectual, political, religious, and social forces which shape the Western World and its spheres of influence. Prerequisite: Reading Proficiency.

HST:119 THE MODERN WORLD 3
This course is an examination of the major cultural, technological and ideological changes which have helped to mold the complex, scientific, urban and materialistic world in which we live. Prerequisite: Reading Proficiency.

HST:128 WESTERN TRADITION II 3
This course will weave together the history, art, philosophy, literature, religion, geography, society, government and economics that evolved into European history from the Reformation: 1500 to the present. Prerequisite: Reading Proficiency.

HST:130 AFRICAN HISTORY I 3
This course will deal with the history of black Africans from the time of ancient Egypt to contemporary Africa. It will be concerned with the chronological progression of African civilization, covering individuals, events and the ideas of the various periods. Prerequisite: Reading Proficiency.

HST:131 AFRICAN HISTORY II 3
This course will encompass the interaction of Africa with the West and will evaluate the influence of black society on western society. Prerequisite: Reading Proficiency.

HST:137 AFRICAN AMERICAN HISTORY THROUGH RECONSTRUCTION 3
A survey of African American History from its African background through the Civil War and Reconstruction. The course will investigate African-American leaders, sociocultural institutions, as well as the Black community's relationship with the larger community. Prerequisite: Reading Proficiency.

HST:138 AFRICAN AMERICAN HISTORY FROM RECONSTRUCTION TO THE PRESENT 3
A survey of African American History from the era of Jim Crow to the present. The course will investigate African-American leaders, socio-cultural institutions, as well as the Black community's relationship with the larger community. Prerequisite: Reading Proficiency.

HST:139 BRITISH HISTORY 3
This course is a survey of British history from the time of Roman rule until the union of England and Scotland in 1707. Through lectures, videos, text assignments, and field trips, students will trace the historical development of the United Kingdom. Prerequisite: Reading Proficiency.

HST:201 HISTORY OF THE FAR EAST 3
A survey of East Asian civilizations focusing on institutional continuity and change, problems of indigenous response and adaptation to western influence, and contemporary problems. Prerequisite: Reading Proficiency.

HST:204 THE U.S. IN CRISIS AND CIVIL WAR 3
An in-depth study of the events and development in U.S. History between 1820 and 1865. The course will highlight the sectional differences and developments which led to the outbreak of the Civil War and the 1862-1865 war itself with all its national and international implications. Prerequisite: Reading Proficiency.

HST:205 HISTORY OF MODERN MIDDLE EAST 3
This course traces modern political, economic, and cultural developments in the Middle East. Special emphasis is placed on development and trends of contemporary importance. Prerequisite: Reading Proficiency.
HRT.101 INTRODUCTORY HORTICULTURE  
This course is designed to give students an understanding of soil formation, the chemical and physical properties of natural soils and soil management. Topics include soil use as it relates to plant growth and nutrition, fertility, drainage, and soil sampling and testing. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.102 SOILS  
This course is designed to give students an understanding of the various methods of plant propagation. Propagation by seed as well as vegetative propagation including cutting, grafting, layering, propagation of specialized structures and tissue culture will be presented. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.103 PLANT PROPAGATION  
This course is designed to give students an understanding of soil formation, the chemical and physical properties of natural soils and soil management. Topics include soil use as it relates to plant growth and nutrition, fertility, drainage, and soil sampling and testing. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.104 LANDSCAPE DESIGN I  
This course is an introduction to the basic principles of landscape design. It will emphasize learning computer aided design (CAD) programs that will be utilized professionally. Traditional drafting skills will also be developed to enhance plan presentation to clients. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.105 WORKPLACE LEARNING: HORTICULTURE  
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the horticultural business or institution to enhance their preparation for entering the field. Minimum 120 hours in the workplace throughout the term. Prerequisites: HRT.101 or BIO.124, approval of Horticulture department and Reading Proficiency.

HRT.110 FUNDAMENTALS OF HORTICULTURE  
Students will learn the practical applications of the science of horticulture. Ornamental plant culture will be considered in relation to environmental factors such as light, temperature, moisture and soil conditions. Prerequisite: Reading Proficiency.

HRT.111 SELECTED TOPICS IN GARDENING  
Students enroll in classes on special topics in horticulture through the adult education program at Missouri Botanical Garden. Classes must be approved by the Horticulture Program Coordinator. A total of 16 hours of instruction is required. Tuition rebates may apply. Prerequisites: HRT.110, approval of program coordinator and Reading Proficiency.

HRT.112 PLANT IDENTIFICATION: ANNUALS AND PERENNIALS  
Students will learn the identification, culture and uses of annuals and herbaceous perennials in the landscape. Emphasis will be on plants that perform well in the Midwest and on the study of native species. Prerequisites: HRT.110 and Reading Proficiency.

HRT.125 PLANT IDENTIFICATION: TREES  
This course will study deciduous and evergreen landscape trees. Identification through study of botanical characteristics will be emphasized. Landscape uses and plant culture will also be covered. Prerequisites: HRT.110 and Reading Proficiency.

HRT.126 PLANT IDENTIFICATION: SHRUBS AND VINES  
This course will study ornamental deciduous and evergreen shrubs and vines. Plant identification through study of botanical characteristics will be emphasized. Landscape uses and plant culture will also be covered. Prerequisites: HRT.110 and Reading Proficiency.

HRT.127 SOIL MANAGEMENT  
Soil as a growth medium for plants will be discussed. Special emphasis will be given to soil chemistry, water and physics. Aspects of soil testing and fertility management will also be presented. Prerequisites: HRT.110 and Reading Proficiency.

HRT.128 TURFGRASS CULTURE  
Turfgrass culture and management will be discussed. Specific practices as they relate to residential and commercial lawn care will be emphasized. Prerequisites: HRT.110 and Reading Proficiency.

HRT.130 PRINCIPLES OF LANDSCAPE DESIGN  
Basic principles of landscape design will be presented. Application of these principles will be demonstrated through the study of landscape plans. Prerequisites: HRT.110 and Reading Proficiency.

HRT.132 PLANT PEST IDENTIFICATION AND MANAGEMENT  
Various aspects of insect and disease management will be discussed as they pertain to ornamental plants. Special consideration will be given to identification and control of specific plant pests. Prerequisites: HRT.110 and Reading Proficiency.

HRT.133 LANDSCAPE MANAGEMENT  
This course will address management practices for residential and commercial landscapes. Establishment and care of landscape plants will be covered and may include turf grass, trees, shrubs and herbaceous plants, fertilization and irrigation practices will be discussed. Prerequisites: HRT.110 and Reading Proficiency.

HRT.134 MICROPROPAGATION OF PLANTS  
This course is an introduction to micropropagation, also called tissue culture. Topics presented include plant anatomy, hormones involved in plant growth, micropropagation techniques and industry uses. Techniques practiced include apical, root and seed propagation, and callus manipulation influenced by different hormones. Additional hours required. Prerequisites: HRT.101 or BIO.124 and HRT.103 or BIO.219 and Reading Proficiency.

HRT.201 TURFGRASS MANAGEMENT  
This course will cover general and special-purpose turfgrasses. Turfgrass use, establishment and management will be emphasized. The laboratory is designed to give the student basic skills in turfgrass identification, pest diagnosis and cultural management. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.205 NURSERY AND GARDEN CENTER PRACTICES  
This course is an overview of the nursery and garden center industries. Discussion of nursery operations will include practices from propagation through growing to final product production and distribution. Garden center topics will include merchandising, garden center layout, product trends and specialty items. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.

HRT.206 ORNAMENTAL PLANTS - TREES AND VINES  
This course is a study of ornamental landscape plants with an emphasis on woody vines and deciduous trees. Botanical characteristics of plants will be emphasized for identification purposes. Landscape use and plant culture will also be discussed. Additional lab hours required. Prerequisites: HRT.101 or BIO.124 and Reading Proficiency.
Course Descriptions

HRT:207 ORNAMENTAL PLANTS - SHRUBS AND EVERGREENS 3
This course is a study of ornamental landscape plants with an emphasis on deciduous shrubs and evergreen shrubs and trees. Botanical characteristics of plants will be emphasized for identification purposes. Landscape use and plant culture will also be discussed. Additional lab hours required. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:214 GROUNDS MANAGEMENT 3
This course is designed to provide students the skills necessary to manage and maintain the varied aspects of landscapes in residential and commercial settings. Specific topics will include planting techniques, soil preparation, pruning, fertilizing, water and irrigation management, and other related subjects. Additional lab hours required. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:217 LANDSCAPE DESIGN II 3
This course is a continuation of HRT:104. Emphasis will be on applying the principles of art and design in developing landscape plans. Plant selection and use will be emphasized. CAD training will continue. Landscape construction plan details will be introduced. Prerequisites: HRT:104 and Reading Proficiency.

HRT:218 LANDSCAPE DESIGN III 3
This course is a continuation of Landscape Design II with emphasis on the application of the principles of art and design in developing landscape plans. This class will detail conceptual and planting design and emphasize construction plans. CAD training will continue. Additional lab hours required. Prerequisites: HRT:217 and Reading Proficiency.

HRT:220 LANDSCAPE IRRIGATION 3
This course will provide an overview of the components, management, design and use of irrigation systems used in various landscape situations. Specific applications for turf and garden irrigation will be addressed. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:227 PLANT PEST MANAGEMENT 4
This course is a study of the insect and disease pests that affect ornamental plants. Emphasis is on pest identification and treatment through a knowledge of signs, symptoms and pest life cycles. Preparation for the Missouri Pesticide Applicator License is also included. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:230 ORNAMENTAL PLANTS - HERBACEOUS PERENNIALS 3
Students will study the uses of perennials in the landscape and the role of perennials in commercial and residential garden design. Plant identification including specific characteristics such as growth habit, foliage and flowers will be emphasized. Gardening and cultural practice will be discussed. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:235 ANNUALS AND ORNAMENTAL GRASSES 3
Students will be introduced to the identification of annual landscape plants and their use in private, public and commercial gardens. Ornamental grasses, their identification, use and culture will also be covered. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:240 GOLF COURSE MANAGEMENT 3
This course will cover the varied aspects of management of private and public golf courses. Course content will include primary cultural practices of putting greens, tees, fairways, roughs and bunkers as well as address routine course maintenance and operations. Topics in specialized golf course equipment will be presented. Prerequisites: HRT:201 and Reading Proficiency.

HRT:241 GREENHOUSE MANAGEMENT 3
Students will learn techniques for producing a variety of ornamental crops. Greenhouse structures, and greenhouse environmental factors and their effect on plant growth will also be studied. Wholesale production and retail marketing will be presented. Special attention will be paid to the St. Louis and Midwest markets. Additional lab hours required. Prerequisites: HRT:101 or BIO:124 and Reading Proficiency.

HRT:242 URBAN TREE MANAGEMENT 3
This course will introduce students to the management of urban forest greenspaces emphasizing the social value of urban trees, street and park tree inventories, tree ordinances and program administration. Tree selection, site evaluation, soil, planting, pruning and hazard tree evaluation will be included. Prerequisites: HRT:101 or BIO:124, HRT:206 and Reading Proficiency.

HRT:245 SPECIAL APPLICATIONS IN LANDSCAPE DESIGN 3
Students will learn to design specialty gardens such as woody and herbaceous borders, small urban spaces, special access gardens, woodland gardens and public display gardens. Designs may be developed using CAD or traditional drafting methods. Course content will include construction techniques. Additional lab hours required. Prerequisites: HRT:206, HRT:207, HRT:230 and Reading Proficiency.

HOSPITALITY AND TOURISM

HTM:100 INTRODUCTION TO THE HOSPITALITY INDUSTRY 3
This course introduces the student to the business of hospitality and presents the exciting career opportunities available in one of the world’s largest and most dynamic industries. It focuses on defining hospitality, introducing its various service segments, and presenting possible career paths within each segment. Entry test requirement: Test into ENG:101. Prerequisites: ENG:030 with a minimum grade of “C” or Reading Proficiency.

HTM:105 PROFESSIONALISM IN THE HOSPITALITY INDUSTRY I 3
This course will assist potential and current hospitality employees in developing the personal qualifications, interpersonal skills, and professional values that are in demand in the workplace. Prerequisite: Reading Proficiency.

HTM:110 NEGOTIATIONS IN THE HOSPITALITY INDUSTRY 2
This course provides practical experience in negotiation within a hospitality context. Through the use of hospitality industry specific role-plays, discussions, and writing exercises, students will develop effective and ethical negotiating skills. Students will learn how to adjust their own personal negotiating style to respond appropriately to different personalities and negotiation tactics. Prerequisite: Reading Proficiency.

HTM:115 HOSPITALITY CUSTOMER SERVICE AND GUEST RELATIONS 3
This course provides the student with the basic knowledge of “service” and how it applies to managing guest relations in the hospitality industry. Service will be examined from the perspective of those who deliver it and those who manage it. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:120 SUPERVISION AND LEADERSHIP IN THE HOSPITALITY INDUSTRY 3
This course offers insight into the various aspects of supervision and leadership in the hospitality industry. Students are introduced to the functions of supervision and how it relates to all stakeholders within a hospitality organization. Supervisory roles, responsibilities, and essential supervisory skills are presented through study and practical applications. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:125 NUTRITION FOR THE CULINARIAN 3
This course is an introduction to the study of nutrients in food and their effects on the human body. It explores nutrition and health, sources and functions of nutrients, food habits and customs, menu planning and food preparation. Prerequisite: Reading Proficiency.

HTM:200 PROCUREMENT IN THE HOSPITALITY INDUSTRY 3
This course will prepare students to employ the principles of effective food, beverage, and supply purchasing necessary to support food preparation and service departments of hospitality operations. Students will be exposed to product specifications, food grading, comparative buying, and procedures associated with purchasing, receiving, issuing and inventory control using current industry technology and software. Prerequisites: HTM:100 or HRM:134, MTH:108 or Higher, and Reading Proficiency.
HTM:205 LEGAL ASPECTS OF HOSPITALITY
This course is a comprehensive study of the legal issues encountered in hospitality management. Prevention and compliance are stressed to reduce potential liability in hospitality organizations. Areas of emphasis include government regulations, employment, contractual agreements, insurance, property, safety and security, food and beverage management, and guest liability. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:210 HOSPITALITY FINANCIAL PLANNING AND COST CONTROL
This course introduces students to common methods of operational cost control found in the hospitality industry. Students will develop operational standards and will determine daily operational levels and break-even points. Costs of food, beverage, labor, and direct expenses are examined. Budgeting, Forecasting, Analysis and Decision Making are examined. Prerequisites: HTM:100 or HRM:134, MTH:108 or higher, and Reading Proficiency.

HTM:215 HOSPITALITY SALES AND MARKETING
This course introduces students to fundamental marketing terms, theory, and concepts that shape the business model in the hospitality industry. Marketing is emphasized as a management philosophy that guides the design and delivery of guest services; a way of doing business. Both short and long-term marketing plans are examined with a focus on how marketing impacts every facet of the organization. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:220 HOTEL FACILITIES MANAGEMENT
This course covers the fundamental duties and responsibilities of a hotel's housekeeping and maintenance departments. Topics include personnel, cleaning, purchasing, equipment, textiles, maintenance, safety, and basic systems for hotel facility management. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:225 HOTEL OPERATIONS
This course examines the organization and management of hotel operations. It focuses on the interdependent nature of the major departments within a hotel/resort operation; rooms division, food and beverage, sales and marketing, housekeeping and maintenance, and general administration. There is a concentrated focus on front office operations and procedures. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:230 BAR AND BEVERAGE MANAGEMENT
This course is a study of beverage service and management in a hospitality establishment. Topics include beverage knowledge, purchasing, control, marketing, legislation, staffing, service, and pairing with food. The concept of responsible alcohol beverage service is also covered and offers the student the opportunity to earn the ServSafe Alcohol certification through the National Restaurant Association. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:235 FOODSERVICE DESIGN AND LAYOUT
This course is a survey of the basic essentials necessary for the successful layout and design of a foodservice establishment. Topics to be covered include: planning, design, selection, operation, maintenance, and layout of equipment used in various types of foodservice operations. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:240 WORKPLACE LEARNING: HOSPITALITY
This experiential course provides the student opportunity to apply theory and skills learned in the classroom to new skills in the hospitality industry. Students will be supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the Hospitality industry to enhance their preparation for entering the field. Prerequisites: HTM:100 or HRM:134, and Reading Proficiency.

HTM:245 EVENT PLANNING I
This course provides students with a practical overview of the many factors that must be considered in the planning and execution of successful meetings and special events. Students will be exposed to program goals and objectives; basic budget questions; destination options; and venue considerations; transportation options; food and beverage decisions; speaker and entertainment selection; and other critical aspects of event planning. Prerequisite: Reading Proficiency.

HTM:250 EVENT PLANNING II
This course exposes students to the business side of special events including concepts and strategies. Students will examine how to leverage suppliers and vendors, process written proposals, determine management fees, negotiate contracts, encompass safety and security factors, and utilize state-of-the-art technologies that will enhance the meeting or event's effectiveness and enjoyment. Prerequisites: HTM:245 or HRM:261 with minimum grades of "C”, and Reading Proficiency.

HTM:255 EVENT PLANNING III
This course utilizes the acquired knowledge from Event Planning I and II by requiring students to research, plan, design, and construct a mock event from start to finish. Students will have a hands-on opportunity to develop sound skills and abilities in the compilation of a presentation representing a realistic meeting or special event. Prerequisites: HTM:250 or HRM:262 with minimum grades of “C”, and Reading Proficiency.

HTM:260 TRAVEL AND TOURISM FOUNDATIONS
This course is designed to provide non-automated, foundational knowledge for those entering the travel and tourism industry. Students will learn the codes, terms, definitions, organizations, resources, and important concepts that pertain to the various segments of the industry. Prerequisite: Reading Proficiency.

HTM:265 TRAVEL AND TOURISM DESTINATION GEOGRAPHY
This course explores common destinations from a travel and tourism perspective. Students will study the physical environment, climate, people, manmade and natural attractions, traveler preparation, transportation, and accommodations associated with these destinations. Prerequisites: GEG:106 with a minimum grade of “C”, and Reading Proficiency.

HTM:270 TRAVEL AND TOURISM COMPUTER SYSTEMS
This course is designed to provide automated, foundational knowledge for those entering the travel and tourism industry. Students will learn the basics of using select computer systems and the Internet for the acquisition of travel information, the construction of travel arrangements, and the collection and use of customer data for marketing purposes. Prerequisites: HTM:260 or TUR:104 with minimum grades of “C”, IS:123 with a minimum grade of "C” or equivalent experience, and Reading Proficiency.

HUMAN SERVICES

HMS:100 INTRODUCTION TO HUMAN SERVICES
A survey course to introduce students to human and community needs and to the concepts of the helping profession. Students examine community resources, the relationship of agencies and bureaucracies to the total community, and the worker’s role and responsibility in the helping profession. Prerequisite: Reading Proficiency.

HMS:101 HUMAN SERVICES: THEORIES AND SKILLS
An overview of methodology used in the helping profession. Course will include an analysis of helping relationships, a study of interpersonal skills and practice techniques. A process-oriented approach to solving individual, family and community problems will be stressed. Prerequisite: Reading Proficiency.

HMS:102 HUMAN SERVICES: POLICY AND POLITICS
An analysis of the political process involved in the formation of social welfare policies from a historical point of view. Federal, state, and local programs will be examined in terms of skills and knowledge to affect program planning and delivery. Prerequisite: Reading Proficiency.

HMS:110 INTRODUCTION TO GERONTOLOGY
This course will explore the complex forces that shape an elderly person’s experiences and circumstances. It will help students to assess the impact of economics, social forces, cultural value systems, and social institutions on the needs and characteristics of the elderly. Prerequisite: Reading Proficiency.
HMS:111 GROUP PRACTICE IN HUMAN SERVICES 3
This course will focus on the basic issues of group work in Human Services settings. The theory behind group work practice, a study of the various types of groups, ethical issues, group leadership, and the process of forming and working with groups will be covered. Prerequisites: HMS:100 recommended and Reading Proficiency.

HMS:112 INTERVIEWING IN THE HELPING RELATIONSHIP 3
Provides students with an integrated approach to basic helping skills, utilizing theories, practice and case application. An introduction to interviewing skills for use in both professional and paraprofessional settings. Prerequisite: Reading Proficiency.

HMS:118 AGING AND DISABILITIES 3
This course will focus on the aging process and the manifestations of aging in persons with congenital or acquired disabilities. Current habitation, rehabilitation programs and recent technologies will be explored. Discussions will also center on aging care providers and their concerns and needs. Prerequisite: Reading Proficiency.

HMS:119 INTRODUCTION TO THE FIELD OF DISABILITIES 3
A course designed to provide an overview of issues in the field of disabilities. Discussions focus on the service delivery system and ways in which current legislation, inclusionary models, and other trends impact the lives of persons with disabilities and their care givers. Resources and careers in disabilities will be explored. Prerequisite: Reading Proficiency.

HMS:120 TEAM BUILDING: WORKING WITH CARE GIVERS 3
Focus is on communication, cooperation, and collaboration with care givers of persons with disabilities. Presented will be choices, decision-making, support systems, which aid persons with disabilities and their care givers with full inclusion into society. Prerequisite: Reading Proficiency.

HMS:121 WORKING WITH CHALLENGING BEHAVIORS 3
This course provides students with the learning and application of intervention skills to assist individuals with disabilities to achieve their full potential. Focus is on providing support in community settings to persons with disabilities whose behaviors pose challenges. Prerequisite: Reading Proficiency.

HMS:122 HEALTH ISSUES AND PERSONS WITH DISABILITIES 3
Introduction to the basic principles of the health, etiology, and prognosis of specific disabilities. First aid, CPR, medicine administration and other emergency concerns will be explored. Experiences focusing on personal care assistance, positioning, transferring, feeding, etc. for disabled will be learned. Prerequisite: Reading Proficiency.

HMS:123 INCLUSION IN THE COMMUNITY 3
Designed to help care givers and/or paraprofessionals prepare individuals with disabilities for maximum empowerment and self-advocacy in their respective communities. Introduction to and discussion of alternative living situations and supports needed for inclusion. Staff career competencies explored. Prerequisite: Reading Proficiency.

HMS:201 WORKPLACE LEARNING I: HUMAN SERVICES 3
This workplace-based course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the function of the organization to enhance their preparation for entering the Human Services field. Minimum 50 hours per credit hour in the workplace throughout the term. Concurrent enrollment in HMS:203 required. Prerequisites: HMS:100 and HMS:101 with grades of “C” or better and Reading Proficiency.

HMS:202 WORKPLACE LEARNING II: HUMAN SERVICES 3
This workplace-based course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the function of the organization to enhance their preparation for entering the Human Services field. Minimum 50 hours per credit hour in the workplace throughout the term. Concurrent enrollment in HMS:204 required. Prerequisites: HMS:201 and HMS:203 with grades of “C” or better and Reading Proficiency.

HMS:203 HUMAN SERVICES WORKPLACE LEARNING SEMINAR I 3
Discussion and analysis in small groups of the human services practicum experience. There will be special learning objectives related to the kind of work the student will do in an organization after completion of the program. Corequisite: HMS:201. Prerequisites: HMS:100 and HMS:101 with grades of “C” or better and Reading Proficiency.

HMS:204 HUMAN SERVICES WORKPLACE LEARNING SEMINAR II 3
This course builds on the learning objectives of HMS:203. These objectives will be related to the work the student will do after completion of the program. Corequisite: HMS:202. Prerequisites: HMS:100, HMS:101, HMS:201 and HMS:203 all with grades of “C” or better and Reading Proficiency.

HMS:205 CRISIS INTERVENTION 3
Course designed as a beginning training unit for people who anticipate or are presently working with individuals in crisis situations such as suicide, rape, spouse abuse, death and drug. Will focus on theory and practical application of crisis intervention techniques. Prerequisite: Reading Proficiency.

HUMANITIES

HUM:101 HUMANITIES I 4
This course explores the development of Western culture from its beginnings to the early modern period. Its focus is on the basic attitudes, feelings and ideas expressed in art music, literature, philosophy, and religion. A major objective of the course is to help students develop the ability to understand and enjoy diverse cultural styles. Prerequisite: Reading Proficiency.

HUM:102 HUMANITIES II 4
This course focuses on understanding the human meaning of the many different cultural styles in our modern Western world. The course will trace the development of classical and popular music, art, literature, and philosophy, and the growing impact of science on our beliefs and attitudes. The arts and ideas of the last 100 years will receive special attention, and recent developments such as rock music and jazz will be explored. Prerequisite: Reading Proficiency.

HUM:106 BLACK HUMANITIES 3
This course is an examination of the development of ideas expressed in art, music, literature, philosophy, education, psychology, sociology, and religion of the African Diaspora. Several academic areas will be explored from an Afrocentric perspective to stimulate an interest and kindle a passion for further study. Cultural styles of the African diaspora are explored in the local, global, and intercultural contexts. Prerequisite: Reading Proficiency.

HUM:109 ARTS AND IDEAS IN THE ANCIENT WORLD 3
This humanities course uses the visual arts and literature to trace the development of belief systems from the earliest expressions found in prehistoric remains through the rise of the great civilizations of Egypt, Greece and Rome. Prerequisite: Reading Proficiency.

HUM:110 THE MIDDLE AGES AND THE RENAISSANCE 3
This humanities course explores the arts and ideas, including philosophies and religions, that infused and created the cultural periods known as the Middle Ages and Renaissance in Western Europe, and the ways in which these arts and ideas represented the visible and/or audible expression of the human condition. Prerequisite: Reading Proficiency.

HUM:112 CREATIVE THINKING 3
This interdisciplinary course helps students develop their capacities to observe clearly, to generate ideas and alternatives, to overcome blocks to recognize and solve problems, and to assess results. The skills taught apply to all arts and sciences, to business, and to personal interests. Prerequisite: Reading Proficiency.

HUM:113 INTRODUCTION TO IRISH STUDIES 3
Introduction to Irish Studies is an interdisciplinary survey of Irish history and culture from prehistoric times to the present, with special emphasis on the role of the arts in the struggle for independence and the outstanding achievements of Irish writers and poets. Prerequisite: Reading Proficiency.
HUM:115 LIFE AND DEATH DURING THE NAZI ERA 3
An interdisciplinary approach to the study of life in Nazi Germany. Literary, psychological and historical texts on such topics as education, racial prejudice and propaganda are read and interpreted in class. Supplementary slides and documentary films are used. Prerequisite: Reading Proficiency.

HUM:208 LIBERAL ARTS SEMINAR: THEMES IN THE LIBERAL ARTS 3
The seminar will draw together the main themes of a liberal arts education: the consideration of the impact of science, technology and the humanities on societies over time, values and ethics appropriate to a new age, the future consequences of present policies, the enjoyment and importance of both the arts and the sciences. The theme may change semester by semester. Prerequisite: 32 hours or consent of Liberal Arts coordinator/instructor and Reading Proficiency.

HUM:209 BLACKS AND THE WORLD OF CINEMA 3
This course examines the historical and social evolution of blacks in the film industry. It traces the impact of African-Americans as actors, technicians, directors, producers, and audience of short and feature length films. Prerequisites: ENG:101 and Reading Proficiency.

INFORMATION REPORTING TECHNOLOGY

IRT:101 PRINCIPLES OF JUDICIAL REPORTING I 3
This course introduces the student to the role of the reporter in trials, depositions, and administrative hearings. All phases of format and design are taught as it pertains to the production of trials, depositions, and administrative hearings. The student will receive instruction in reference materials, related jobs, NCRA Code of Professional Conduct, and basic proofreading techniques. Prerequisites: IRT:170 and Reading Proficiency.

IRT:138 INTRODUCTION TO COMPUTER-AIDED TRANSCRIPTION 3
This course introduces the student to the Computer-Aided Transcription (CAT) software and gives instruction in the operation of a computer hardware data input device for the creation of a legal document and the development of the dictionaries for their use. Prerequisites: IRT:170, IS:123 and Reading Proficiency.

IRT:140 LEGAL TERMINOLOGY 3
This course will teach the student the meaning of legal and Latin terms. It will also cover instruction on civil and criminal law, the judicial system (including discovery, trial, and appellate processes), the legislative process, hearings, and arbitrations, research and citations, and the notary public law. Prerequisite: Reading Proficiency.

IRT:142 EDITING OF LEGAL DOCUMENTS 3
This course covers the basic rules of English grammar, punctuation, spelling, numbers, capitalization, vocabulary development, proofreading of the spoken word, and the transcription of legal documents. Prerequisites: IRT:170 and Reading Proficiency.

IRT:150 LITERARY I 3
This course covers speedbuilding of literary dictation at speeds of 100 and 120 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation, with special emphasis on dictionary building/management. Prerequisites: IRT:170 and Reading Proficiency.

IRT:169 INFORMATION REPORTING I 3
This course introduces the student to the basic computer-compatible theory for writing on the stenotype machine. The student will develop the ability to write words and sentences. Prerequisites: IS:102 or 30 wpm typing and Reading Proficiency.

IRT:170 INFORMATION REPORTING II 3
This course completes the introduction of the computer-compatible theory for writing on the stenotype machine. The student will continue to develop their ability to write testimony material up to speeds of 60 wpm with 95% accuracy. Prerequisites: IRT:169 and Reading Proficiency.

IRT:171 INFORMATION REPORTING III 3
This course covers speedbuilding of literary, testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 100 wpm on testimony, 80 wpm on jury charge, and 60 wpm on literary. Prerequisites: IRT:170 and Reading Proficiency.

IRT:172 INFORMATION REPORTING IV 3
This course covers speedbuilding of literary, testimony, jury charge material with emphasis on accurate transcription. The student will build speed to 140 wpm on testimony, 120 wpm on jury charge, and 100 wpm on literary. Prerequisites: IRT:171 and Reading Proficiency.

IRT:173 INFORMATION REPORTING V 3
This course covers speedbuilding on literary, testimony, medical testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 180 wpm on testimony, 160 wpm on medical testimony, 160 wpm on jury charge, and 120 wpm on literary. Prerequisites: IRT:172 and Reading Proficiency.

IRT:174 INFORMATION REPORTING VI 3
This course continues to cover speedbuilding in literary, testimony, medical testimony, and jury charge material with emphasis on accurate transcription. The student will build speed to 225 wpm on testimony, 200 wpm on medical testimony, 200 wpm on jury charge and 180 wpm on literary. Prerequisites: IRT:173 and Reading Proficiency.

IRT:175 CART REPORTING I 3
This course will introduce the student to realtime translation and its application in the CART environment. Prerequisites: IRT:138, IRT:150 and Reading Proficiency.

IRT:201 PRINCIPLES OF JUDICIAL REPORTING II 3
This course covers advanced phases of formatting, design, and creating include pages to be inserted in trial, deposition and administrative hearing. The student will receive advanced instruction on developing and using parenthetical phrases, punctuating the spoken word and proofreading techniques. This course will prepare students to be able to produce transcripts for civil, criminal, worker’s compensation and federal court. Prerequisites: IRT:101, IRT:172 and Reading Proficiency.

IRT:202 BROADCAST CAPTIONING I 3
This course is designed to teach students the basics of broadcast captioning. Students will learn about dictionary management, researching for a show, captioning style and format, evaluating their writing, and the basic formats for writing news, weather, sports, and other broadcasts. Additional lab hours required. Prerequisites: IRT:174 or IRT:251 and Reading Proficiency.

IRT:203 BROADCAST CAPTIONING II 3
This course is designed to teach students the basics of broadcast captioning for all sports captioning. Students will learn about dictionary management, researching for a show, captioning style and format, evaluating their writing, and all the formats for writing all the sports shows. Additional lab hours required. Prerequisites: IRT:202 and Reading Proficiency.

IRT:250 LITERARY II 3
This course offers speedbuilding of literary dictation at speeds of 140 and 160 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation, with special emphasis on dictionary building/management. Prerequisites: IRT:150 and Reading Proficiency.

IRT:251 LITERARY III 3
This course covers speedbuilding of literary dictation at speeds of 180 and 200 words per minute. Instruction will include writing the spoken word with punctuation by means of an NCRA Task Force approved Phase I and Phase II realtime translation theory to provide instantaneous, realtime translation with special emphasis on dictionary building/management. Prerequisites: IRT:250 and Reading Proficiency.
Course Descriptions

IRT:252 CART REPORTING II 3
This course is designed to prepare the students to be able to provide CART reporting in the different environments where CART reporting is required for communication access. Prerequisites: IRT:175, IRT:250 and Reading Proficiency.

IRT:253 WORKPLACE LEARNING: JUDICIAL REPORTING 1
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the function of the Judicial reporter to enhance the preparation for entering the field. The student shall complete 50 verified hours of actual writing time during the internship. Prerequisites: IRT:174 or one test at 200 wpm testimony and Reading Proficiency.

IRT:254 WORKPLACE LEARNING: CART REPORTING 1
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the CART reporter to enhance their preparation for entering the field. The student shall complete 50 verified hours of actual writing time during the internship. Prerequisites: IRT:250 and Reading Proficiency.

IRT:255 WORKPLACE LEARNING: CAPTIONING REPORTING 1
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the CART reporter to enhance their preparation for entering the field. The student shall complete 50 verified hours of actual writing time during the internship. Prerequisites: IRT:250 and Reading Proficiency.

IRT:256 MEDICAL TESTIMONY/COLLOQUY 3
This course covers the writing of medical testimony for depositions and trials and the application of writing testimony and medical testimony in multi-voice environments. Prerequisites: IRT:172 and Reading Proficiency.

IRT:257 ADVANCED COMPUTER-AIDED TRANSCRIPTION 3
This course will introduce the student to the advanced applications of the Computer-Aided Transcription (CAT) software for information reporting technology. The student will learn about videotaping in depositions for trial purposes and litigation support. Prerequisites: IRT:138 and Reading Proficiency.

INFORMATION SYSTEMS

IS:101 KEYBOARDING 1
This course is designed for the beginning student to develop touch control of the keyboard, to use proper techniques, to build skill to a minimum of 25 words per minute for one minute. Emphasis is on learning the alphabetic, numeric, and symbol keys and on building basic skill. Pass/Fail grading. Additional hours may be required.

IS:102 KEYBOARDING AND FORMATTING 3
This course is designed for the beginning student to develop touch control of the keyboard, to use proper techniques, to build basic skill to a minimum level of 35 words per minute for three minutes, and to apply basic formatting skills to the production of letters, memorandums, reports, and tables. Additional hours may be required.

IS:103 INFORMATION SYSTEMS FOR BUSINESS 3
A study of computers and information systems for business functions. Topics include computer technology and its impact on business organization, role of people in an information system environment, programming fundamentals, information systems and the computer in solving business management problems. Credit not allowed for this course if credit is given for IS:100. Prerequisite: Reading Proficiency.

IS:107 INTRODUCTION TO PROGRAMMING 3
This course emphasizes problem-solving techniques utilizing current programming development environments to create computer program solutions to simple programming problems. Topics include number systems, program design, pseudocode, loops and decisions, functions, arrays, structures, and recursion. Programming assignments using current development environments will be required. Prerequisites: IS:103, MTH:010 or higher-level math or scored placement into MTH:140 and Reading Proficiency.

IS:109 PROOFREADING AND EDITING SKILLS 1
This course is designed to assist the office professional control the quality of business communication through proofreading for accuracy in mechanics, format, and content as well as editing documents for correctness, conciseness, and clarity. Reference materials are used as a source in applying spelling, word division, grammar, capitalization, punctuation, number and word usage. Prerequisites: IS:102 or IS:101 or IS:164 and Reading Proficiency.

IS:110 PROGRAM DESIGN AND DEVELOPMENT 3
This course is a study of programming methods and algorithms including object-oriented development, error handling, event processing, data manipulation with database connectivity, forms and reports, and simple graphics processing. Projects using current development environments will be required. Prerequisites: Prior or concurrent enrollment in IS:107 and Reading Proficiency.

IS:112 SOFTWARE AND HARDWARE CONCEPTS 3
This course is a survey of technical topics related to computer systems with emphasis on the relationships between hardware architecture and systems software. Binary and hexadecimal number systems, data representation, data structures, processor architecture, and operating systems functions and methods will be explored. Prerequisites: MTH:140, Reading Proficiency. Basic computer literacy is expected.

IS:116 COMPUTER LITERACY 3
This course explores the terminology and concepts of computers including file management, Internet browsers, and web page development. Students gain proficiency using productivity tools such as word processors, presentation software, electronic spreadsheets and electronic mail to solve problems, communicate, and manage information to make informed decisions. Students will also develop a computer application. Prerequisite: Reading Proficiency.

IS:118 COMPUTER APPLICATIONS-DATABASES 1
This course focuses on the use of a relational database system on the computer with business and personal applications. Additional lab time may be required. Prerequisite: IS:123 or equivalent experience.

IS:119 COMPUTER APPLICATIONS-WORD PROCESSING 1
This class is an introduction to word processing using a current software program. Included in this course are the basic functions of creating, formatting, editing, and printing documents. Additional lab hours may be required. Prerequisite: IS:123 or equivalent experience.

IS:120 COMPUTER APPLICATIONS-SpreadSheets 1
This course focuses on the use of a spreadsheet program for both business and personal applications. Additional lab time may be required. Prerequisites: IS:123 or equivalent experience and Reading Proficiency.

IS:123 INTRODUCTION TO WINDOWS 1
This course introduces basic concepts of the Windows environment beginning with the anatomy of a Window. The relationship between various PC operating systems, and the advantages and disadvantages of the Windows interface will be discussed. Students will learn how to create and manage files within the organizational structure of a Windows environment. The desktop, accessories, and navigational tools are among the topics to be covered.

IS:124 WINDOWS-ADVANCED TOPICS 1
This course provides students with an advanced approach to understanding and using a Windows operating system. Students will learn how to create and share files and folders and how to customize and maintain a workstation. Prerequisites: IS:132 and Reading Proficiency.
This course introduces the student to the concept of using a graphics presentation program to create effective, customized business presentations. Students will create on-screen slide shows, audience handouts, speaker's notes and outlines for selected projects. Prerequisite: IS:123 or equivalent experience.

## IS:139 WEB PUBLISHING

3 This course introduces current industry standards for web development and design techniques that include the use of Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and an introduction to JavaScript. Topics such as web development process, accessibility standards, platform standards, HTML editors and converters, Web 2.0 Technologies, performance issues, tables, forms, dynamic content, and web site management issues will be presented. Prerequisite: Reading Proficiency.

## IS:141 GRAPHICS FOR THE WEB

3 This course focuses on generating graphics that can be utilized within the context of the Internet. Topics will include use of graphics at the appropriate times, performance issues, button creation, animated graphics, and multimedia tools. Prerequisites: IS:139 and Reading Proficiency.

## IS:142 WEB DEVELOPMENT II

3 This course is an in-depth study of the development and implementation of engaging websites using current industry production tools. Accessibility, security, and website management issues will be addressed. Topics such as file formats, platform standards, user-centered navigation, dynamic content such as streaming video/audio, and search engine concepts will be presented. Prerequisites: IS: 139 and Reading Proficiency.

## IS:151 MICROCOMPUTER APPLICATIONS IN BUSINESS

4 Survey of frequently used programs for the business environment. No programming knowledge is required. Software packages from these categories will be studied: operating system, electronic spreadsheet, database management, word processing, and presentation software. Additional lab time may be required. Prerequisites: IS:123 or equivalent experience.

## IS:153 C# PROGRAMMING

4 This course emphasizes software development problem-solving methodologies utilizing current software design and development tools and techniques. Topics include data structures, program design, pseudocode, language control structures, procedures and functions, error handling and Object Oriented design using classes. Assignments will be developed in the C# language using the current development environment. Prerequisite: Reading Proficiency.

## IS:155 OFFICE TECHNOLOGY

2 This course examines electronic equipment utilized to load specialized software, to enter, retrieve, and update data on a PDA (Personal Digital Assistant), to scan, fax, and present data on a large screen, and to conduct videoconferencing and teleconferencing sessions. Prerequisites: IS:151 or IS:118, IS:119, IS:125 and IS:137 or IS:118, IS:119, IS:120 and IS:137 and Reading Proficiency.

## IS:156 COMPUTER APPLICATIONS-INTERMEDIATE DATABASES

1 This course is a continuation of IS:118. Student will learn about action queries, inner/outer joins, mail merge, importing and exporting specifications, queries that “prompt” for criteria, and additional formatting techniques for reports. Macros will also be introduced. Prerequisites: IS:118 or IS:151 and Reading Proficiency.

## IS:157 COMPUTER APPLICATIONS-INTERMEDIATE WORD PROCESSING

1 This class is a continuation of IS:119. The students will merge documents, create and sort tables, insert images, utilize drawing objects, use special formatting features, and prepare charts and web pages. In addition, students will create basic macros and integrate/import other applications into documents. Prerequisite: IS:119 or IS:151.

## IS:158 COMPUTER APPLICATIONS-INTERMEDIATE SPREADSHEETS

1 This class is a continuation of IS:120. In it, students will utilize spreadsheet productivity features to create, modify, and format charts; add and format graphic objects to enhance worksheets and charts; sort and filter data; and include worksheets on web pages. Macros will also be introduced in this course. Prerequisites: IS:120 or IS:151 and Reading Proficiency.
Course Descriptions

IS:161 COMPUTER APPLICATIONS: ADVANCED WORD PROCESSING 1
This class is a continuation of IS:157. Additional emphasis will be placed on advanced word processing features. Students will create advanced macros, style sheets, outlines, master documents, fill-in forms, table of contents, and shared documents. Prerequisites: IS:157 and Reading Proficiency.

IS:164 VOICE RECOGNITION TECHNOLOGY 1
This course is an introduction to Voice Recognition Technology, which is a program that trains the computer to recognize voice input as an alternative to typing. Voice Technology is an important tool to assist companies and institutions in meeting ADA requirements. The student will learn how to use voice commands to create, edit and print documents. Time saving macros and templates will be created. Stored documents will be retrieved and edited by voice. Additional lab time will be required. Prerequisites: IS:119 or IS:151 and Reading Proficiency.

IS:165 COMPUTER APPLICATIONS-MICROSOFT PROJECT 1
This course introduces students to the Microsoft Project software application. Microsoft Project allows students, professionals, volunteers, or an individual managing or working on a project to organize all the details of a project into one central repository. Prerequisite: Reading Proficiency.

IS:187 JAVA PROGRAMMING I 4
In this course students learn software development problem-solving methodologies utilizing current software design and development tools and techniques and also receive an introduction to the Java programming language. Topics include data structures, program design, pseudocode, language control structures, procedures and functions, error handling and Object Oriented design using classes. Assignments are developed in Java using a current integrated development environment (IDE). Basic computer literacy expected. Prerequisite: Reading Proficiency.

IS:200 ELECTRONIC RECORDS MANAGEMENT 2
This is a course designed to familiarize students with records management procedures from creation through processing, maintenance, retention, retrieval, protection, and disposition. Electronic and manual filing rules are covered. Alphabetic, numeric, subject, and geographic filing methods are emphasized. Topics include database management. Prerequisites: IS:118 or IS:151 and Reading Proficiency.

IS:202 INFORMATION SYSTEMS FIELD WORK 3
A course to provide the student with practical experience in data processing. Assignments will be made at selected local data processing installations. Evaluation of the student’s performance will be a cooperative effort of the local management system and the instructional staff. Prerequisites: 15 hours of Information Systems courses and Reading Proficiency.

IS:203 BUILDING SPEED AND ACCURACY 1
This course is designed for students to improve inputting skills (speed and accuracy) through timed copy analysis, goal setting and corrective drill practice. Prerequisites: IS:102 or IS:164 or 25 wpm and Reading Proficiency.

IS:205 MEDICAL TERMINOLOGY 4
This course provides a broad survey of the language of medicine and health technologies. Students learn to accurately spell and define common medical terms related to major disease processes, diagnostic procedures, laboratory tests, abbreviations, drugs, and treatment modalities. Emphasis is placed on formation, definition and pronunciation. (Same as HIT:101). Prerequisite: Reading Proficiency.

IS:208 MACHINE TRANSCRIPTION APPLICATIONS 2
This course emphasizes the development of skill in transcribing a variety of business communications from machine dictation. Language skills, specialized business vocabulary, formatting, proofreading, editing, listening, and decision-making are applied and reinforced in the production of industry-specific documents. Additional lab hours will be required. Prerequisites: IS:203, IS:109 and Reading Proficiency.

IS:209 COMPUTER APPLICATIONS - ADVANCED 3
This course covers integration techniques used to share information between computer applications. Templates, groupware features, scripting, and other time-saving techniques are explored to enable students to work with greater efficiency. Case studies and independent projects provide practical experience in the development and implementation of business models. Prerequisites: IS:118, IS:119, IS:137, and IS:120 or IS:151 and Reading Proficiency.

IS:210 OFFICE PROCEDURES 3
This is an advanced course that expands competencies in business communication, processing information and coordinating office information. Students will learn human relations skills and will be introduced to computer-based tools including Internet applications and groupware. Prerequisites: IS:102 or IS:109 and IS:151 and Reading Proficiency.

IS:214 SPREADSHEET MACROS AND ADVANCED TOPICS 1
Students will study more complex functions of spreadsheets including table lock-ups, graphics, data base functions, and macros. Prerequisites: IS:120 or IS:125 and Reading Proficiency.

IS:215 INTRODUCTION TO LOCAL AREA NETWORKS 3
This course presents concepts of local area networking including terminology, architectures, topologies, standards and protocols, cables, and operating systems. Criteria for selecting, organizing and maintaining a LAN will be introduced. Planning a network installation, connecting physical components, and configuring basic network features will also be presented. Students will master course objectives through a combination of lectures, demonstrations, case studies and/or hands-on exercises. Prerequisites: IS:103 and IS:130 (may be a corequisite) and Reading Proficiency.

IS:217 NETWORK PERFORMANCE MONITORING 3
This course introduces students to industry network management standards and to various mechanisms for implementing a standards-based network management system. Configuration and performance implications of network interconnection devices will be introduced. The theories behind network performance tuning, problem identification and resolution, and methods for analyzing link and server performance will be presented. Hands-on activities and demonstrations will be used to expose students to a number of commercially available products. Prerequisites: IS:235, IS:236 and Reading Proficiency.

IS:218 NETWORK INTERNSHIP 3
A course to provide students with practical experience in computer network environment. Assignments will be made at selected local computer network installations. Evaluation of students’ performance will be a cooperative effort between the internship sponsor and a faculty member of the program. Total of 120 working hours required. Prerequisites: IS:235, permission of instructor and Reading Proficiency.

IS:219 INFORMATION SYSTEMS APPLICATIONS AND CONCEPTS FOR BUSINESS 3
The course will cover concepts of information systems and how they relate to business functions. Concepts covered will include web page design, telecommunications, system analysis and design, ethics, information security and foundations of databases. Students will expand their knowledge of productivity applications such as Excel, PowerPoint, Access, Javascript and Word. Prerequisites: IS:103 or IS:116 with minimum grades of “C”, or relevant prior class or work experience, and Reading Proficiency.

IS:225 DATABASE MANAGEMENT 3
This course will cover the concepts, skills, methodology and database technology necessary to design and implement a relational database management system. Topics include relational databases from different vendors, data structures, relational data modeling and designing techniques and tools. This course emphasizes concepts rather than teaching a particular DBMS or tool. Prerequisites: IS:107 and Reading Proficiency.

IS:227 C PROGRAMMING 3
Study of the C programming language. Topics to be covered include logic structures, data structures, files, pointers, system and user defined functions, and input arrays. Programs will be written and executed on the computer. Additional lab time may be required. Prerequisites: IS:110 and Reading Proficiency.
IS:229  UNIX/LINUX I  3
This course introduces the Unix/Linux operating system with special emphasis on the creation, organization, and maintenance of the file system. Students are also introduced to basic installation and configuration of the operating system. Students are expected to install, maintain and troubleshoot a stand-alone Unix/Linux machine. Basic computer literacy is expected. Prerequisite: Reading Proficiency.

IS:231  INTRODUCTION TO DATA COMMUNICATIONS  3
The goals, history and purposes of Data Communication will be explored. The components of a network; hardware, software, and connecting logic will be presented individually and then interrelated to provide an understanding of a communication system concept. Different types of networks and the technology that makes them function will be presented. Case studies will be employed to provide practical experience in the Data Communications area. Prerequisites: IS:103 and Reading Proficiency.

IS:235  NETWORK DESIGN AND INSTALLATION  3
This course provides students with the knowledge and practical experience to design and install a scalable computer-based network that provides end-user connectivity to local and remote servers. The course emphasis is on the installation of network servers and network operating systems. LAN and WAN design and interconnection issues will also be examined. Prerequisites: IS:215, IS:231 and Reading Proficiency.

IS:236  NETWORK ADMINISTRATION  3
This course provides students with the knowledge and practical experience to administer local and enterprise-wide computer networks. Control of desktop systems, organization and maintenance of user accounts, multiplatform client support and network security will be introduced. High speed internetworking technologies and protocols will also be presented. Prerequisites: IS:215, IS:231 and Reading Proficiency.

IS:237  FUNDAMENTALS OF INFORMATION ASSURANCE/SECURITY  3
This course examines fundamentals of network security involved in creating and managing secure computer network environments. Both hardware and software topics are considered, including authentication methods, remote access, network security architectures and devices, cryptography, forensics and disaster recovery plans. This course serves as a preparation basis for CompTIA Security+ exam. Prerequisites: IT:102 and Reading Proficiency.

IS:238  WEB SERVER IMPLEMENTATION  3
Businesses are increasingly using the World Wide Web as a basis for customer support, electronic marketing, and electronic commerce. This course prepares students to implement the servers that are needed to support these specialized applications. Requirements of both Internet and Intranet server implementation will be examined. Hands-on activities will be performed on a variety of platforms. Prerequisites: IS:235 and Reading Proficiency.

IS:239  ROUTER ADMINISTRATION  3
This course prepares students to configure routers with a variety of interfaces and protocols. Specific topics include the Cisco Internetworking Operating System (IOS) commands, routed protocols, routing protocols including RIP and IGRP, and applicable components of the TCP/IP protocol suite. Prerequisites: IS:215, IS:231 and Reading Proficiency.

IS:240  SQL AND DATABASE DEVELOPMENT  3
This course covers the concepts of SQL (Structured Query Language) and database development. Students learn how to create tables, views and indexes. Managing and formatting data, developing queries and sub-queries and advanced reporting are presented. Students learn how to develop, manage and implement database control and connectivity techniques. Prerequisites: IS:225 and Reading Proficiency.

IS:241  SYSTEMS ANALYSIS AND DESIGN  3
This course will cover the concepts, skills, methodologies, techniques and perspectives essential to analyze and design information systems. Visual and emerging development tools will be used to focus on object-oriented and visual development of information systems. Additional lab time may be required. Prerequisites: IS:103, IS:110. a programming language is recommended and Reading Proficiency.

IS:246  VISUAL BASIC PROGRAMMING  3
This course is a comprehensive introduction to Visual Basic, one of Microsoft’s object-oriented development tools. Topics covered include language syntax, logic and flow control, data structures, procedures and functions, arrays, event and exception handling, files and database connectivity. Object-oriented principles will be emphasized, including the design and coding of classes. Prerequisites: Prior or concurrent enrollment in IS:110 and Reading Proficiency.

IS:251  JAVA PROGRAMMING  3
This course is a comprehensive introduction to Java, a cross-platform, object-oriented language. Basic language syntax, control and data structures, arrays, methods and method overloading, and recursion will be covered while building both desktop and web-based applications. The design, development, instantiation, and use of user-defined classes will be emphasized. Prerequisites: Prior or concurrent enrollment in IS:110 and Reading Proficiency.

IS:252  ADVANCED JAVA PROGRAMMING  3
This course is a continuation of Java Programming focusing on enterprise-level development techniques and tools. Students will participate in a multi-component development project, working to deploy it in a multi-tier server installation typical of business environments. Advanced database processing, Java Server Faces, struts, multi-threading, and application-level security issues are included. Prerequisites: IS:251 and Reading Proficiency.

IS:253  C# PROGRAMMING II  4
This course focuses on broadening and deepening the student’s understanding of Object Oriented Programming (OOP) as implemented in the C# language. Core elements include creating and deploying Windows programs, form application basics, building user interfaces using basic techniques. .NET fundamentals, basic coding within the .NET framework, design and development of classes, overloading and overriding methods and constructors, inheritance, encapsulation and interfaces. Course objectives align with the Microsoft Certified Technical Specialist (MCTS). .NET Framework, Windows Applications certification. Prerequisites: IS: 153 or IS: 187 with minimum grades of “C” and Reading Proficiency.

IS:254  ADVANCED MICROCOMPUTER OPERATING SYSTEMS  3
This course presents advanced topics related to the selection, installation and support of operating systems for individual personal computers and computer workstations on a network. Highly technical material covering disk partitioning, I/O interrupts, DLL’s, peripheral drivers, registry editing and security techniques will be presented. Students will master course objectives through a combination of lectures, demonstrations, case studies, and/or hands-on exercises. Prerequisites: IS:103 and IS:124 and Reading Proficiency.

IS:255  ADVANCED VISUAL BASIC PROGRAMMING  3
This course continues Visual Basic Programming focusing on enterprise-level development techniques and tools, including web interfaces. Students participate in a multi-component development project, deploying it in a multi-tier server installation typical of business environments. Topics include advanced database processing, object-oriented component architecture, server-side coding for business processes, and multi-threading. Prerequisites: IS:246 and Reading Proficiency.

IS:256  C++ PROGRAMMING  3
This course introduces the C++ programming language. Topics include language syntax, logic and flow control, data types and structures, files, pointers, system and user defined functions, arrays, recursion, and the use of libraries. Object-oriented principles are emphasized, including the design and coding of classes and class objects. Prerequisites: IS:153 or IS:187 with a minimum grade of “C”, or MTH:160A or MTH:160B or MTH:160C, and MTH:170 or MTH:185 with a minimum grade of “C” or satisfactory score on placement test, and Reading Proficiency.

IS:257  ADVANCED DATABASE DESIGN  3
This course is a continuation of the database design course covering implementation concepts such as n-tier architectures, middleware, SQL functionality, distributed databases, data warehousing and cloud computing. The course focuses on application of both theory and practice. Additional lab time may be required. Prerequisites: IS:225 and Reading Proficiency.
**Course Descriptions**

**IS:262 ADVANCED SOFTWARE DEVELOPMENT** 3
Students will participate in a multi-component, enterprise-level project with substantial freedom to use previously acquired development skills. Development methodology is emphasized as students explore the roles of analyst, designer, architect, coder, and tester. Established and emerging web technologies such as ASP, PHP, JSP, and AJAX are explored, as are security issues. Prerequisites: IS:252, IS:255 or IS:275 and Reading Proficiency.

**IS:264 UNIX/LINUX II** 3
This course is designed to prepare students to perform basic Unix/Linux systems administration and network installation tasks. Students will be introduced to the design, configuration, and installation of system services along with management and automation of those services through shell scripting. File system configuration and security will also be covered. Prerequisites: IS:229 and Reading Proficiency.

**IS:265 WEB SCRIPTING TECHNOLOGIES** 3
This course presents current and emerging scripting technologies used for development of state-of-the-art websites and other applications. The primary focus is on client-side technologies. Students will use a variety of technologies in this project-oriented class. Prerequisites: IS:139 and Reading Proficiency.

**IS:270 ORACLE PL/SQL** 3
This course covers the concepts of Oracle PL/SQL and developing databases applications. Students will learn how to master PL/SQL syntax and the structured programming language. Advanced techniques in table handling, cursors, triggers, procedures and functions will be taught. Additional lab time may be required. Prerequisites: IS:133 and Reading Proficiency.

**IS:271 ORACLE USER INTERFACE DESIGN** 3
This course covers the development of GUI applications in Oracle. Students will use Developer/2000 tools such as Oracle Forms, Oracle Reports and Oracle Graphics to develop object-based, database applications. Practical solutions for typical business situations will be discussed, demonstrated and developed in a lab environment. Additional lab time may be required. Prerequisites: IS:225 or equivalent business experience and Reading Proficiency.

**IS:272 ORACLE DATABASE ADMINISTRATION** 3
This course covers the activities performed while administering an Oracle database. Students will be installing and customizing the database, perform backup and recovery procedures, apply database tuning techniques and implement database security methods. Students will be exposed to real world examples of the various tasks that a DBA will perform on a daily basis. Additional lab time may be required. Prerequisites: IS:225 or equivalent business experience and Reading Proficiency.

**IS:273 ORACLE DESIGN AND IMPLEMENTATION** 3
This course covers the concepts, fundamental issues and techniques for the design and development of an Oracle database. Students will be exposed to all the phases and tasks of the design process, including business modeling, conceptual and physical modeling strategies in developing application systems in Oracle. Requirements of data warehouse design and implementation will be discussed along with design methods for distributed database and Web-based applications. Students will gain hands-on experience in Oracle designer tools. Prerequisites: IS:225 or equivalent business experience and Reading Proficiency.

**IS:274 C# PROGRAMMING** 3
Students will study the C# object-oriented programming language. Topics to be covered include basic language syntax, primitive and user-defined data types, control structures, classes (including derived classes), encapsulation, inheritance, and abstraction. Prerequisites: IS:246, IS:251 or IS:256 and Reading Proficiency.

**IS:275 ADVANCED C++ PROGRAMMING** 3
This course is a continuation of IS:256, covering database connectivity, object-oriented data structures, sorting, searching, exception handling, and the Standard Template Library. The creation and use of classes will be emphasized including the principles of inheritance and polymorphism. GUI technologies will be explored, including the development of web interfaces. Prerequisites: IS:256 and Reading Proficiency.

**IS:276 ORACLE PROGRAMMING** 3
This course is an in-depth study of Oracle structured query language (SQL) and procedural language (PL/SQL). Students will learn the advanced features of SQL and PL/SQL to interact with the database and other applications. Advanced techniques such as control structures, cursors, database triggers, functions, stored procedures and packaging will be presented. Prerequisites: IS:225 with minimum grade of “C” and Reading Proficiency.

**IS:277 ORACLE APPLICATIONS PROGRAMMING** 3
This course covers the development of data-driven based applications in Oracle. Students will learn the Oracle data-centric rapid application development tools such as Oracle Application Express (APEX) to develop and deploy fast and secure web applications. Practical solutions for typical business situations will be discussed, demonstrated and developed in a lab environment. Prerequisites: IS:225 with a minimum grade of “C” and Reading Proficiency.

**IS:278 ORACLE DATABASE SECURITY AND ADMINISTRATION** 3
This course covers the activities performed while administering an Oracle database. Students install and customize the Oracle database, configure the Oracle Network environment, manage database storage structures, perform database backup and recovery, monitor transactions and resolve locking conflicts, administer users and implement database security. Additional lab hours may be required. Prerequisites: IS:225 with a minimum grade of “C” and Reading Proficiency.

**IS:283 C# PROGRAMMING III** 4
Students in this course focus on completing the acquisition of the knowledge and skills for developing applications using Windows Forms, Windows Presentation Foundation (WPF) and the .NET Framework 4 in preparation for Microsoft's Microsoft Certified Technology Specialist (MCTS): .NET Framework 4, Windows Applications certification. Coursework will include developing Windows applications using the C# programming language to access data in Windows forms applications, create Windows services, utilize advanced user interface techniques, implement n-tier applications and implement web applications. Prerequisites: IS:253 with a minimum grade of “C” and Reading Proficiency.

**IS:287 JAVA PROGRAMMING II** 4
This course focuses on broadening and deepening the student’s understanding of Object Oriented Programming (OOP) as implemented in the Java language. Core elements include design and development of classes, loading and overriding methods and constructors, inheritance, encapsulation, and interfaces. Course objectives align with Oracle’s Certified Professional, Java SE Programmer certification. Prerequisites: IS:153 or IS:187 with minimum grades of “C” and Reading Proficiency.

**IS:288 JAVA PROGRAMMING III** 4
Students in this course complete their understanding of core java concepts required for Oracle’s Java SE Programmer certification. Java web development utilizing the Model-View-Controller (MVC) pattern with Java Server Pages (JSP) and Servlets is also examined. Mobile access to web applications is introduced, and secure coding principles are emphasized. Prerequisites: IS:287 with a minimum grade of “C” and Reading Proficiency.

**IS:290 C# FRAMEWORKS: .NET WEB APP FRAMEWORK** 3
Students expand their C# development skills and gain the knowledge and skills required to design and develop Web applications by using the latest version of the Microsoft .NET Framework and Microsoft Visual Studio. This course aligns with the Designing and Developing Web Applications by using Microsoft .NET framework certification. Prerequisites: IS:283 with a minimum grade of “C” and Reading Proficiency.
IS:291 WORKPLACE LEARNING: INFORMATION SYSTEMS 3
A workplace learning experience consists of a work assignment with an employer or agency (minimum of 150 hours during the semester), which allows the student to apply skills learned in the classroom. Students are also able to learn new skills and to explore career possibilities while supervised by the employer and a faculty member. Prerequisites: Enrollment in an IS program, department approval, and Reading Proficiency.

IS:294 JAVA FRAMEWORKS: STRUTS AND HIBERNATE 3
In this course student expand their Java development skills by learning popular Jave frameworks and tools for rapid application development of enterprise-level systems. The main focus is on Struts, the Java Persistence Interface (JPA) using Hibernate, and Enterprise Java Beans (EJB). This course aligns with the Oracle Certified Expert - Java EE Enterprise JavaBeans certification. Prerequisites: IS:288 with a minimum grade of “C” and Reading Proficiency.

IS:295 JAVA MOBILE APPLICATIONS DEVELOPMENT 3
This course focuses on Java technologies and techniques for developing mobile applications for cell phones and other “smart” devices. The course aligns with Oracle’s Java ME Mobile Application Developer certification. Prerequisites: IS:287 with a minimum grade of “C” and Reading Proficiency.

INFORMATION TECHNOLOGY

IT:101 CISCO NETWORKING ACADEMY I: NETWORKING BASICS 5
This is the first of four courses in preparation for the Cisco Certified Network Associate (CCNA) certification. The focus is on network terminology, protocols, local and wide-area networks, the Open System Interconnection model, cabling, Ethernet, IP addressing, and network standards. Upon completion students will be able to perform networking mathematics, IP addressing with subnetting, connection of copper, optical, and wireless infrastructure, and operation of all versions of Ethernet with switching. Prerequisite: Reading Proficiency.

IT:102 DESKTOP CLIENT SUPPORT 3
This course prepares students to take the Microsoft Certified Technology Specialist exam for Windows Configuration, 70-680. Students will learn to implement, administer, and troubleshoot the Microsoft Windows client operating system. Topics include installation, upgrades, restoration, user profiles and accounts, and the TCP/IP protocol. Basic computer literacy is expected. Prerequisite: Reading Proficiency.

IT:103 HELP DESK PRINCIPLES 3
This course focuses on key information and skills for user support professionals, including troubleshooting and problem solving, communicating successfully with clients, performing end-user needs analysis and assessment, and training end-users. With balanced coverage of both people skills and technical skills, this course is an excellent resource for those in or preparing for the technical support field. Prerequisite: Reading Proficiency.

IT:120 ENTERPRISE SECURITY MANAGEMENT 3
This course examines managerial aspects of computer security and assurance for enterprises. Topics include risk management, contingency planning, access control models, and information security governance including FISMA compliance, program assessment and metrics. The student will acquire knowledge of accreditation, certification, procurement and operating principles for secure computing systems. Prerequisites: IS:237 and Reading Proficiency.

IT:121 SECURE E-COMMERCE AND E-GOVERNMENT 3
This course examines the principles and techniques for secure electronic commerce and secure electronic government. Topics include cryptography, certification authorities, public key infrastructure, biometrics, digital signatures, and legal and national policy issues surrounding e-commerce and e-government. Students also develop an e-commerce website using current industry tools. Prerequisites: IS:229 and IS:237, both with a minimum grade of “C” and Reading Proficiency.

IT:140 WINDOWS SERVER CONFIGURING ACTIVE DIRECTORY 3
This course covers the design, implementation, and management of Microsoft’s Active Directory in a distributed network environment under Windows Server. It prepares the student to take the current Microsoft Certified Technology Specialist exam 70-640. Prerequisites: IT:102 and IT:142, both with a minimum grade of “C” and Reading Proficiency.

IT:142 WINDOWS SERVER CONFIGURING INFRASTRUCTURE 3
In this course the student is taught how to design, implement, manage, and troubleshoot a distributed network under Microsoft’s Windows Server Operating System. The installation of primary network services and connectivity from the desktop will be covered. This course prepares students for the Microsoft Certified Technology Specialist exam, 70-642. Prerequisites: Prior or concurrent enrollment in IT:102 with a minimum grade of “C” or better and Reading Proficiency.

IT:201 CISCO NETWORKING ACADEMY II: ROUTERS/ROUTING BASICS 5
This is the second of four courses offered as preparation for the Cisco Certified Network Associate (CCNA) certification exam. The focus is on initial router configuration, Cisco IOS software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Students will develop the skills to configure a router, manage Cisco IOS software, configure RIP and IGRP routing protocols, and create and set ACLs to control user access. Prerequisites: IT:101 and Reading Proficiency.

IT:202 CISCO NETWORKING ACADEMY III: LAN SWITCHING AND WIRELESS TECHNOLOGIES 5
This course focuses on LAN design, configuration of Ethernet switching, virtual LANs (VLAN), inter-VLAN routing, spanning tree protocol (STP), and VLAN trunking protocol (VTP). Basic wireless concepts and configuration are introduced. Prerequisites: IT:101 with a minimum grade of “C” and Reading Proficiency.

IT:203 CISCO NETWORKING ACADEMY IV: WAN TECHNOLOGIES 5
The course focuses on WAN technologies including PPP, Frame Relay, broadband links, WAN security concepts, and mitigation of common security threats. The course explains the principles of traffic control and access control lists (ACLs), and describes the implementation of IP addressing services (NAT, DHCP), and IPv6 addressing concepts. During the course, students learn how to detect, troubleshoot, and correct common Enterprise network implementation issues. Prerequisites: IT:201 and IT:202 both with minimum grades of “C” and Reading Proficiency.

IT:204 CISCO CCNP: ROUTING 5
This course is offered as preparation for students seeking the Cisco Certified Network Professional (CCNP) certification. This advanced routing course covers, but is not limited to: EIGRP, OSPF, eBGP, IPv6 and path control solutions. This course is a component of the CCNP, CCIP, and CCDP certifications. Prerequisites: IT:203 or CCNA certification or department approval and Reading Proficiency.

IT:206 CISCO CCNP: SWITCHING 5
This course is offered as preparation for students seeking the Cisco Certified Network Professional (CCNP) certification. The Switching course instructs the student in the knowledge and skills necessary to plan, configure and verify the implementation of complex enterprise switching solutions. The course will help students to prepare for the CCNP and CCDP certifications. Prerequisites: IT:203 or CCNA certification or department approval and Reading Proficiency.

IT:207 CISCO CCNP: TROUBLESHOOTING 5
This course is offered as preparation for students seeking the Cisco Certified Network Professional (CCNP) certification. This troubleshooting course covers the skills necessary to plan and perform regular maintenance on complex enterprise routed and switched networks and to perform network troubleshooting. This course will help students to prepare for the CCNP certification. Prerequisites: IT:203 or CCNA certification, IT:204 and IT:206 and Reading Proficiency.
Course Descriptions

**INTERDISCIPLINARY STUDIES**

**IDS:101  CORNERSTONE**  3
An introductory level course in which, through a variety of themes and topics, students will be introduced to the overall goal of general education and will explore the moral and ethical values of a diverse society in order to understand their own decision making process. They will learn how to identify the arguments of others and how to articulate their own. Skills such as communicating, higher-order thinking, and managing information, as well as orientation skills conducive to the successful completion of a college education, will be integrated throughout the course. This is a technology-enhanced course that requires students to gain proficiency in the basic use of computers. Prerequisite: ENG:030 with a grade of “C” or better or appropriate placement test score and Reading Proficiency.

**IDS:102  URBAN LEGENDS AND AMERICAN SOCIETY**  3
This course allows students to explore and study urban legends in American society as well as analyze its shaping and criticism of American Society. Prerequisite: Reading Proficiency.

**IDS:103  TOPICS IN ARAB CULTURE**  3
Fiction and non-fiction literature is examined to analyze current issues, evaluate scenarios and propose creative solutions to educational, social and political events in Arab countries and the Arab diaspora. Multiple roles, concepts and expectations of citizenship are introduced. The roots of Arab educational, social and current political issues are examined to establish context. Prerequisite: Reading Proficiency.

**IDS:104  EQUITY IN EDUCATION**  3
Fiction and non-fiction texts are examined to explore the U.S. education experience in past and present educational settings. Equity in educational settings and experiences is examined. Teaching and learning theory and leading educational philosophies are introduced and compared to literature-based interpretations. Prerequisites: Reading Proficiency.

**IDS:105  LAW GOES TO THE MOVIES**  3
This interdisciplinary course explores important themes in the study of law by comparing scholarly/quantitative work, against representations of these themes in cinema. The course explores legal themes through multiple perspectives, including comparison of scholarly research, communication methods, and psychology. These approaches will provide opportunities for students to gain insight into how films are a cultural vehicle for representation or misrepresentation of lawyers and the legal process. Prerequisite: Reading Proficiency.

**IDS:106  THE ARTIST IN SOCIETY**  3
This course focuses on cultivating habits of mind by examining significant developments in western thought through the lenses of the artists who have reflected those developments and/or contributed to them. Through integration and exploration of the arts within historical contexts, development of culture, and communication theory, students examine the impact of the arts on the beliefs, values, and behaviors of individuals and society. Prerequisite: Reading Proficiency.

**IDS:201  CAPSTONE**  4
This interdisciplinary course focuses on a selected topic or cluster of related topics which admit of multiple perspectives. Students research and analyze topics, students will be introduced to the overall goal of general education and will explore the moral and ethical values of a diverse society in order to understand their own decision making process. They will learn how to identify the arguments of others and how to articulate their own. Skills such as communicating, higher-order thinking, and managing information, as well as orientation skills conducive to the successful completion of a college education, will be integrated throughout the course. This is a technology-enhanced course that requires students to gain proficiency in the basic use of computers. Prerequisite: ENG:030 with a grade of “C” or better or appropriate placement test score and Reading Proficiency.

**IT:208  CISCO NETWORKING ACADEMY: CCNA SECURITY**  5
This course focuses on network security processes emphasizing hands-on skills for: security policy design and management, security technologies, security products and solutions, firewall and secure router design, installation, configuration, maintenance. AAA implementation using routers and firewalls, securing the network at OSI layers 2 and 3, stressing documentation, design, and installation. Prerequisites: IT:202 or CCNA certification and Reading Proficiency.

**IT:209  CISCO NETWORKING ACADEMY: NETWORK SECURITY II**  5
This course focuses on the overall security processes in a network with particular emphasis on hands-on skills in the following areas: Security policy design and management, Security technologies, products and solutions, Firewall and secure router design, installation, configuration, and maintenance Intrusion Prevention (IPS) implementation using routers and firewalls, VPN implementation using routers and firewalls, PIX Security Appliance, Failover, and Management. The Cisco Networking Academy: Network Security I together with the Cisco Networking Academy: Network Security II course will prepare students for the Cisco Firewall Specialist designation. Prerequisites: IT:208 or CCNA certification and Reading Proficiency.

**IT:210  FIREWALL AND VPN SECURITY**  3
This course focuses on network security and processes in a network with emphasis on practical skills in the following areas: firewall, Intrusion Prevention (IPS) and VPN design, implementation, configuration and maintenance using ASA and PIX Security Appliance. Prerequisites: IS:237, IT:202 and Reading Proficiency.

**IT:211  INTRODUCTION TO VIRTUALIZATION AND CLOUD COMPUTING**  4
This course explores the installation, configuration and management of virtualization tools, including VMware vSphere using ESX/ESXi and vCenter Server, Microsoft terminal services, and/or other leading virtualization tools. Completion of this hands-on course prepares students to obtain recognized industry certifications, including the VCP VMware Certified Professional. Prerequisites: IT:101 and IS:229 or IT:102, all with a minimum grade of “C”, and Reading Proficiency.

**IT:216  DIGITAL FORENSICS**  3
Digital crime scene investigation practices and digital evidence capture, documentation, validation and preservation techniques are taught through in-depth participatory exercises. Steganography, mobile data acquisition, network monitoring, decryption, manual and automated file and password recovery techniques are taught. Prerequisites: IS:112, IS:229, IS:237 and Reading Proficiency.

**IT:235  NETWORK INFRASTRUCTURE DESIGN**  3
This course covers the skills and knowledge necessary for network design engineers. Topics include design of routed and switched network infrastructures and services involving LAN, WAN, and broadband access for organizations, including service virtualization. The Enterprise Composite Model facilitates planning, design, implementation, operation and optimization (PDIOO) through modular design and the relations between modules. Prerequisites: IT:203 with a minimum grade of “C” and Reading Proficiency.

**IT:246  WINDOWS SERVER ADMINISTRATION**  3
This course covers the design, implementation, and management of network services using Microsoft’s Windows Server in a distributed networking environment. This course prepares the student to take the Microsoft Certified IT Professional (MCITP) exam, 70-646. Prerequisites: IT:102 with a minimum grade of “C” and Reading Proficiency.
INTERNATIONAL BUSINESS

IB:100 INTERNATIONAL BUSINESS 3
An introduction to various facets of international business, from marketing to the completion of shipment. Emphasis is placed on terminology and the importance of understanding cross-cultural differences. Prerequisite: Reading Proficiency.

ITALIAN

ITAL:103 ELEMENTARY ITALIAN I 4
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary Italian conversation and to begin reading short Italian passages. Prerequisite: Reading Proficiency.

ITAL:104 ELEMENTARY ITALIAN II 4
A continuation of ITL:103. Students complete basic elements of Italian grammar, increase their vocabulary and gain added facility in speaking and reading Italian. Prerequisites: ITL:103 and Reading Proficiency.

JAPANESE

JPN:101 MODERN JAPANESE I 4
This course focuses on the construction and practice of fundamental vocabulary, basic sentence structures and social conventions necessary for simple interpersonal communication in Japanese. The emphasis is on the use of Japanese in everyday situations. Prerequisite: Reading Proficiency.

JPN:102 MODERN JAPANESE II 4
This course is a continuation of JPN:101. Students will further practice speaking and writing the language through the acquisition of new vocabulary and the learning of Japanese sentence structure. Students will also continue to learn cultural aspects necessary for effective interpersonal communication. Prerequisites: JPN:101 and Reading Proficiency.

LEGAL STUDIES

LGL:104 INTRODUCTION TO CIVIL TRIAL PROCEDURES 3
This course includes study of composition, location and jurisdiction of all courts, examination of all aspects of trial preparation and process, and some legal drafting and writing. Prerequisites: LGL:108 and Reading Proficiency.

LGL:106 COMPUTERS AND THE LAW 3
This course will help the Paralegal become familiar with the possible applications of the computers in law offices of different sizes and provide a general introduction to the varieties of hardware and software available and the creation of appropriate systems for a law office. Prerequisite: Reading Proficiency.

LGL:107 ALTERNATIVE DISPUTE RESOLUTION 1
Alternative dispute resolution is a method for using out-of-court alternative forums to resolve disputes. This course will examine the historical, statutory, and economic basis of ADR. Topics to be covered in both business and dissolution of marriage are: mediation, arbitration, mini trials, and summary jury trials. Prerequisites: LGL:108 and Reading Proficiency.

LGL:108 INTRODUCTION TO LAW FOR THE PARALEGAL 3
This course includes a general discourse on the training and purpose of Paralegals, examines the role of the law in modern society, the ethical and professional practice standards applicable to lawyers and paralegals, surveys various fields of law and examines legal resource materials and the processes of legal research. Prerequisite: Reading Proficiency.

LGL:202 WILLS, TRUSTS AND PROBATE ADMINISTRATION 3
Study of the more common forms of wills and trusts and a survey of the fundamental principles of law applicable to each; a study of the organization and jurisdiction of a Missouri Probate Court; a detailed analysis of the administration of estates in Missouri Probate; a review of estate and inheritance taxes applicable to such estates. Prerequisites: LGL:108 and Reading Proficiency.

LGL:205 LAW OF REAL PROPERTY AND REAL ESTATE TRANSACTIONS 3
A study of the law of real property and in-depth survey of the more common types of real estate transaction and conveyances, such as deeds, contracts, leases, deeds of trust; drafting problems involving various of these instruments; and special research projects related to the subject matter; study of the system of recording and search of public documents. Prerequisites: LGL:108 and Reading Proficiency.

LGL:206 BUSINESS ORGANIZATION AND GOVERNMENT REGULATION 3
A study of the formation and operation of corporations, partnerships, business trusts and other business vehicles, including a survey of the fundamental principles of law applicable to each; special research projects related to the subject matter; a study of the impact and regulation of taxation and other forms of government regulation of business. Prerequisites: LGL:108 and Reading Proficiency.

LGL:211 TORTS 3
A study of the fundamental principles of the law of torts including special research assignments related to the subject matter, consideration of the techniques of investigation involved in the lawyer’s handling of tort claims; a study of the various forms of pleadings involved in commencing such claims in court actions. Prerequisites: LGL:108 and Reading Proficiency.

LGL:216 ADVANCED CIVIL TRIAL PROCEDURES 3
This course is designed as an advanced course for those students who have completed Introduction to Civil Trial Procedures. The focus will be a detailed examination of court rules pertaining to discovery, intervention, interpleading in trial procedures and appellate procedures. Prerequisites: LGL:104, LGL:108 and Reading Proficiency.

LGL:217 LEGAL RESEARCH 3
This course is designed as an introduction to the process of legal research, and an introduction to the connection between research and legal writing. The course involves several research projects to be completed both in the lab (Internet, CD-ROM and CALR) and in a law library. A moderate amount of legal writing will be integrated into the course assignments. This course is a prerequisite to LGL:218, Legal Writing. Both courses are required courses in the Paralegal program. This course requires students to travel off campus to a local law library. Prerequisites: LGL:108 and Reading Proficiency.

LGL:218 LEGAL WRITING 3
This course is designed as a continuation of LGL:217, Legal Research, and is intended to expand on all principles involved in legal reasoning as it relates to legal analysis and the preparation of legal memoranda. Students will be responsible for completing several writing projects which involve a legal research component. This course requires students to travel off campus to a local law library. Prerequisites: ENG:101 or equivalent, LGL:108, LGL:217 and Reading Proficiency.

LGL:219 WORKPLACE LEARNING: PARALEGAL 3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of the business to enhance their preparation for entering the field. Minimum 150 hours in the workplace throughout the term. Prerequisites: Student must have completed nine credit hours in paralegal courses and have the approval of the campus program coordinator and Reading Proficiency.

LGL:220 CRIMINAL LAW AND PROCEDURE FOR THE PARALEGAL 1
This course will cover the substantive elements of major crimes, the requisite intent and defenses. The criminal procedures will be discussed and the role of the paralegal in the criminal process analyzed. Prerequisites: LGL:108 and Reading Proficiency.

LGL:221 ADVANCED ONLINE-DATABASE LEGAL RESEARCH 1
Students will learn to use advanced query techniques using Westlaw and Lexis databases. Keyword, term search, and natural language searching skills will be taught. Assignment of complex legal problems will require students to understand and use the extensive library structures of these databases. Additional lab hours will be required. Prerequisites: LGL:108 and LGL:214, or LGL:217 and LGL:218, and Reading Proficiency.
Course Descriptions

LGL:222 LEGAL RESEARCH ON THE INTERNET
This course will demonstrate the use of the Internet as a legal research tool. Using various browsers and search engines, students will learn basic Internet maneuvers. Students will learn the process of searching and retrieving information to build a file of relevant legal sites. Current legal issues on Internet use will be examined. Considerable time will be required on-line to meet the requirements of this class. Prerequisites: LGL:108 and Reading Proficiency.

LGL:223 EVIDENCE
This course is the study of the gathering and admissibility of various types of evidence. The theories of relevance, materiality, hearsay, and competency that apply to all evidence will be explored in detail. Prerequisites: LGL:108 and Reading Proficiency.

LGL:224 ENVIRONMENTAL LAW
This course will explore the issues of business and consumer generated pollution, hazardous, and toxic waste. The student will learn how the federal and state governments are trying to contain levels of pollution and to clean up hazardous waste sites and examine the major environmental protection laws applicable to businesses and individuals. Prerequisites: LGL:108 and Reading Proficiency.

LGL:225 ADMINISTRATIVE LAW
An examination of the nature and scope of Administrative Law. The authority of administrative agencies, Administrative Procedures Act, rules and rule making, administrative hearings, and the role of the paralegal will be examined in this course. Prerequisites: LGL:108 and Reading Proficiency.

LGL:226 LAW OFFICE ADMINISTRATION
A study of the function, management, and administration of the law office or legal department. It includes office environment, structures, personnel supervision, financial management, records management, and management theories. Prerequisites: LGL:108 and Reading Proficiency.

LGL:227 REMEDIES
This course will cover legal and equitable remedies in property, contract and tort litigation and settlement, measurement of damages, injunctive relief, and specific performance. Prerequisites: LGL:108, BLW:101 and Reading Proficiency.

LGL:228 FAMILY LAW
The student will become familiar with status law regarding the dissolution of marriage action, termination of parental rights, adoption law, court appointment of guardians and guardian ad litem. The student will develop skills in client interviewing and counseling; lean in detail the preparation of necessary forms and documentation to be filed in court; and learn the discovery devices such as interrogatories and deposition and emphasize their utilization in family law matters. Prerequisites: LGL:108 and Reading Proficiency.

LGL:229 ADVANCED COMPUTER UTILIZATION
This course will extend the paralegal student's computer knowledge to the new and advanced areas of computer utilization in law offices and corporate legal departments. Topics will include network based application software, database management, integration of word processing, spreadsheets and databases, and presentation software. Prerequisites: LGL:106, LGL:108 and Reading Proficiency.

LGL:230 EMPLOYMENT LAW
The study of the employer and employee relationship and the laws governing the employment agreement. This course will examine the specific areas of employment discrimination, Worker's Compensation, and regulation of union activity. Prerequisites: LGL:108 and Reading Proficiency.

LGL:231 CD-ROM LEGAL RESEARCH
This course will demonstrate the use of CD-ROMs as a legal research tool. Using CD-ROMs from West, Lawyer's Cooperative Publishing and other legal publishers, students will learn the basic skills required for searching these large databases. Students will be expected to develop an organized research process that locates appropriate information relative to the assigned topic. Considerable time will be required in the campus computer labs to meet the requirements for this course. Prerequisites: LGL:108 and Reading Proficiency.

LGL:232 CONTRACTS
A study of the types and kinds of contracts and an in-depth analysis of the basic elements of contract law. The proper form and manner of entering into a lawful contract will be analyzed. Prerequisite: Reading Proficiency.

LGL:233 BANKRUPTCY
A study of the law of bankruptcy and the filing procedures. The elements of bankruptcy and completion of the debtor forms will be emphasis points. Prerequisites: LGL:108, BLW:101 or LGL:232 and Reading Proficiency.

LIBRARY AND INFORMATION STUDIES

LIB:030 INTRODUCTION TO COLLEGE RESEARCH AND INFORMATION LITERACY
3
This course is designed to develop college-level information literacy skills focusing on library and Internet resources. Students will build critical thinking skills while learning to determine information needs and to effectively and efficiently locate, evaluate, and manage information through lecture and participatory activities. Corequisite: RDC:030.

LIB:101 INTRODUCTION TO LIBRARY AND ONLINE RESEARCH
1
This course offers students instruction in using library resources, including the Internet, online databases, and the library catalog. Through a combination of hands-on practice and lectures, students will learn to locate, evaluate, and manage information efficiently and effectively. Prerequisite: Reading Proficiency.

MANAGEMENT

MGT:101 INTRODUCTION TO SUPERVISION
3
This course is designed to provide the student with the latest leadership skills to function as a supervisor in today's modern organizations. Special emphasis is placed on coaching, motivation, positive reinforcement, achieving high productivity and the latest court decisions and laws that affect management decisions. This course will give the student confidence and skills needed to succeed in today's workplace. Prerequisite: Reading Proficiency.

MGT:106 HUMAN RESOURCES MANAGEMENT
3
The emphasis is on the development of knowledge, skills, attitudes of managers, supervisors and employees in resolving human problems and in developing effective employee motivation and productivity in both union and nonunion settings. Topics include: sexual harassment, EEO, ethics, cultural diversity, grievance and conflict resolution, legal issues, compensation and benefits, turnover, employment and team building. Prerequisite: Reading Proficiency.

MGT:109 BUSINESS ORGANIZATIONAL BEHAVIOR AND DYNAMICS
3
The study of organizational behavior and the interplay of individual differences in industrial settings. The course will relate the study of people in organizations to a frame-work designed to promote understanding of the individual by the supervisor. Prerequisite: Reading Proficiency.

MGT:110 SAFETY MANAGEMENT
3
This course presents the principles and concepts of safety organization and management and acquaints the supervisor with his or her responsibilities in accident prevention. Prerequisite: Reading Proficiency.

MGT:120 MANAGERIAL LEADERSHIP
3
This course introduces a balanced approach to leadership: theory, critical thinking and development of skills. The student will apply leadership theories and concepts to develop critical thinking skills, differentiate between learning about leadership and learning to be a leader in the acquisition of skill. Prerequisite: Reading Proficiency.
MGT:130 INTRODUCTION TO SUPPLY CHAIN MANAGEMENT 3
An introductory study of the supply chain management system and the elements that make up its integrated and interdependent whole. The course emphasizes supply chain management as a system of multiple firms working together in partnership for the purpose of developing and coordinating engineered systems for procurement, handling and control of materials and products from acquisition at the vendor’s plants throughout processing, to the delivery of final product to the domestic and global customers. Prerequisite: Reading Proficiency.

MGT:201 CASE STUDIES IN SUPERVISION 3
This course is comprised of actual cases in supervisory management and allows the student to conceptualize alternatives and possible solutions to real cases on topics like: problem employees, training, compensation and benefits, absenteeism, sexual harassment, employee rights and responsibilities, safety, EEO, and conflict resolution. Prerequisites: MGT:101 and Reading Proficiency.

MGT:204 BUSINESS ORGANIZATION AND MANAGEMENT 3
A study of basic concepts, functions, and the management process of planning, organization, staffing, directions, and control as they relate to modern business operations and problems. Prerequisites: BUS:104 and Reading Proficiency.

MGT:205 PURCHASING MANAGEMENT 3
The course is designed to acquaint the student with the principles, concepts, and techniques of purchasing management. Emphasis will be placed on the organization, development, and evaluation of the purchasing function; the methods and procedures utilized; understanding of the legal and ethical considerations; and comparison of purchasing practices for private companies, institutions, and government. Prerequisite: Reading Proficiency.

MGT:231 PRODUCTION PLANNING AND INVENTORY CONTROL 3
This course is a study of efficient and effective utilization of manufacturing resources. Course topics will include forecasting, inventory management, aggregate planning, MRP, capacity planning and control, job shop production activity, total quality management, theory of constraints and technological innovations. Prerequisites: MGT:130, BUS:201 and Reading Proficiency.

MARKETING

MKT:101 ADVERTISING THEORY 3
A general survey of the values, purposes and techniques of advertising in its many forms, including all of the major and minor media. The managerial viewpoint will be emphasized in the analysis. Prerequisite: Reading Proficiency.

MKT:104 PRINCIPLES OF SELLING 3
A course in creative, strategic, consultative and adaptive selling techniques applied to various kinds of products and services sold into and through industrial, trade, and retail markets. Emphasis on clear and adequate effectiveness of selling, utilizing presentation skills and a high degree of business ethics. Prerequisite: Reading Proficiency.

MKT:203 PRINCIPLES OF MARKETING 3
This course covers the fundamental principles and functions of marketing. It describes the institutions, processes, and problems involved in transferring goods and services from producers to consumers. Prerequisites: BUS:104 and Reading Proficiency.

MASS COMMUNICATIONS

MCM:101 INTRODUCTION TO MASS COMMUNICATIONS 3
This course examines the nature and influence of mass media in our society. Students will analyze the impact media has throughout the world. Topics include mass media foundations, media’s role in culture, ethics, influence on society, media methods, controls, gatekeeping, and world impact. Prerequisite: Reading Proficiency.

MCM:102 MEDIA LITERACY 3
This course focuses on approaches through which students can develop a sensitivity to media messages, as well as enhance their appreciation of media programming. This course devotes attention to the process and impact of media on the individual and society. The class analyzes applied media formats, including journalism, advertising, and political communication. Prerequisite: Reading Proficiency.

MCM:110 JOURNALISM I: WRITING AND REPORTING 3
Contemporary newspaper writing and reporting techniques will be covered in this introductory course through discussions, readings, and practical exercises. The concepts of news coverage in the American press will be emphasized. Students are required to write news stories on a regular basis and apply skills in multimedia concepts. Prerequisites: ENG:100, ENG:101 or permission of instructor and Reading Proficiency.

MCM:112 FEATURE WRITING 3
Students will be exposed to the professional and marketing possibilities of feature writing. They will learn the theories and techniques of writing features for contemporary print and digital publications. Students are required to write and edit on a regular basis. Prerequisites: ENG:100 or ENG:101 or permission of the instructor and Reading Proficiency.

MCM:113 APPLIED JOURNALISM 3
Students are given the opportunity to gain practical experience in journalistic concepts and techniques through work on available campus media outlets. Students are required to complete hands-on projects. Prerequisites: ENG:100 or ENG:101 and MCM:110 or permission of the instructor and Reading Proficiency.

MCM:114 PHOTOJOURNALISM 3
Students will study the professional techniques of photojournalists and history of news photography both for photographers and non-photographers. Prerequisites: ART:165 or permission of the instructor and Reading Proficiency.

MCM:115 ACTING FOR THE CAMERA 3
This course includes the following: (1) exploration of the aesthetics and principles of acting for the camera; (2) analysis of diverse acting styles and outstanding performances in film and television; and (3) acting exercises for the camera. Some acting exercises will be videotaped and edited for analysis. (Same course as THT:115). Prerequisite: Reading Proficiency.

MCM:120 INTRODUCTION TO BROADCASTING 3
This course examines the background and operation of the broadcasting industry, including history, regulations, social and economic settings and the organization of radio and television stations. Newer technologies will also be a focus of this course. Some hands-on experience might be included. Prerequisite: Reading Proficiency.

MCM:121 TELEVISION PRODUCTION 3
The course instructs the student in the effective and creative use of television equipment also providing students with practical experience in technical areas including lighting, graphics, and field production. Students will cooperate in producing projects such as a newscast, advertisement, interview, or investigative feature. Prerequisite: Reading Proficiency.

MCM:122 APPLIED BROADCASTING 3
This is a skills-content course in which students will develop skills in broadcasting principles and practice. It may include the campus radio and/or television facilities. Prerequisite: Reading Proficiency.

MCM:123 BROADCAST JOURNALISM 3
Students in this course study the principles and skills of radio and television journalism, including work in the news operations of the campus radio or television facilities. Prerequisites: ENG:100, ENG:101 or permission of the instructor and Reading Proficiency.

MCM:124 RADIO PRODUCTION 3
The primary objectives of this course are to introduce students to basic professional concepts of radio broadcast theory and techniques and to provide students with hands-on experience. Some additional time in the lab or studio may be required. Prerequisite: Reading Proficiency.

MCM:125 SCRIPTWRITING FOR TELEVISION AND FILM 3
This course is designed to provide practical instruction in writing short scripts for TV and film for the beginning student and the student interested in the creative aspects of scriptwriting. Basic terminology and script formats will be presented as well as analysis of a variety of scripts. Prerequisites: ENG:100, ENG:101 and Reading Proficiency.

MCM:126 VIDEO PRODUCTION - FIELD 3
Students will learn video skills in pre-production (concept development), production (camera shooting) and post-production (editing). On-location, single-camera shooting will be emphasized. Class includes lectures, discussions, practical applications and evaluations. Prerequisite: Reading Proficiency.
MCM:127  VIDEO PRODUCTION - STUDIO  3
This course instructs the student in the effective and creative use of the television studio. It provides practical experience in nontechnical areas like scripting and program development and technical areas including lighting, audio, graphics and camera operation. Class includes lectures, discussions, practical applications and evaluations. Prerequisite: Reading Proficiency.

MCM:130  FILM APPRECIATION  3
Students study a variety of films: contemporary and classic, narrative and nonnarrative, animated and live action, American and international, short and feature-length. Topics include: camera movement, composition, sound, editing, lighting, special effects, and social issues such as violence and stereotyping. Class includes lectures, discussions, written analysis, and in-class screenings. Prerequisite: Reading Proficiency.

MCM:131  HISTORY OF FILM  3
Students study film history from the magic lantern to contemporary films through technical, artistic, sociological, and economic factors in fiction and nonfiction, feature-length and short works. Topics include various styles and movements as well as issues such as violence and politics. Class includes lectures, discussion, writing, and in-class screenings. Prerequisite: Reading Proficiency.

MCM:132  MAJOR THEMES IN FILM  3
Each semester this course focuses on one film theme or type. Examples include Academy Award winning films, animation, comedy, musicals, and women in film. Classes include lectures, discussion, written analysis, and in-class screenings of films illustrating the semesters’ topic. This course may be retaken for credit with different topics. Prerequisite: Reading Proficiency.

MCM:134  FILMMAKING  3
Students learn the fundamentals of short filmmaking and editing. Topics include basic camera operation, lighting and exposure control, sound recording and creative sound use, digital postproduction, and how technique relates to aesthetic quality and the communication of ideas and emotion. Access to equipment is provided. Lectures, discussions, screenings, and hands-on, project based experience. Additional time in the editing lab is required. Prerequisite: Reading Proficiency.

MCM:135  COMMUNICATION AND DESIGN FOR THE WORLD WIDE WEB I  3
Students will learn to use the elements of graphic design to produce Web pages that effectively deliver art and information for business/organizational communications. Additional lab hours required. Prerequisites: ART:133, ART:131 or ART:227 and Reading Proficiency.

MCM:136  INTRODUCTION TO MULTIMEDIA  2
Students will survey the current field of computer hosted multimedia with emphasis on the use of multimedia corporate training, business presentations, classroom instruction and supplemental instruction, advertising, and the World Wide Web. Additional lab hours required. Prerequisite: Reading Proficiency.

MCM:137  MULTIMEDIA PRODUCTION  4
Students will work with digital type and text, graphics, photographs, video, and sound using current "authoring" software to produce computer hosted multimedia. In the process students will learn to use the various hardware and software tools required. Attention will be devoted to various multimedia delivery options including compact disc and the World Wide Web. Additional lab hours required. Prerequisites: MCM:136 and Reading Proficiency.

MCM:140  INTRODUCTION TO ADVERTISING  3
Students learn about advertising theories and techniques by studying history, functions, the importance of marketing, behavioral science, and aesthetics. Topics include ad agency organization, campaign planning, and media placement and production (radio, television, print, point of purchase). This will be accomplished through lectures, discussions, and campaign analysis. Prerequisite: Reading Proficiency.

MCM:141  PUBLIC RELATIONS  3
This introductory course focuses on the work of the public relations practitioner as communications specialist. Topics include the techniques of effective public relations and the demands of the field. Students will explore the ways segments of the public form opinions and the ways public relations should influence that attitude building. Students also write press releases and examine field/case studies. Prerequisite: Reading Proficiency.

MCM:142  APPLIED ADVERTISING  3
This course will further the student’s knowledge of advertising practices, campaigns, strategies, and production. Along with lectures, discussions, and other activities, this course includes scripting, storyboarding and executing radio, television and/or print ads. Class involves lectures, discussions, and video production activities. Prerequisites: MCM:140 and Reading Proficiency.

MCM:143  CONVERGENCE MEDIA PRODUCTION  3
Students will study composition and delivery of commercial, educational and public new-media messages by surveying current outlets and producing messages for those outlets. Utilizing current authoring software, students will combine text, graphics, photos, video and audio to deliver messages for the web as well as other relevant outlets. Prerequisite: Reading Proficiency.

MCM:201  MEDIA INTERNSHIP I  3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will gain practical experience through selected media outlets. Minimum 150 hours in the workplace throughout the term. Prerequisites: Any 100-level MCM course related to the discipline of the workplace learning or permission of the instructor and Reading Proficiency.

MCM:202  MEDIA INTERNSHIP II  3
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will gain continued practical experience through selected media outlets. Minimum 150 hours in the workplace throughout the term. Prerequisites: MCM:201, permission of the instructor and Reading Proficiency.

MCM:209  BLACK CINEMA  3
This course examines the historical and social evolution of African-Americans in the film industry. It traces the impact of African-Americans as actors, technicians, directors, producers, and audience of short and feature-length films. (Students who want Mass Communications credit should enroll in MCM:209). Prerequisites: ENG:101 and Reading Proficiency.

MCM:211  APPLIED PUBLIC RELATIONS  3
Applied Public Relations provides for the integration and application of public relations theories and practices studied in the prerequisite public relations course. Through further study and practical application the student will develop a greater understanding of the purpose, function and importance of effective public relations activity in today's increasingly complex society. Prerequisites: MCM:141 and Reading Proficiency.

MCM:212  SPECIALIZED PUBLICATION PRODUCTION  3
Through lectures and demonstrations, students will be exposed to the techniques of writing, editing, designing and having printed specialized publications. Small company newsletters and newspapers; brochures, church bulletins and the like will be emphasized. This course is for both regular students and persons who already have these responsibilities in their job. Prerequisite: Reading Proficiency.

MCM:213  ADVANCED VIDEO PRODUCTION  3
Students will develop their skills in preproduction, production and post-production video work, both multi-camera studio and on location. The course will include concept development, scripting, storyboarding, shooting and editing video projects. Class involves lectures, discussions, and video production activities. Prerequisites: MCM:121, MCM:126 or permission of instructor and Reading Proficiency.
MCM:215 MAJOR FILM DIRECTORS
Students study a major director’s landmark films. Topics include consideration of the selected director’s style, themes, cinematography, stars, and social as well as other artistic factors that have made this an influential director. Class includes lectures, discussion, written analysis, and in-class screenings of films. Prerequisite: Reading Proficiency.

MCM:217 PUBLICATIONS WRITING
This course focuses on the specialized and distinctive writing skills employed in technical and corporate publications. Students will master the basic skills needed to write simple reports, product descriptions and price lists. In the corporate area, students will research and write news and feature stories for newsletters, as well as press release and brochure copy. All writing requires basic word processing skills. Prerequisites: ENG:102, ENG:103 or equivalent work experience and Reading Proficiency.

MCM:218 ADVANCED FILMMAKING
Students enhance their short filmmaking skills and learn advanced techniques. Topics include advanced camera operation, lighting and exposure control, sync sound and creative sound use, scriptwriting, working with actors, enhanced digital editing, and how technique relates to aesthetic quality and the communication of ideas and emotion. Access to equipment is provided. Lectures, discussions, screenings, and hands-on, project based experience. Additional time in the editing lab is required. Prerequisites: MCM:134 or permission of instructor and Reading Proficiency.

MCM:219 MULTIMEDIA APPLICATIONS
This course covers selected topics in multimedia production. Students use state-of-the-art equipment to produce beginning, intermediate or advanced projects in the area emphasized. Topics may include, but are not limited to, nonlinear video editing, video animation, digital audio production, etc. Course may be retaken for credit with different topics. Prerequisite: Reading Proficiency.

MCM:220 ADVANCED AUDIO PRODUCTION
Students will develop their skills in Audio Production through usage of computer based digital audio editing systems. This course will include concept development and scripting, recording techniques, and advanced editing techniques. Class includes lectures, discussion, and audio production activities. Prerequisites: MCM:124 or permission of instructor and Reading Proficiency.

MCM:221 MEDIA PORTFOLIO REVIEW
Preparing effective presentations of creative work within current digital formats is the focus of this course. Students will learn to create, record and prepare material toward the development of an effective portfolio, aiding the completion of their studies in the Media Communications program. Prerequisites: MCM:143 or ART:125 or permissions of instructor. Reading Proficiency.

MATHEMATICS

MTH:004 HANDS-ON ARITHMETIC WORKSHOP
This course is designed to help students experiencing difficulty with mathematics in general and arithmetic in particular. Students progress at their own pace using manipulatives in a guided discovery mode to gain an understanding of numbers, arithmetic operations (on whole numbers, integers, fractions, decimals, and involving percents) and metric measurement. Additional lab hours required. Prerequisites: RDG:020 and ENG:020.

MTH:020 PRE ALGEBRA
This course is for students who need to review the basic fundamentals of mathematics. Topics include operations on whole numbers, fractions, decimals, percents, signed numbers, word problem applications and an introduction to algebra.

MTH:025 HANDS-ON ALGEBRA WORKSHOP
The purpose of this course is to help students who have experienced great difficulty with mathematics in general and algebra in particular. Working individually and in small groups, students use various mathematics manipulatives in a guided discovery mode to explore algebraic concepts in order to gain an understanding of integers, linear equations, polynomials, graphing, and functions. In this hands-on lab course, students proceed at their own pace. This course does not replace Elementary Algebra. This course is also valuable for teachers who want to teach mathematics with a goal of preparing students for algebra. Prerequisites: MTH:020 with grade of “C” or better or satisfactory score on the placement test and an appropriate score in Reading and English on the placement test.

MTH:027 BRIDGES TO ELEMENTARY ALGEBRA
This course is designed for students who qualify for Elementary Algebra. Completion of this course will greatly enhance a student’s chance for success in Elementary Algebra. This course covers a brief review of operations on whole numbers, fractions, decimals and percents. Also included is an intense review of applications of ratios, geometry, signed numbers, like terms, simplifying algebraic expressions and solving basic equations. Prerequisites: Placement into MTH:030 or completion of MTH:020 with a grade of “C” or better.

MTH:030 ELEMENTARY ALGEBRA
This course covers basic algebra. Topics include operations on polynomials, factoring polynomials, linear equations and their applications, graphing lines and solving equations. Prerequisites: MTH:020 with grade of “C” or better or satisfactory score on placement test, and RDG:020 with a grade of “C” or better or satisfactory score on placement test.

MTH:040 ELEMENTARY ALGEBRA AND BASIC MATH
This course combines the topics of Basic Mathematics (operations on whole numbers, fractions, decimals, percents, signed numbers, and word problem applications) with those of Elementary Algebra (operations on polynomials, operations on rational expressions, and solving equations) and is intended for students who need to review the materials in these two courses. Prerequisite: Satisfactory score on placement test.

MTH:108 ELEMENTARY APPLIED MATHEMATICS
This course will include a review of fractions, decimals and percents. Topics may include ratios, proportions, measurements, metrics, powers, roots, simple equations, estimation, graphs, and applications relevant to many Associate in Applied Science programs. Prerequisites: MTH:020 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:123 INTRODUCTION TO THE TEXAS INSTRUMENTS GRAPHING CALCULATOR
This course is designed for students who will be using a graphing calculator in their math and science work. Students will be introduced to the use of the TI-83 plus graphing calculator. Students will learn to perform basic computations, graph functions, create tables and use stat plots to graph data. Prerequisites: Placement into MTH:140 or completion of MTH:030 with a grade of “C” or better and Reading Proficiency.

MTH:124 TECHNICAL MATHEMATICS I
This course includes operations on algebraic expressions, solving linear equations, the Cartesian coordinate system in two dimensions, slope of a line, and graphing techniques. Prerequisites: MTH:030 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:134 TECHNICAL MATHEMATICS II
The course content includes complex numbers, solution of quadratic equations, and a study of exponential logarithmic and trigonometric functions. Vectors in the Cartesian plane and applications are also among the topics included. Prerequisites: MTH:124 with a grade of “C” or better and Reading Proficiency.

MTH:137 BRIDGES TO INTERMEDIATE ALGEBRA
This course is designed for students who qualify for Intermediate Algebra. Completion of this course will greatly enhance a student’s chance for success in Intermediate Algebra. This course covers a brief review of linear equations and inequalities. Also included is an intense review of exponential properties, polynomials, factoring, rational expressions, the rectangular coordinate system, and basic linear graphs. Prerequisites: Placement into MTH:140, MTH:030 or MTH:007 with a grade of “C” or better and Reading Proficiency.
MTH:140 INTERMEDIATE ALGEBRA

This course will provide the transition from elementary algebra into college-level math courses. Operations on rational expressions, operations on radicals, solving quadratic equations, and the rectangular coordinate system are among the topics covered. Prerequisites: MTH:030 or MTH:040 with grades of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:144 TECHNICAL ALGEBRA AND TRIGONOMETRY

This course includes basic algebraic skills, complex numbers, quadratic equations, linear systems, and a study of the trigonometric functions. Applications for engineering technology students are included in the course content. Prerequisites: MTH:140 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:154 TECHNICAL ANALYTIC GEOMETRY AND CALCULUS

This course is designed primarily for engineering technology students. Among the topics included are plane analytic geometry, limits, derivatives, integration, and applications. Prerequisites: MTH:144 with a grade of “C” or better and Reading Proficiency.

MTH:157 BRIDGES TO COLLEGE ALGEBRA

This course is designed for students who qualify for College Algebra. Completion of this course will greatly enhance a student’s chance for success in College Algebra. This course offers a brief review of rational expressions, exponents, roots and radicals, inequalities, and systems of equations. Also included is an intensive review of functions and function notation, including linear and non-linear functions. Prerequisites: Placement into MTH:160A, MTH:160B or MTH:160C or completion of MTH:140 with a grade of “C” or better and Reading Proficiency.

MTH:160A COLLEGE ALGEBRA WITH TECHNOLOGY

Computers or graphing calculators will be used to study: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will include linear and non-linear regression. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:160B COLLEGE ALGEBRA: NON-TECH MAJORS

Computers or graphing calculators will be used to study: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will be chosen primarily from non-technical content areas. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:160C COLLEGE ALGEBRA

Topics included are: theory of equations; systems of equations; functions and graphs including polynomial, rational, exponential, and logarithmic; matrices; sequences and series; binomial theorem. Applications will be primarily from science and business. Credit will be granted for only one of the following: MTH:160, MTH:160A, MTH:160B, MTH:160C, MTH:185. Prerequisites: MTH:140 with grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:161 APPLICATIONS OF COLLEGE MATHEMATICS

This course serves as a practical alternative to the traditional College Algebra course. The course focuses on mathematical reasoning and the solving of real-life problems. The following six topics will be covered: sets, logic, consumer mathematics, probability, statistics, and modeling with global data. This course is designed to fulfill general education requirements and may be globally infused. Prerequisites: MTH:140 with a minimum grade of “C” or satisfactory scores on placement test, and Reading Proficiency.

MTH:165 STRUCTURES OF MATHEMATICAL SYSTEMS I

Introduction to problem solving and logic. A study of the development and construction of mathematical systems, including whole numbers, integers, and rational numbers. Suggested for students planning to transfer into early childhood education, elementary education, or special education programs. Prerequisites: MTH:160, MTH:160A, MTH:160B or MTH:160C with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:166 STRUCTURES OF MATHEMATICAL SYSTEMS II

Continuation of MTH:165. Includes an intuitive study of elementary geometry, the deductive theory of geometry, graphing, probability and statistics, with applications in the area of elementary education. Suggested for students planning to transfer into early childhood, elementary education, or special education programs. Prerequisites: MTH:165 with a grade of “C” or better and Reading Proficiency.

MTH:170 TRIGONOMETRY

This course uses an analytic approach to the definitions and graphs of the functions of an angle. It includes formulas and identities, trigonometric functions, inverse functions, and radian measure. Prerequisites: MTH:160, MTH:160A, MTH:160B or MTH:160C with grade of “C” or better or satisfactory score on placement test and Reading Proficiency. Note: Credit will not be granted for both MTH:170 and MTH:185.

MTH:177 FINITE MATHEMATICS

This course includes a study of matrices, linear programming, and probability, along with several types of applications. Prerequisites: MTH:160, MTH:160A, MTH:160B or MTH:160C with grade of “C” or better and Reading Proficiency.

MTH:185 PRECALCULUS

A unified study of college algebra and trigonometry. Emphasis is placed on the development of algebraic and trigonometric concepts. Note: Students will be granted credit for either MTH:185, or MTH:160 and MTH:170. Prerequisites: MTH:140 with a grade of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:186 SURVEY OF CALCULUS

An introduction to plane analytic geometry and the basic techniques of the differential and integral calculus. Applications are business oriented. Prerequisites: MTH:160, MTH:160A, MTH:160B or MTH:160C with grade of “C” or better and Reading Proficiency.

MTH:210 ANALYTIC GEOMETRY AND CALCULUS I

Topics included are limits and continuity of functions of a single variable, derivatives and antiderivatives of algebraic functions and trigonometric functions, and applications. Prerequisites: MTH:185 or MTH:160, MTH:160A, MTH:160B or MTH:160C and MTH:170 with grades of “C” or better or satisfactory score on placement test and Reading Proficiency.

MTH:212 DISCRETE MATHEMATICS

Students will learn the important topics in discrete mathematics which are particularly relevant to computer science. Topics include, but are not limited to, logic, elementary number theory, modular arithmetic, methods of proof, sets, probability and combinatorics, recurrence relations, algorithmic efficiency, elementary graph theory, and trees. Prerequisites: Previous completion of MTH:210 or equivalent with a grade of “C” or better and Reading Proficiency.

MTH:215 LINEAR ALGEBRA

Topics include systems of linear equations, properties of matrices and determinants, vector spaces, linear transformations, inner products, and eigenvalues, as well as selected applications. Prerequisites: MTH:210 with a grade of “C” or better and Reading Proficiency.

MTH:220 ANALYTIC GEOMETRY AND CALCULUS II

Differentiation and integration of transcendental functions, techniques of integration, improper integrals, parametric equations, polar coordinates, and infinite and power series are among the topics covered. Prerequisites: MTH:210 with a grade of “C” or better and Reading Proficiency.
ME:100 MEASUREMENT, MATERIALS AND SAFETY 3
This course prepares students for the National Institute of Metalworking Skills (NIMS) Measurement, Materials and Safety credentialing examination. Students will learn foundational skills for the metalworking industry including the basics of metal cutting, measurement, safety and shop math. Additional hours required. Corequisite: ME:154. Prerequisites: Departmental approval or WorkKeys Applied Mathematics Level 4, or, Reading Proficiency or WorkKeys Reading for Information Level 4.

ME:101 WELDING TECHNOLOGY 3
The major objective of this course is to provide a comprehensive coverage of current welding practices. A variety of welding processes will be covered including shielded metal-arc, gas shielded-arc, resistance and other special techniques intended specifically for welding sophisticated metals. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:103 MECHANICAL MAINTENANCE 3
Identifies and explains the various types and functions of mechanical power transmission components such as gears, couplings, chains, belts, bearings, and clutches. Manufacturer handbooks will be utilized to reinforce the proper installation, inspection, and maintenance specifications. In addition, pumps and compressors will be emphasized including repair and preventive maintenance. Additional lab hours required. Prerequisites: MTH:030 or higher and Reading Proficiency.

ME:108 PRINCIPLES OF PLUMBING/PIPEFITTING 3
The principles of water supplies and sewage systems are presented. The course covers alteration, repair, and maintenance methods of commercial and domestic plumbing systems. Nomenclature of the various connecting devices for metal and plastic pipe and proper assembly such as soldering, threading, and gluing are included. Laboratory exercises and assembly projects provide the practice and methodology required to successfully repair and maintain fixtures and systems. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:105 ELECTRICAL FUNDAMENTALS AND MAINTENANCE 3
Presents basic DC and AC elementary circuitry and electrical schematics. The electrical properties and relationships of voltage-amperage-resistance-power and measurement techniques are covered. The applications portion emphasizes wiring and wiring materials, electric controls and switches, DC and AC motor fundamentals and electrical troubleshooting. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:110 HVAC OPERATOR I 3
A practical course dealing with the basic operation, maintenance and troubleshooting of heating, ventilating and air conditioning equipment including air, closed water stream and control systems. The dynamic equipment components of various systems will be studied with special emphasis upon preventive maintenance. Prerequisite: Reading Proficiency.

ME:111 JOB PLANNING, BENCHWORK & LAYOUT 3
This course prepares students for the National Institute of Metalworking Skills (NIMS) Job Planning, Benchwork & Layout credentialing examination. Students will build upon skills learned in the Measurement, Materials & Safety class. They will learn additional foundational skills for the metalworking industry including the basics of benchwork, layout, hole making operations, grinding, shop trigonometry and inductory geometric dimensioning and tolerancing. Additional hours required. Corequisite: ME:100. Prerequisites: Reading Proficiency or departmental approval.

ME:120 MANUAL MACHINING I 3
This course prepares students for the National Institute for Metalworking Skills (NIMS) level 1 milling, grinding and drill press skills examinations. Students will build upon skills learned in the Measurement, Materials & Safety class and the Job Planning, Benchwork & Layout course. They will learn additional skills for the metalworking industry including the safe set up and operation of milling machines, drill presses and grinders. Some of the projects required for NIMS credentialing will be incorporated as lab projects. Additional hours required. Prerequisites: ME:111 and Reading Proficiency, or departmental approval.

ME:121 COMPUTER INTEGRATED MANUFACTURING 3
This course applies principles of robotics and automation. Students will use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included. Prerequisites: EGR:145, EGR:147 or department approval.

ME:138 MECHANICAL MEASUREMENT 3
This course is designed to provide the fundamentals of dimensional measurement for the technician. Measurement terms, equipment and tools will be explained and laboratory activities will provide the student an opportunity to master the basic skills of measuring devices. Scaled, vernier, micrometer instruments and dial indicators with gage blocks will be used. Measurement standards will be reviewed. Prerequisite: Reading Proficiency.

ME:140 INTRODUCTION TO ROBOTICS 3
This course is a historical overview of the use and development of robotics. Topics to be studied include specific types and application of industrial robots, the effects of industrial robots and technology on employers and employees, and the programming and functioning of robotic simulators. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:141 MANUFACTURING PROCESSES I 3
Teaching theory and manipulative skills in the basic processes of manufacturing: lathes, milling machines, shapers, drill presses, welding, foundry, sheet metal, precision instrument reading, and hand tools. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:151 MANUFACTURING PROCESSES II 3
This course is a continuation of Manufacturing Processes I with emphasis in Flexible Manufacturing Systems (FMS). Instruction includes Computer Numerical Control (CNC) programming, Robotics applications of Programmable Logic Controls (PLC), and Computer Integrated Manufacturing (CIM). Students will develop a CIM cell project. Additional lab hours required. Prerequisites: ME:151 and Reading Proficiency.

ME:152 MANUFACTURING PROCESSES III 3
This course is designed to teach fundamental machining operations on a Lathe and Mill. The course will emphasize general shop safety practices and machine operating procedures that is safe for the operators and other workers. Prerequisite: Reading Proficiency.

ME:154 MECHANICAL BLUEPRINT READING 2
This course covers drawing understandings, sheet sizes, information in title blocks, revision blocks, and tolerance blocks. Students will learn how to use measuring instruments as they pertain to blueprints. Additional hours required. Prerequisite: Reading Proficiency.
Course Descriptions

ME:162 OVERVIEW OF BUILDING SUSTAINABILITY 1
This course focuses on the major principles of building sustainably. Students will explore the personal and global impacts of current building practices and review sustainable design and construction strategies to mitigate negative impacts. Though not an exam prep course, it will cover core concepts comprising the LEED Green Associate credential. Prerequisite: Reading Proficiency.

ME:200 MANUAL MACHINING II 3
This course prepares student for the National Institute for Metal Working Skills (NIMS) level I Turning Between Centers and Chucking credentialing assessment. Students will build upon skills learned in the Measurement, Materials & Safety and the Job Planning, Benchwork & Layout courses. They will learn additional skills for the metalworking industry including fundamental operations performed on a lathe. Some of the projects required for NIMS credentialing will be incorporated as lab projects. Additional hours required. Corequisite: ME:120. Prerequisites: Reading Proficiency or departmental approval.

ME:210 ROBOTICS SUBSYSTEMS AND COMPONENTS 3
A continuation of Introduction to Robotics (ME:140) covering more advanced programming on ROBOT sensors (i.e., application of motion, voice, light, and sound sensors). Typical robot subsystems and components such as electronic (feedback devices, controls, microprocessor interfacing), hydraulic, pneumatic and mechanical drive mechanisms are covered with regard to their functions and operational principles. Additional lab hours required. Prerequisites: ME:140, EE:242 or department approval and Reading Proficiency.

ME:211 PROGRAMMABLE LOGIC CONTROLLERS 3
This course presents the fundamentals of ladder logic (or relay logic) used on modern industrial controllers. Basic elements such as timers, counters, and sequences are studied, as well as traditional methods of applying them to machine control. Students will program and perform laboratory experiments with programmable logic controllers, such as the Allen Bradley SLC-100 controllers and interface them to various input and output devices. An industrial robot also is available in class for lab experiments. Use of IBM/Allen Bradley personal computer interface software will be covered as well. Additional lab hours required. Prerequisites: ME:140 recommended and Reading Proficiency.

ME:212 INTRODUCTION TO COMPUTER NUMERICAL CONTROL (CNC) MACHINING 3
This course prepares students for the National Institute for Metalworking Skills (NIMS) level 1 Computer Numeric Control (CNC) Milling examinations. Students will build upon skills learned in the Measurement, Materials & Safety class and the Job Planning, Benchwork & Layout course. They will learn additional skills for the metalworking industry including the safe set up, operation and basic programming of Computer Numeric Controlled milling machines. They will work on the project required for NIMS credentialing. Additional hours required. Corequisite: ME:120. Prerequisites: Reading Proficiency or departmental approval.

ME:223 BASIC HYdraulics I 2
This course is arranged to give the student a general knowledge of the basic components of hydraulic systems, as well as a general understanding of the basic laws and formulas used in simple hydraulic calculations. It includes such topics as pumps, control valves, control assemblies, actuators, the use of standard hydraulic symbols, and maintenance procedures. Prerequisite: Reading Proficiency.

ME:226 AIR CONDITIONING AND HEATING 3
This course covers the operation of air conditioning and heating equipment and the calculation of cooling/heating loads for residential and commercial buildings. Laboratory experiments will supplement classroom work. Additional lab hours required. Prerequisites: MTH:140 or higher and Reading Proficiency.

ME:230 INTRODUCTION TO 3-D SOLID MODELING FOR DESIGN 4
This course is designed to teach the use of 3D solid modeling CAD packages. Instruction includes how to use a 3D CAD package to develop solid models in order to generate assemblies and 2D drawings. CAD package used in a particular semester or a section of this course may depend on the industry or student's demand. Some of the commonly used 3D solid modeling packages in the industry are: SDRC's I-Deas Master, SolidWorks, Pro-E, and Solid Edge. It is suggested that prior to registering for this course, students would inquire with the department as to which CAD will be emphasized in a given semester or a section of the course. Additional lab hours required. Prerequisites: Department approval and Reading Proficiency.

ME:232 GEOMETRIC DIMENSIONING AND TOLERANCING 2
This course will provide an introduction to consistent and clear application of dimensions and tolerances as outlined in the ASME Y14.5-2009 standard. Complete documentation of product requirements will consist of symbols, feature control frames, geometric tolerances, datums, and material condition modifiers. The course will also include methods of tolerance verification and basic design considerations. Prerequisites: EGR:100 or department approval and Reading Proficiency.

ME:241 NUMERICAL CONTROL PROGRAMMING 3
This course will include a brief summary of machine types and their application with movies and local field trips; also, basic CNC programming language and preparation of part programs. Students will program and operate three axis vertical mills with sequential and word address controls. Prerequisites: ME:151 and Reading Proficiency.

ME:242 MECHANICS-DYNAMICS 3
Dynamics extends the study of mechanics from forces and their effects on motionless objects to motion and the forces required to produce motion. Energy, impulse and momentum are included. Prerequisites: ME:135 and Reading Proficiency.

ME:243 STRENGTH OF MATERIALS 3
This course consists of the study of the reaction of materials to tension, compression, torsion and flexure. Applications to the design of beams, columns, shafts and fasteners are presented. The students perform various materials tests in a fully-equipped laboratory. Additional lab hours required. Prerequisites: ME:135 and Reading Proficiency.

ME:244 MECHANICAL DESIGN I 3
This course applies the principles of engineering graphics to problems dealing with the drawing and design of machines and parts. The emphasis is to produce accurate and complete detail and assembly drawings utilizing the latest industrial drafting procedures and practices which include GD&T methods. Additional lab hours required. Prerequisites: EGR:100 and Reading Proficiency.

ME:246 MECHANICAL DESIGN II 3
This course presents the design of various machine elements. The topics include: survey of engineering materials, weldments, fasteners, linkages, indexing mechanisms, cams, belt and chain drives, gear and gear trains, shafts, keys and splines, bearings and lubrication, couplings, clutches, brakes, power units, and springs. Additional lab hours required. Prerequisites: ME:243, ME:244 and Reading Proficiency.

ME:249 MATERIALS AND METALLURGY 3
This course is a survey of the sources, preparation, properties and uses of engineering materials. Topics include the following: the iron-carbon system, ferrous metallurgy, nonferrous metallurgy, ceramics, plastics, elastomers, composites, and finishes. Practical laboratory activities are performed to clarify and enhance text material. Additional lab hours required. Prerequisites: ME:246 and Reading Proficiency.

ME:253 ENERGY CONVERSION 2
This course is a fundamental study of the conversion of energy into work and heat. The principles of thermodynamics used in the analysis of engines, air conditioning systems, turbines, pumps and fans are reinforced through laboratory experiments. Additional lab hours required. Prerequisites: MTH:1140 or higher and Reading Proficiency.
ME:254  ELECTRICITY AND CONTROLS  3
A basic course in AC-DC electricity and controls for non-electrical students. Study of DC, AC and magnetic circuits used for electric motor drives and transformers introduction to solid state and electromagnetic controls. Laboratory experiments parallel classroom material covered. Additional lab hours required. Prerequisite: Reading Proficiency.

ME:255  FLUID POWER  3
This course is that portion of fluid mechanics which deals with its application and has been termed “Fluid Power.” It emphasizes the study of components of hydraulics and pneumatics systems as used for industrial power transmission and control purposes. Additional lab hours required. Prerequisite: MTH:144 or equivalent and Reading Proficiency.

ME:261  BUILDING SYSTEMS - A HOLISTIC APPROACH  3
This course takes a systems approach to buildings and evaluates the components of a building and how they work most efficiently when managed as an interconnected system. Building envelope, optimization of systems, and building heating and cooling load calculations in an energy audit will be included. Additional hours required. Prerequisites: CE:116 and MTH:124 or MTH:140, all with minimum grades of “C” and Reading Proficiency.

ME:262  ENERGY IMPACT OF MECHANICAL PRODUCTS  3
This course will focus on the identification and energy impact of mechanical products utilized in residential and commercial building. Because energy-related equipment in buildings can vary in age and efficiency, this course will include reviewing a variety of products and their features as they relate to overall performance. Additional hours required. Prerequisites: CE:116 and MTH:124 or MTH:140, all with a minimum grade of “C”, and Reading Proficiency.

ME:263  ENERGY CONTROL SYSTEMS  3
This course provides an overview of basic electrical systems and examines overall building control systems and automation. Students will explore how control systems can effectively monitor and manipulate building systems to achieve maximum efficiency. Additional hours required. Prerequisites: CE:116 and MTH:124 or MTH:140, all with a minimum grade of “C” and Reading Proficiency.

ME:264  ENERGY CONSERVATION MEASUREMENT AND AUDITING  3
This course is the culminating experience of the Sustainable Energy Technology Certificate Program integrating material learned in previous classes. A hands on approach will be taken, including Building Energy Auditing, and Testing and Balancing. Additional hours required. Prerequisites: CE:116 and MTH:124 or MTH:140 with minimum grades of “C”. Prior or concurrent enrollment in GE:163, ME:162, ME:263 all with a minimum grade of “C”. Reading Proficiency.

MUSIC

MUS:101  MUSIC THEORY I  4
An integrated course in musicianship. Diatonic harmony with reference to 18th-century style. Combines written and keyboard harmonization. Develops rhythm, pitch and harmony through sight-singing and dictation. Additional studio hours required. Prerequisites: Experience in reading music notation is recommended and Reading Proficiency.

MUS:102  MUSIC THEORY II  4
Continuation of MUS:101. Enlargement of vocabulary to comprise inversion of triads, non-harmonic tones, chord extensions, harmonic analysis and modulation. Additional studio hours required. Prerequisites: MUS:101 or permission of instructor and Reading Proficiency.

MUS:103  BASIC MUSIC  3
A course in the fundamentals of music including note reading, scales, keys, intervals, rhythmic activities and simple keyboard study.

MUS:113  HISTORY OF JAZZ  3
A study of main eras of jazz: New Orleans Dixieland, Ragtime, Chicago Dixieland, Swing, Bop, Cool, Third Stream, Improvisation. Emphasis on listening to the various styles and artists. Prerequisite: Reading Proficiency.

MUS:114  MUSIC APPRECIATION  3
This class is a survey of various aspects of music including the philosophy, science, theory, anthropology, sociology, history, and physical act of producing music. A wide variety of musical styles and associative composers will be used to explore these aspects of music. Prerequisite: Reading Proficiency.

MUS:115  VOICE I  2
Introduction to the fundamentals of singing. Attention directed to tone production, breath control, diction, phrasing, rhythm and melodic precision stage deportment. Prerequisite: Reading Proficiency.

MUS:116  VOICE II  2
A continuation of Voice I. Efficient breath control, improvement of tone quality, and song interpretation are stressed. Songs in English and Italian will be studied. Prerequisites: MUS:115 and Reading Proficiency.

MUS:121  CLASS PIANO I  2
A course designed to develop basic skills and techniques in piano playing applicable to various types of music. For the student with no previous keyboard experience.

MUS:122  CLASS PIANO II  2
Continuation of MUS:121. Prerequisites: MUS:121 or demonstrated proficiency and Reading Proficiency.

MUS:128  SURVEY OF ROCK MUSIC  3
A year-by-year review of the music, artists, composers, record producers, and others associated with rock ‘n’ roll from 1954 to the present with emphasis on the controversies surrounding this genre. Prerequisite: Reading Proficiency.

MUS:129  MUSIC FOR THE CLASSROOM TEACHER  3
Designed for elementary education students without regard to previous musical training. Students are prepared to use music functionally and developmentally in the elementary classroom through singing, through playing the piano and informal instruments, and through responding to music rhythmically. Creative aspects and values of music are emphasized and materials are studied in relation to their future uses in the classroom. (Same course as EDU:129.) Prerequisite: Reading Proficiency.

MUS:130  BEGINNING GUITAR  2
Course objective is to acquire a classical playing technique. Emphasis on correct seating and hand positions, note reading, chording and basic music theory. Students must supply their own guitar (nylon string recommended). Prerequisites: Ability to read music is recommended and Reading Proficiency.

MUS:131  CHORUS  1
Study and performance of representative choral literature. Emphasis on vocal technique and development. Additional studio hours required.

MUS:132  ORCHESTRA  1
Study and performance of representative chamber and symphonic literature. Additional studio hours required. Prerequisites: Audition and Reading Proficiency.

MUS:133  JAZZ LAB BAND  1
Study and performance of the best in recent big band jazz compositions. Additional studio hours required. Prerequisites: Audition and Reading Proficiency.

MUS:134  SYMPHONIC BAND  1
Study and performance of representative symphonic band literature. Additional studio hours required. Prerequisites: Experience in playing a band instrument and Reading Proficiency.

MUS:135  CHOIR  1
A study of advanced choral literature. Emphasis on vocal technique and development. Additional studio hours required. Prerequisite: Audition.

MUS:138  JAZZ IMPROVIZATION I  2
The study and application of beginning jazz theory and improvisation to the performance of jazz music in a combo setting with little emphasis on concert performance. Additional studio hours required. Prerequisites: Performance ability, audition, permission to enroll and Reading Proficiency.
Course Descriptions

MUS:139 JAZZ IMPROVISATION II 2
The study and application of intermediate jazz theory and improvisation to the performance of jazz music in a combo setting with greater emphasis on concert performance. Additional studio hours required. Prerequisites: MUS:138 or equivalent and Reading Proficiency.

MUS:141 APPLIED MUSIC I 2
Individualized study of instrument or voice. Prerequisites: Demonstrated proficiency and Reading Proficiency.

MUS:142 APPLIED MUSIC II 2
Continuation of MUS:141. Prerequisites: MUS:141 and Reading Proficiency.

MUS:144 AFRICAN DRUM ENSEMBLE 1
Students will learn and perform the dance music of West African countries. Special emphasis will be placed on the hand techniques of the djembe. Students will, however, perform on many other instruments as well, including: bells, drums, and shekere. Additional hours required. Prerequisite: Reading Proficiency.

MUS:150 FUNDAMENTALS OF MUSIC TECHNOLOGY 2
This course teaches the fundamentals of computer-based music and sound production. Topics covered include the computer operating system, file manipulation, basic MIDI sequencing, basic audio recording, data archiving and CD creation. Prerequisite: Reading Proficiency.

MUS:152 AUDIO ENGINEERING 3
Students will learn how to run a recording session from set-up, to tracking, to tear-down. They will learn the theory of compressors, EQ, delays, reverbs, chorus, and other effects. Microphone design, selection, and placement are emphasized. This course combines theory with practical experience in digital audio. Prerequisites: MUS:150 and Reading Proficiency.

MUS:153 DRUM MACHINE PROGRAMMING 2
Students will learn to create drum patterns, beats, and loops using a variety of music software and hardware. Traditional drum instrumentation, experimental techniques, groove settings, and editing in a variety of styles will be explored. Prerequisite: Reading Proficiency.

MUS:154 MUSIC RECORDING WITH PRO TOOLS I 2
In this course students will learn how to use the Pro Tools digital audio workstation to record music. They will learn to use plugin effects, mix automation, and studio hardware. The Audio Engineering class is helpful, but not required. Prerequisites: MUS:150 and Reading Proficiency.

MUS:201 MUSIC THEORY III 4
Continuation of MUS:202. Review of diatonic harmony, Chromatic harmony, 18th and 19th century practices. Analysis of written and keyboard harmonization. Development of rhythm, pitch and harmony through sight-singing and dictation. Additional studio hours required. Prerequisites: MUS:202 or permission of instructor and Reading Proficiency.

MUS:202 MUSIC THEORY IV 4
Continuation of MUS:201. Advanced chromatic harmony, 19th and 20th century practices. Analysis of written and keyboard harmonization. Development of rhythm, pitch and harmony through sight-singing and dictation. Additional studio hours required. Prerequisites: MUS:201 or permission from instructor and Reading Proficiency.

MUS:211 MUSIC HISTORY I 3
The history of music in Western civilization from its origins to the Baroque era. Emphasis on listening to and analyzing the music with score. Prerequisites: Ability to read music and Reading Proficiency.

MUS:212 MUSIC HISTORY II 3
The history of music in Western civilization from the Baroque era to the present. Emphasis on listening to and analyzing the music with score. Prerequisites: Ability to read music and Reading Proficiency.

MUS:213 THE SYMPHONY 3
Great symphonies analyzed and discussed as to style, form, compositional techniques and content. Directed listening and visits to live rehearsal and concerts. Prerequisite: Reading Proficiency.

MUS:216 JAZZ IMPROVISATION III 2
The study and application of advanced techniques in jazz improvisation in a combo setting with emphasis on concert performance. This course may be reflected for additional credit. Additional studio hours required. Prerequisites: MUS:139 or equivalent and Reading Proficiency.

MUS:221 CLASS PIANO III 2
Continuation of MUS:222. Prerequisites: MUS:221 or equivalent proficiency and Reading Proficiency.

MUS:222 CLASS PIANO IV 2
Continuation of MUS:222. Prerequisites: MUS:221 or demonstrated proficiency and Reading Proficiency.

MUS:241 APPLIED MUSIC III 2
Continuation of MUS:242. Prerequisites: MUS:241 and Reading Proficiency.

MUS:242 APPLIED MUSIC IV 2
Continuation of MUS:241. Prerequisites: MUS:241 and Reading Proficiency.

MUS:254 MUSIC RECORDING WITH PRO TOOLS II 2
Learn to use the Pro Tools digital audio workstation to record music. The second semester emphasizes an in-depth study of advanced mixing and mastering techniques used to complete digitally recorded projects. The Audio Engineering class is helpful, but not required. Prerequisites: MUS:154 and Reading Proficiency.

NURSING

NUR:105 NURSING LABORATORY PRACTICUM II 1
This course is designed to provide the student with the practice of nursing skills in the College Nursing Laboratory and to reinforce nursing principles introduced in NUR:108. Additional lab hours required. Corequisite: NUR:108. Prerequisite: Reading Proficiency.

NUR:106 NURSING OF ADULTS AND CHILDREN I 8
This course is designed to assist the student to acquire knowledge and skills in meeting the needs of adults and children with an emphasis on adaptation to illness and hospitalization in medical-surgical nursing, and mothers and newborns during the maternity cycle. Additional lab hours required. Corequisite: NUR:105. Prerequisites: BIO:207, PSY:205, NUR:101, all with grades of “C” or better, grade of “C” or better in BIO:208 or permission of chairperson and Reading Proficiency.

NUR:108 NURSING EXPERIENTIAL CREDIT I 5
This course is designed to transcript LPN experiential credit for first semester nursing. LPN’s must be enrolled in LPN Bridge courses and must have successfully completed NUR:106. Prerequisites: Enrolled in LPN Bridge courses and completion of NUR:106 with a grade of “C” or better and Reading Proficiency.

NUR:110 LPN EXPERIENTIAL CREDIT II 5
This course is designed to transcript LPN experiential credit for second semester nursing. LPN’s must be enrolled in LPN Bridge courses and must have successfully completed NUR:107. Prerequisites: LPN enrolled in Bridge courses and completion of NUR:107 with a grade of “C” or better and Reading Proficiency.

NUR:119 LPN EXPERIENTIAL CREDIT III 5
This course is designed to transcript LPN experiential credit for first semester Nursing. LPN’s must be enrolled in LPN Bridge courses and must have successfully completed NUR:108. Additional lab hours required. Corequisite: NUR:108. Prerequisite: Reading Proficiency.

NUR:120 LPN EXPERIENTIAL CREDIT IV 5
This course is designed to transcript LPN experiential credit for second semester nursing. LPN’s must be enrolled in LPN Bridge courses and must have successfully completed NUR:109. Additional lab hours required. Corequisite: NUR:109. Prerequisite: Reading Proficiency.

NUR:150 NURSING LABORATORY PRACTICUM I 1
This course is designed to provide the student with the practice of nursing skills in the College Nursing Laboratory and to reinforce principles introduced in Fundamentals of Nursing. Additional lab hours required. Corequisite: NUR:151. Prerequisite: Reading Proficiency.

NUR:151 FUNDAMENTALS OF NURSING 7
This course is an introduction to the role of the nurse in meeting needs common to all patients through knowledge, skill, and attitudes essential for the practice of nursing, based on principles of physical, biological, behavioral sciences, and nursing theory. Additional hours required. Corequisite: NUR:152. Prerequisites: Enrollment in Nursing Program and passing of Dosage Calculation Test. PSY:200, LIB:101, BIO:207 all with grades of “C” or better and ENG:101. Grade of “C” or better, or concurrent enrollment in BIO:208 and PSY:205. Math Proficiency at or above the MTH:140 level and Reading Proficiency.

NUR:152 NURSING LABORATORY PRACTICUM I 1
This course is designed to provide the student with the practice of nursing skills in the College Nursing Laboratory and to reinforce principles introduced in Fundamentals of Nursing. Additional lab hours required. Corequisite: NUR:151. Prerequisite: Reading Proficiency.

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NUR:201 NURSING OF ADULTS AND CHILDREN II
This course is designed to assist the student to further develop knowledge and skills necessary to meet the needs of adults and children with selected medical-surgical problems and exaggerated behavior problems. Additional lab hours required. Corequisite: NUR:203. Prerequisites: NUR:108 or NUR:107, BIO:203 and BIO:208 all with grades of “C” or better and Reading Proficiency.

NUR:203 CONTEMPORARY NURSING
This course is a study of selected topics related to the development of nursing practice and education, professional organizations, ethical legal aspects, current issues and trends. Corequisite: NUR:201. Prerequisites: NUR:108 or NUR:107 with a grade of “C” or better and Reading Proficiency.

NUR:204 MANAGEMENT SKILLS IN NURSING
This course includes theory and practice in principles of managing the care of a group of patients. The student will participate actively in the role of a beginning staff nurse under the guidance of agency staff and instructor. Additional hours required. Corequisite: NUR:205. Prerequisites: NUR:201 and NUR:203 both with grades of “C” or better and Reading Proficiency.

NUR:205 NURSING OF ADULTS AND CHILDREN III
This course is designed to assist the student to further develop knowledge and skills necessary to meet the needs of adults and children with selected medical-surgical problems. Additional hours required. Corequisite: NUR:204. Prerequisites: NUR:201 and NUR:203 both with grades of “C” or better and Reading Proficiency.

NUR:207 RN FIRST ASSISTANT - CLINICAL INTERNSHIP
The clinical internship provides the perioperative nurse the opportunity to apply in the practice setting the expanded functions unique to the RNFA during operative and other invasive procedures. Additional hours required. Prerequisites: Successful completion of all requirements of NUR:206. Evidence of current employer or personal professional liability insurance for RNFA practice. Reading Proficiency.

OCCUPATIONAL THERAPY ASSISTANT
OTA:101 FUNDAMENTALS OF OCCUPATIONAL THERAPY ASSISTANT I
An introduction to occupational therapy, its philosophy, goals and focus in relation to basic treatment in geriatrics, psychosocial dysfunction, physical disabilities and developmental pediatrics. Beginning skills in practice of occupational therapy are learned. Prerequisites: Admission into the program and Reading Proficiency. (Three hours per week clinical assignments to be arranged).

OTA:102 FUNDAMENTALS OF OCCUPATIONAL THERAPY ASSISTANT II
Beginning skills in occupational therapy treatment in geriatrics and psychosocial dysfunction are introduced. Group dynamics, work and leisure principles and activity analysis are included. Prerequisites: OTA:101 and Reading Proficiency. (Four hours per week clinical assignment to be arranged).

OTA:103 ADAPTIVE ACTIVITIES I
The use of activities in occupational therapy including those that address sensory motor, cognitive, and psycho-social performance components. The student is introduced to activity analysis, methods of instruction, goal setting and cost and supply factors. Prerequisites: Admission to the OTA program and Reading Proficiency.

OTA:104 ADAPTIVE ACTIVITIES II
The student will learn beginning skills in designing and fabricating a piece of adaptive equipment. Adaptive activities as they apply to seating, positioning, splinting, and functional tasks will be taught. Additional lab hours required. Prerequisites: OTA:101, OTA:103 and Reading Proficiency.

OTA:203 FUNDAMENTALS OF OCCUPATIONAL THERAPY III
Occupational therapy evaluation and treatment procedures including self-care, therapeutic exercise, home management, use of adaptive equipment, work and leisure skills. Clinical assignments to be arranged. Prerequisites: OTA:102 and Reading Proficiency.

OTA:204 FUNDAMENTALS OF OCCUPATIONAL THERAPY IV
Occupational therapy evaluation and treatment procedures including developmental and perceptual motor skills, self-care, design and use of adaptive equipment and play/leisure. Field trips to be arranged. Prerequisites: OTA:102 and Reading Proficiency.

OTA:207 HEALTH AND DISEASE
This course is an overview of disease conditions commonly seen for treatment in occupational and physical therapy departments. Prerequisites: Acceptance into the PTA or OTA program, BIO:207 and Reading Proficiency.

OTA:208 ADAPTIVE LIVING SKILLS
The course presents principles of adapting environments for persons with disabilities. The student will learn basic treatment techniques that are used with persons with physical disabilities across the lifespan. Prerequisites: BIO:209, OTA:207 and Reading Proficiency.

OTA:213 OCCUPATIONAL THERAPY ASSISTANT PRACTICUM I
Field work experience in the treatment of geriatric clients, physically disabled children or adults or clients with psycho-social dysfunction. The student is supervised by an on-site occupational therapist, 8 weeks fulltime clinical assignment. Prerequisites: OTA:204, OTA:208, OTA:213 and Reading Proficiency.

OTA:214 OCCUPATIONAL THERAPY ASSISTANT PRACTICUM II
Field work experience in the treatment of geriatric clients, physically disabled children or adults, or clients with psychosocial dysfunction. The student is supervised by an on-site occupational therapist, 8 weeks fulltime clinical assignment. Prerequisites: OTA:204, OTA:208, OTA:213 and Reading Proficiency.

OTA:215 THE MANAGEMENT OF OCCUPATIONAL THERAPY

OTA:216 LEVEL II FIELDCWORK SEMINAR
The study of topics related to Level II fieldwork and employability skills including organizational structures, regulation, continued professional development, job preparation skills. Prerequisites: OTA:203, OTA:204 and OTA 215 and Reading Proficiency.

PARAMEDIC TECHNOLOGY
PAR:201 PRINCIPLES OF PARAMEDIC TECHNOLOGY I
This course is an overview of Paramedic practice integrating the theory behind the use of advanced diagnostic and treatment procedures into the management of organic, life-threatening emergencies. Corequisite: PAR:211. Prerequisites: EMT:121, BIO:207, department approval and Reading Proficiency.

PAR:202 PRINCIPLES OF PARAMEDIC TECHNOLOGY II
This course serves as an overview of paramedic practice as well as integrating the theory behind the use of advanced diagnostic and treatment procedures in the management of organic, life-threatening emergencies. Topics include cardiovascular, cerebrovascular and other medical emergencies and their relationship to their respective disease processes. Corequisite: PAR:212, PAR:222, PAR:224, PAR:226. Prerequisites: PAR:201 and Reading Proficiency.

PAR:203 PHARMACOLOGY FOR PARAMEDICS
This course discusses drug theory and usage by paramedical personnel. Areas of emphasis are general principles of drug action, the mathematics of dosage calculation, the therapeutic effects, indications, contraindications, dosages, administration routes, and possible side effects of emergency drugs. Discussion of important prescription medications and their relationship to emergency treatment. Corequisite: PAR:201. Prerequisite: Reading Proficiency.

PAR:211 PARAMEDIC LABORATORY I
This course covers the practical skills relating to PAR:201 including patient assessment and history taking techniques, parental infusion techniques, antishock trousers, oxygen administration, airway adjuncts to include endotracheal intubation and cricothyrotomy techniques. Corequisites: PAR:201, PAR:221, PAR:223. Prerequisites: Admission to the Paramedic program and Reading Proficiency.
Course Descriptions

PAR:212 PARAMEC LABORATORY II
This course covers the practical skills relating to PAR:202 and PAR:226, including patient assessment and history taking techniques with emphasis on ECG interpretation as well as special OB/GYN techniques. At the completion of the semester all skills covered previously will be reviewed. Additional lab hours required. Corequisites: PAR:202, PAR:226. Prerequisite: Reading Proficiency.

PAR:221 PARAMEC CLINICAL I
Students provide advanced therapy to hospitalized patients under the supervision of licensed personnel. Additional hours required. Corequisites: PAR:201, PAR:203, PAR:211, PAR:223. Prerequisites: Admission to the Paramedic program and Reading Proficiency.

PAR:222 PARAMEC CLINICAL II
Student provides advanced therapy to hospitalized patients under the supervision of licensed personnel. Additional hours required. Corequisites: PAR:202, PAR:212, PAR:224, PAR:226. Prerequisites: PAR:201 and Reading Proficiency.

PAR:223 PARAMEC INTERNSHIP I
This course is specifically designed for those students who are currently enrolled in Paramedic Technology. Arrangements are made for the student to work with a pre-hospital, advanced life support system under the supervision of licensed personnel. Students will observe and practice the application of paramedic skills. Additional lab hours required. Corequisite: PAR:201. Prerequisites: Admission to the Paramedic program and Reading Proficiency.

PAR:224 PARAMEC INTERNSHIP II
This course is designed specifically for the student who is currently enrolled in PAR:202 and PAR:226. Arrangements are made for the student to work with a pre-hospital, advanced life support system under the supervision of licensed personnel. Students will observe and practice the application of paramedic skills. Additional lab hours required. Corequisites: PAR:202, PAR:212, PAR:222, PAR:226. Prerequisites: PAR:201 and Reading Proficiency.

PAR:225 PARAMEC INTERNSHIP III
This course is specifically designed for the student who is currently enrolled in Paramedic Technology. Arrangements are made for the student to work with a pre-hospital advanced life support system under the supervision of licensed personnel. Student will observe and practice the application of paramedic skills. Additional hours required. Corequisites: PAR:227, PAR:228, PAR:229. Prerequisites: PAR:226 and Reading Proficiency.

PAR:226 PRINCIPLES OF PARAMEC TECHNOLOGY III
This course integrates the theory behind the use of advanced diagnostic treatment procedures into the practice of the paramedic. Areas of emphasis include infectious disease, OB/GYN, behavior, abuse, geriatrics, hematology and patients with special considerations. Corequisites: PAR:202, PAR:212, PAR:222, PAR:224. Prerequisites: PAR:201 and Reading Proficiency.

PAR:227 PRINCIPLES OF PARAMEC TECHNOLOGY IV
This course integrates the theory behind the use of advanced diagnostic treatment, assessment based management, counseling, rescue and communication procedures into the practice of the paramedic. Areas of emphasis include pediatrics, management of the chronically ill patient, extraction and rescue and communication techniques. Corequisites: PAR:225, PAR:228. Prerequisites: PAR:201, PAR:202, PAR:226 and Reading Proficiency.

PAR:228 PARAMEC CLINICAL III
Student provides advanced therapy to hospitalized patients under the supervision of licensed personnel. Additional hours required. Corequisites: PAR:225, PAR:227. Prerequisites: PAR:226 and Reading Proficiency.

PERSONAL DEVELOPMENT

PRD:101 INTERPERSONAL DYNAMICS TRAINING
This course will provide students with an opportunity to assess their competencies and deficiencies in the process of communicating with others. Through role playing and practice, students will utilize the skills and techniques that are valuable in improving their ability to interact in a productive manner with other people. These skills and techniques will include listening, responding and initiating in personal interactions.

PRD:102 CAREER EXPLORATION
Career Exploration emphasizes students learning about themselves as well as about the world of work. Students will learn to identify accurate career information and resources. They will also learn a decision making model to assist them in their career selection process.

PRD:103 ASSERTIVE TRAINING I
The aim of this course is to make non-assertive or aggressive persons aware of alternative responses and to give them support and experience in trying out new responses. There will be stress on developing a belief system in order to be able to make a choice of what kind of response one wants to make in any situation. Some videotape use in role-playing practice may be utilized.

PRD:106 RELAXATION TRAINING
This is a course for students who are dealing with increasing expectations and pressures. Participants will learn to identify when and how they experience stress in themselves. The material covered will include the causes of stress, individual assessments, relaxation techniques, methods of handling interpersonal stress, and audio tapes. Students will be asked to actively practice and utilize the techniques.

PRD:107 EXPLORATIONS FOR WOMEN I
In a group setting women will be provided the opportunity to explore their self-concepts and expectations of themselves and of the world, as well as to experiment with new directions for their personal growth. The group will use a variety of activities to help each member to become aware of her strengths, her needs and her patterns of communication and behavior, and to formulate personal goals and experiment with programs to achieve them.

PRD:108 PERSONAL GROWTH AND IDENTITY I-2
This course is designed to involve participants in the process of seeing themselves more clearly having more available alternatives in their interaction with others, together with a clear perception of their own uniqueness. This class will be organized with a group discussion format emphasizing self-exploration.

PRD:109 HABIT CHANGE
Learn what the experts have discovered about changing a habit; use this information to overcome a self-defeating habit or develop a healthy habit. Possible goals: quitting smoking or drinking, starting an exercise program, controlling overeating, etc. Topics will include the stages of change, twelve change processes, and rebounding from relapse.

PRD:110 LEARNING TO COPE WITH TEST ANXIETY
This course is designed to help students learn to desensitize themselves (systematically) to anxieties associated with the taking of tests. In the academic setting these “tests” may come in the form of quizzes, exams, oral reports, or contributions to class discussions. Students who will find this course beneficial are those who typically “freeze up” or “go blank” because of excessive anxiety leading up to and during testing situations, and as a result do not attain their level of competence.

PRD:114 COPING WITH STRESS
An exploration of the nature and causes of stress and presentation of alternative ways of relieving stress, to include yoga, meditation, systematic desensitization, hypnosis and biofeedback.

PRD:121 PERSONAL SUCCESS
The focus of this course is the enhancement of the student’s self-esteem. The opportunity is provided for students to review their self-esteem in a variety of life areas (family, work, friends, education) and consider ways in which they work to enhance it. A number of self-initiating behaviors that persons of all ages may adopt to enhance self-esteem will be explored.

PRD:122 LEARNING THROUGH SERVICE
This course is designed for students who are seeking to expand learning in a designated academic or personal development course they are taking, reinforce academic and career goals, continue previous Service-Learning Projects, enhance their level of civic engagement and to learn more about the world of work in a non-profit agency. Additional hours required.
PRD:125 COLLEGE ORIENTATION FOR OLDER ADULTS 1
This course will focus on what may be special interests and concerns of the 60+ population. It is designed to familiarize older persons with relevant St. Louis Community College resources and broader community resources and to discuss interests related to education and aging.

PRD:126 PARENTING 1
This course will provide students with a forum for addressing a variety of parenting issues. In a structured group setting, students will explore and practice skills to increase parenting options and awareness. Topics include discipline, nutrition, social influences, and the role of parents, both in single and multiple parent households. Prerequisite: Reading Proficiency.

PRD:128 MENTAL HEALTH FIRST AID 1
Mental Health First Aid is a certification course designed to assist participants in giving first aid to individuals experiencing a mental health crisis and/or who are in the early stages of a mental health disorder. The course teaches an appropriate response plan and the signs and symptoms of common health problems: anxiety, depression, psychosis, eating disorders and substance use disorders. Prerequisite: Reading Proficiency.

PHILOSOPHY

PHL:101 INTRODUCTION TO PHILOSOPHY 3
This course is an introduction to philosophical inquiry through a study of such perennial problems as the nature of truth and the possibility of knowledge, the mind-body relation, the nature and basis of morality, the nature and possibility of free will and the nature and existence of God. The course incorporates both classical and contemporary readings. Prerequisite: Reading Proficiency.

PHL:102 INTRODUCTION TO LOGIC 3
Introduction to Logic includes the methods for critically evaluating reasoning and constructing valid arguments. The course may include the techniques of both traditional (syllogistic) and symbolic logic. Informal logic (language definition and fallacies) is to be covered. Prerequisite: Reading Proficiency.

PHL:103 WORLD RELIGIONS 3
An orientation course examining the nature and function of religion in human experience and culture and an introduction to the history, content and present status of selected world religions such as Hinduism, Buddhism, Taoism, Confucianism, Islam, Judaism and Christianity. Prerequisite: Reading Proficiency.

PHL:104 ETHICS 3
This course is an introductory survey of the basic issues and approaches in the field of ethics, with the aim of showing the relevance of philosophical inquiry to contemporary moral concerns. Questions concerning the good life, the nature and content of morality, and the relation of the individual to the standards of society will be considered. Prerequisite: Reading Proficiency.

PHL:105 BLACK PHILOSOPHY 3
Major philosophical and ideological themes in Black life in the Western and Non-Western world are explored. Black nationalism, Race, Black values, pan-Africanism, African socialism and other views may be included. Prerequisite: Reading Proficiency.

PHL:106 BLACK RELIGION 3
This is a study of the nature and function of religion in the lives of black people. This course will include the relationship of Christianity, Islam, and other African Philosophies to the ongoing struggles of black people. Prerequisite: Reading Proficiency.

PHL:109 BIO-MEDICAL ETHICS 3
This course is an analysis of a range of moral issues related to the fields of medicine and biotechnical engineering from the standpoint of philosophical ethical theories. Prerequisite: Reading Proficiency.

PHL:111 ENVIRONMENTAL ETHICS 3
This introductory course examines human beings’ ethical relationship with the natural environment. Topics include environmental ethical frameworks (e.g., biocentrism), animal rights, obligations to future generations, population and consumption, climate change and environmental justice. Some issues are viewed through various cultural and religious lenses. The course incorporates primarily contemporary readings. Prerequisite: Reading Proficiency.

PHL:112 BUSINESS ETHICS 3
This course explores the ethical dimensions of the world of business are analyzed from a philosophical perspective. Using theories drawn from philosophy, students will evaluate business case studies with respect to such topics as personal and corporate responsibility and the obligations of justice. Prerequisite: Reading Proficiency.

PHL:114 PHILOSOPHY OF RELIGION 3
This introductory course examines philosophical issues as they relate to Western religious thought. Topics may include arguments for the existence of God, the problem of evil, the relationship between faith and reason, the role of miracles and religious experience, and the religious foundations of morality. This course incorporates traditional and contemporary readings. Prerequisite: Reading Proficiency.

PHYSICAL EDUCATION

PE:100 THE NATIONAL COUNCIL ON STRENGTH AND FITNESS PERSONAL TRAINER 3
The National Council on Strength and Fitness Certified Personal Trainer course is designed to synthesize the knowledge acquired from an exercise science curriculum with practical application for successful job performance in the fitness industry. Students will be prepared to practice as personal trainers with a highly regarded, legally-defensible certification. Additional hours required. Prerequisites: MTH:140 and BIO:111 with minimum grades of “C”, DIT:115 and Reading Proficiency.

PE:101 ADAPTIVE ACTIVITIES I 1
Individual therapeutic exercise programs including aquatic and resistance type activities, limited individual and team games, cardiovascular fitness instruction. Prerequisite: Department chair approval.

PE:102 ADAPTIVES II 1
Continued supervised program involving development of individualized therapeutic exercise programs including aquatic activities, strength building activities, flexibility or cardiovascular fitness instruction and training. Designed for students who may be limited in the amount/type of activity they can do. Prerequisite: PE:101

PE:103 AEROBIC FITNESS 1
A program of exercise designed to develop cardiovascular fitness. A variety of activities may be involved ranging from walking, jogging, calisthenics, and stretching to stationary cycling. The student is introduced to the basic principles of developing, assessing, and evaluating aerobic fitness.

PE:104 ARCHERY 1
Archery conducted in 25 yard indoor archery area includes shooting techniques, target shooting, Columbia rounds and intraclass competition. Archery classes sometimes held outdoors.

PE:105 DEEP WATER EXERCISE 1
A program of deep-water exercise designed to promote cardiovascular fitness. Assisted by a flotation device students will engage in warm-up, aerobic, and toning exercises in a suspended state, thereby avoiding hard impact on joints. Recommended for individuals who have excess weight, knee or back problems. Additional hours required.

PE:106 BACKPACKING AND HIKING 1
Introduction to outdoor living skills; menu planning, choice of proper hiking-equipment, first aid, wilderness first aid, trail marking, equipment, and proper use of equipment. Includes two one-day trail walks and one weekend camping trip. (Each student is responsible for his/her own equipment).

PE:107 BASEBALL 1
Indoor/outdoor instruction in hitting, fielding, throwing, baserunning, conditioning, hitting, strategy, position play.

PE:109 BASIC FITNESS I 1
Cardiovascular-neuromuscular development emphasizing focusing on the individual. Various methods of exercise are introduced.

PE:110 BASIC FITNESS II 1
This course is designed to increase strength and aerobic capacity through various fitness activities in a supervised program. Strength training machines and free weight training, running, and cycling are the focus of this program with emphasis on individual progress through tests and measurements.
Course Descriptions

**PE:111  BASKETBALL I**  
Basics of ball handling, shooting, offense, defense, team play, conditioning.

**PE:112  BASKETBALL II**  
Advanced individual and team skills: offenses, defenses, special situations, coaching techniques and strategy. Prerequisite: PE:111 or Instructor approval.

**PE:114  BILLIARDS**  
Pocket and cushion billiards techniques, breaking, bridging and cushion shots, individual and partner competition.

**PE:116  BOWLING I**  
Bowling is held at a nearby lane (nominal fee). Instruction includes approach, delivery, scoring, handicapping.

**PE:117  BOWLING II**  
Continued emphasis on skills including adjustments to lane conditions, approach, developing a strike ball, picking all spare and split combinations; individual and team competition.

**PE:118  CAMPING AND FLOATING**  
Students are introduced to fundamentals of outdoor living (i.e. cooking, campsite development, shelter, canoeing, selection and care of equipment). The course includes float trips on Missouri Rivers. Each student should be a confident swimmer.

**PE:119  CARE AND PREVENTION OF ATHLETIC INJURIES**  
The course is designed to introduce the student to selected aspects of athletic training. Material presented has sufficient introductory information so that comprehensive background knowledge of anatomy, physiology, and kinesiology is not required. Student participation enhances the meaning of information presented. Student observation and participation in the use of therapeutic modalities and opportunities to follow the sequence of care, treatment and rehabilitation of athletic injuries are provided. Guest speakers add insight and variety to the students. Prerequisite: Reading Proficiency.

**PE:120  COMMUNITY CPR**  
Physiological principles of cardio-pulmonary function with practice in administering this lifesaving technique. ARC Certification for those who qualify.

**PE:121  CYCLING ERGOMETRY FOR FITNESS**  
A complete controlled aerobic training program for any age, sex, or fitness level. Course is designed to improve lung capacity, stimulate metabolism, effect body composition through the loss of fat, and reduce stress. This supervised program involves the development of individualized workload programs. Course is conducted in the Fitness Center and utilizes ergometry equipment especially for stationary bicycles.

**PE:122  DANCE AEROBICS**  
Exercise to music. Involves full muscle activity combined with vigorous cardiovascular activity.

**PE:123  DANCE AEROBICS II**  
Advanced movements of exercise set to music. Full muscle activity plus cardiovascular activity is a part of the program. A low impact component is included. Prerequisite: PE:122

**PE:124  DANCE-PARTY SOCIAL DANCE**  
The student will be exposed to contemporary and social dance steps/patterns. Content may include dance terminology, common step patterns/movements, rhythm and timing, and balance. Examples of dances include: East & West Swing, Imperial, Country Line and Slow Dancing.

**PE:126  FENCING I**  
Introduction to fencing. Attacks, parries, strategy, and rules. Intraclass competition.

**PE:127  FENCING II**  
Refinement of techniques learned in Fencing I. Introduction of advanced parries and attacks. Use of electric equipment.

**PE:128  FENCING III**  
Students develop fundamental offensive and defensive techniques for sabre fencing. Rules, terminology and etiquette are addressed. The rules and basic strategy of bouting are introduced.

**PE:129  FIRST AID**  
American Red Cross Standard First Aid and adult CPR. Emergency treatment for sick and injured including bleeding, breathing, poisoning, and fractures. Preventative concepts and cardiovascular resuscitation (CPR) also included. ARC certification available. This course may be taken to satisfy one credit hour of physical education. Prerequisite: Reading Proficiency.

**PE:130  FITNESS CENTER I**  
Proper technique and routines are presented for the development of strength, flexibility and endurance. Individualized programs are developed and personal progress is charted by student and monitored by instructor. The program is designed to produce maximal gains in all areas of fitness with a minimal time commitment.

**PE:131  FITNESS CENTER II**  
Elements of strength training, flexibility, muscular endurance, cardiovascular conditioning and weight control are introduced. (Some variance by campus). Individualized programs are developed with instructor supervision and students participate and progress in a self-guided manner within parameters set and supervised by the instructor. Prerequisite: PE:130.

**PE:132  TOTAL FITNESS**  
Participants develop a self-directed program based on sound principles of fitness and wellness. The course may include basic fitness tests and activities outside of the Fitness Center. Prerequisites: PE:130 and PE:131.

**PE:133  GOLF**  
Basic fundamentals such as swing, club selection, putting, rules and etiquette are covered. Clubs are not provided.

**PE:135  HEALTH AND PERSONAL HYGIENE**  
This is a lecture discussion course covering the interrelatedness of the body systems, the nature and communication of diseases and the recovery process, including healthy eating, fitness, sexuality, drugs, stress, and wellness. Prerequisite: Reading Proficiency.

**PE:136  ICE SKATING**  
Instruction in basic fundamentals and techniques of ice skating including proper dress and equipment. Course is held at local skating rink.

**PE:137  JUDO I**  
Introduction to the "gentle way" - the basic techniques of Sport Judo. Includes standing throws (Naga Waza), grappling techniques (Katame Waza), choking techniques (Shime Waza) and free exercise (Randori).

**PE:138  JUDO II**  
Intermediate techniques preparatory to advancement to higher rankings. Includes personal "kata" development as well as experience teaching peers, which is part of the advancement requirement in Judo.

**PE:139  KARATE I**  
Techniques of blocking, striking, punching, kicking. Combinations of techniques emphasizing correct timing, distance and focus. Sparring and "kata" are also added for advancement in rank.

**PE:140  KARATE II**  
Continued study of basic language and unwritten laws of Karate. Improved skills in punching, thrusting, striking, kicking and blocking. To learn more sophisticated combination techniques for defensive and offensive situations. To learn second and possibly third Katas as requirements for advancement in rank. To improve stamina and form in Kumite. Prerequisite: PE:139.

**PE:142  LIFEGUARD TRAINING**  
This course provides students with the opportunity to complete American Red Cross Lifeguard Certification. Students will gain the knowledge and skills necessary to keep the patrons of aquatic facilities safe in and around the water. First Aid/CPR is included. Additional hours required. Prerequisites: Swimming proficiency in an endurance swim and student must be at least 15 years of age and Reading Proficiency.

**PE:143  FITNESS AND FOOD FOR WEIGHT CONTROL**  
This course will educate students on controlling weight by emphasizing fitness activities and exercise while applying the principles of healthy eating. Additional hours required.
PE:145 PERSONAL DEFENSE I
Basic techniques of hand-to-hand defense including jujitsu and karate. Basic throws, attacks, blocks and releases. General rules of safety and prevention of attack situations are covered.

PE:147 PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS
Activities such as game skills, perceptual-motor and manipulative activities, apparatus, stunts, tumbling, relays, combatives and rhythms are presented in progression. Proper use of facilities and equipment with an emphasis on safety is stressed. Classroom management and development of lessons are a focal point of the class. Prerequisite: Reading Proficiency.

PE:150 RECREATIONAL GAMES I
Introduction to variety of individual, dual, and team sports popular as recreational activities. Course content may include racquetball, badminton, volleyball, swimming, bowling, golf, tennis - intraclass competition.

PE:153 SCUBA DIVING I - OPEN WATER
P.A.D.I. Open Water Diver Course utilizes pool and classroom activities to cover knowledge and skills needed for open water scuba diving. The course introduces the physiological and psychological aspects of using self contained underwater breathing apparatus. Safety, care, and maintenance of equipment are included. Successful completion of the classroom, confined water skills, and four open water dives will lead to P.A.D.I. Open Water Diver Certification. Prerequisites: Ability to swim 200 yards continuously and tread water for 10 minutes, meet P.A.D.I. medical standards and Reading Proficiency.

PE:154 SCUBA DIVING II - ADVANCED OPEN WATER
Students participate in classroom and pool sessions as well as five supervised open water dives in various environments, utilizing equipment and skills beyond the scope of Scuba Diving I - Open Water. Course is designed to prepare students for P.A.D.I. Advanced Open Water Certification. Prerequisites: PE:153 or permission of instructor and Reading Proficiency.

PE:158 SOCCER AND HOC-SOC
Indoor and outdoor soccer activity- instruction in ball handling, dribbling, trapping, passing, shooting, heading, throwing, goal tending, position play, team play, rules of the game. Hoc-soc is a 6-person game played indoors with modified rules, smaller goal, no out-of-bounds or off-side rule.

PE:159 SOFTBALL I
Indoor/outdoor instruction in hitting, fielding, throwing, baserunning, bunting, strategy, conditioning, position play.

PE:161 STRESS MANAGEMENT
This course presents an overview of the effect of stress on the body including its nature, physiology, role in disease and impact on one’s health and wellness. A variety of coping strategies will be explored with an emphasis on exercise, tai chi, yoga, nutrition and diaphragmatic breathing. Prerequisite: Reading Proficiency.

PE:162 SWIMMING I (BEGINNING/ELEMENTARY)
Fundamentals of breathing, kicking, strokes, entries, water games, stunts. Strokes covered include crawl, back, side, elementary back, sculling, some endurance swimming and introduction to diving.

PE:163 SWIMMING II (ALL LEVELS)
Intermediate course in swimming includes all strokes survival swimming, endurance, elementary rescue, such recreational water games.

PE:165 TAI CHI I
An ancient Chinese form of exercise that is done at a slow rate of speed, repeating forms. Various styles may be introduced.

PE:166 TAI CHI II
This course is a continuation of first level activities of Chen Style Taiji Quan. Students will complete the Chen Style form, including Chen Style theory, and will begin to learn other aspects of Taiji Quan practice, including Chen style pushing, hands and Taiji Zhuang (Taiji meditation), which will give a base for learning the complete Chen style Taiji Quan system. Prerequisite: PE:165.

PE:167 TEAM SPORTS I
Indoor/outdoor sports activities may include: Flag football, field hockey, softball, volleyball, hoc-soc, modified water polo and basketball.

PE:168 TEAM SPORTS II
Winter indoor team sports: iceless hockey, hoc-soc, power volleyball, basketball, modified water polo. Spring outdoor team sports: softball, field hockey, soccer. Selection based on availability of facilities.

PE:169 TENNIS I
Introduction to basic strokes: forehand, backhand, serve, volley, lob; position play, strategy, singles and doubles matches, history, rules and intraclass competition included.

PE:170 TENNIS II
Extension of PE: 169 with added emphasis on competitive aspect singles-doubles, play-serving game, strategy-ladder competition.

PE:171 VOLLEYBALL I
Techniques in serving, volleying, setting-up, spiking, position play, scoring, intraclass competition.

PE:172 VOLLEYBALL II
Basic competitive skills including bumping, setting, hitting, blocking, serving, passing; plus history, rules and team play. Prerequisite: PE:171.

PE:173 WALKING FOR FITNESS
Emphasis on techniques of walking, cardiovascular fitness, weight control, safety and equipment.

PE:174 WATER AEROBICS
Water Aerobics fitness, a program of water exercise designed to develop cardiovascualar fitness. A variety of water exercises for all ages and swimming levels. Non-swimmers can participate.

PE:177 WEIGHT TRAINING I
General muscular development through circuit weight training utilizing universal weight machines. Progression measured on the 16 stations.

PE:178 WEIGHT TRAINING II
Advanced training on newest weight training techniques utilizing the latest weight machines. Increased muscular development through lifting more weight.

PE:180 WELLNESS AND FITNESS CONCEPTS
This course is designed to assist the individual to develop a personalized wellness program. Topics will include exercise, nutrition, substance abuse, weight management, stress management, sexually transmitted disease, and other relevant topics. An exercise component will be included. Additional hours required. Prerequisite: Reading Proficiency.

PE:181 YOGA I (BEGINNING)
Introduction to Hatha Yoga (the Yoga of physical wellbeing). Designed for students of all physical conditions. Tones and limbers the body, reduces the effects of everyday physical and mental strain. Written observations included in course requirements.

PE:182 YOGA II (ALL LEVELS/INTERMEDIATE)
Course for beginners and intermediates. Course deals with Hatha Yoga (the Yoga of physical well-being). Improves flexibility and muscle tone, working toward reduction of effects of everyday strain.

PE:191 BODY CONTOURING
Exercise class using resistance in the form of free weights and elastic bands to develop the figure, posture, flexibility and muscle tone. Nutrition strategies will be discussed.

PE:192 CARDIO-FLEX
Emphasis in cardiovascular fitness, techniques of walking, low impact movement patterns set to music, weight control, and conditioning stretches to improve flexibility.

PED:107 BASIC KAYAKING SKILLS AND WATER SAFETY
This course provides the fundamentals of kayaking. Content covered includes environmental safety in an indoor facility, flatwater skills on a lake, and ends with moving water skills on a river. Other topics include boat designing/fitting, paddling and stroke introduction. Additional hours required. Prerequisite: Entry Test Requirements: must demonstrate comfort in swimming in the deep end of the pool and display ability to swim the length of the pool continuously.
**Course Descriptions**

**PED:116 PILATES**
Pilates improves core strength and balances the muscles around the joints, improving the way your body functions, looks and feels. It focuses on breathing, pelvic placement, rib-cage placement, scapular movement, and head and cervical spine placement.

**PED:134 GOLF II**
This course provides students with the opportunity to learn and practice advanced skills in driving, pitching, putting, and selected course play. Students will develop skills which will provide them with an enhanced insight and understanding of golf. Additional hours required. Prerequisites: PE:113 or prior golf playing experience.

**PED:135 FENCING IV**
Techniques, target area, rules and strategy of epee fencing will be introduced. Additional hours required. Prerequisite: PE:126.

**PED:140 BEGINNING ROCK CLIMBING**
This course provides students with the necessary information and skills required to rock climb indoors safely and effectively. Students will gain knowledge in climbing equipment and its proper usage, climbing terminology, warm-up and stretching exercises, basic climbing techniques and mental and physical training specifically for climbing. Additional fees apply. Additional hours required.

**PED:201 PSYCHOLOGICAL PERSPECTIVE IN EXERCISE AND SPORT**
Sport and exercise psychology is the scientific study of people and behavior in sport and exercise contexts. This course focuses on two areas of study: (1) learning how psychological factors affect an individual's physical performance and (2) understanding how participation in sport and exercise affects a person's psychological development, health, and well-being. Prerequisites: PSY:200 and Reading Proficiency.

**PHYSICAL SCIENCE**

**PSI:101 PHYSICAL SCIENCE LECTURE I**
Lecture survey of the fundamental principles of physics and chemistry with emphasis on science process skills. Designed for students in non-science and career curricula. Content same as lecture portion of PSI:124. Credit may be earned for either PSI:124 or PSI:101, not both. Prerequisites: MTH:007 or MTH:030 with grade of "C" or better; or MTH:108 with grade of "C" or better; or one year high school algebra with grade of "C" or better each semester; and Reading Proficiency.

**PSI:105 PHYSICAL SCIENCE I**
A lecture/laboratory introduction to science with special subject adaptations for students in non-science and career programs. Additional lab hours required. Prerequisite: Reading Proficiency.

**PSI:111 INTRODUCTION TO ASTRONOMY I**
Descriptive coverage of the topics: earth, solar system, stars, galaxies and evolution of the universe for non-science majors. Prerequisite: Reading Proficiency.

**PSI:112 INTRODUCTION TO ASTRONOMY II**
Selected topics of interest in modern astronomy are covered in-depth. Prerequisites: PSI:111 or consent of instructor and Reading Proficiency.

**PSI:115 OBSERVATIONAL ASTRONOMY**
An introduction to astronomical observations, techniques and instruments, which may accompany PSI:111 or PSI:112 (Introduction to Astronomy I or II) or may be taken independently. No prior knowledge of astronomy is assumed. Additional lab hours required. Prerequisite: Reading Proficiency.

**PSI:121 LIGHT AND VISION**
A descriptive coverage of light, color lighting effects, vision lasers and holography. Prerequisite: Reading Proficiency.

**PSI:123 METEOROLOGY**
This physical science course introduces the reasons why we have weather and the forces which create specific weather patterns and phenomena. Topics range from global wind and radiation patterns on the macroscale, to thunderstorms and tornadoes on the microscale. Students regularly participate in weather forecasting using daily public weather information. Prerequisite: Reading Proficiency.

**PSI:124 PRINCIPLES OF PHYSICAL SCIENCE**
A survey of the fundamental principles of physics and chemistry with emphasis on science process skills. Laboratory exercises illustrate and reinforce lecture topics. Credit may be earned for either PSI:124 or PSI:101, not both. Additional lab hours required. Prerequisites: MTH:030 with grade of "C" or better; or MTH:108 with grade of "C" or better; or one year of high school algebra with grade of "C" or better and Reading Proficiency.

**PHYSICAL THERAPIST ASSISTANT**

**PTA:100 INTRODUCTION TO PHYSICAL THERAPIST ASSISTANT**
This course provides an introduction to the professional field of physical therapy and the role of the physical therapist assistant in the health care system. Legal and ethical questions are discussed as well as interpersonal communication skills, personality types, and the importance of empathy and respect for all patients. Students are introduced to medical terminology, documentation, and case studies in PT. A semester long service learning project is included to improve active listening skills and personal awareness. Prerequisite: Reading Proficiency.

**PTA:104 CLINICAL EXPERIENCE I**
Students will have the opportunity to practice communication, interpersonal, technical and administrative skills acquired in the first year of study in a clinical facility under the direction and supervision of a licensed clinical instructor for three weeks. Prerequisites: PTA:105 with a grade of "C" or better and Reading Proficiency.

**PTA:105 FUNDAMENTALS OF PATIENT CARE FOR THE PTA**
This course is an introduction to the basic patient care skills in physical therapy. Treatment procedures include patient positioning, transfer techniques, massage, gait with and without assistive devices, wheelchair management and architectural barriers. Emphasis throughout is on safety, the preparation of the patient physically and psychologically, appropriate PTA/patient interaction, and patient/caregiver teaching. Additional lab hours required. Prerequisites: PTA:214 with a grade of "C" or better and Reading Proficiency.

**PTA:208 HEALTH OCCUPATION SEMINAR**
This course is a study of the health care system and the role of PTA within it. Topics include health care organizations; department policies and procedures; evidence based research; professionalism; legal and ethical issues, community resources, documentation, billing, and coding; and application for licensure and work. Prerequisites: PTA:104 with a grade of "C" or better and Reading Proficiency.

**PTA:211 PHYSICAL AGENTS**
This course provides PTA students with scientific knowledge and clinical application skills required to safely and efficiently provide treatment under the direction of a PT with the following physical agents: thermal agents, compression therapies, traction, cryotherapy, hydrotherapy, light and sound agents, and electrotherapeutic modalities. Additional lab hours required. Prerequisites: PTA:105 with a grade of "C" or better and Reading Proficiency.

**PTA:212 THERAPEUTIC EXERCISE AND REHABILITATION CONCEPTS I**
This course covers data collection and intervention techniques used by the PTA under the direction and supervision of the PT in the treatment of arthritis, postural abnormalities, extremity and spinal dysfunctions, abnormal gait, cardiopulmonary conditions, and amputations. The principles and application of prosthetic and orthotic devices will also be included. Additional hours required. Prerequisites: PTA:105 with a grade of “C” or better and Reading Proficiency.

**PTA:213 THERAPEUTIC EXERCISE AND REHABILITATION CONCEPTS II**
This course includes data collection and treatment intervention techniques performed by the PTA under the direction and supervision of the PT for pediatric and neurological conditions. The role of the PTA in assisting the PT to identify community integration barriers for clients with physical disabilities will also be discussed. Additional lab hours required. Prerequisites: PTA:212 with a grade of “C” or better and Reading Proficiency.
PTA:214  DATA COLLECTION AND INTERVENTION
TECHNIQUES FOR THE PTA  4
An introductory course on data collection and intervention techniques used
by the PTA which includes vital signs, sterile techniques, dressing changes,
emergency procedures, goniometry, muscle testing, cardiovascular response to
exercise, and gait. In addition the basic concepts of exercise and techniques to
develop flexibility, strength, power, and endurance will be taught. Additional
lab hours required. Prerequisites: BIO:209 with a grade of “C” or better and Reading Proficiency.

PTA:215  MEDICAL CONDITIONS IN REHABILITATION  3
This course is an overview of disease conditions commonly seen for treatment
in physical therapy departments. Prerequisites: BIO:207 with a grade of “C” or
better and Reading Proficiency.

PTA:216  CLINICAL EDUCATION IIA  4
Students will have the opportunity to practice skills acquired in the first and
second year of the program in a clinical facility under the direction and
supervision of a clinical instructor for 6 weeks. Prerequisites: PTA:213 with a
grade of “C” or better and Reading Proficiency.

PTA:217  CLINICAL EDUCATION IIB  4
Students will have the opportunity to practice skills acquired in the first and
second year of the program in a clinical facility under the direction and
supervision of a clinical instructor 6 weeks. Prerequisites: PTA:216 with a
grade of “C” or better and Reading Proficiency.

PHYSICS
PHY:111  COLLEGE PHYSICS I  4
This course is the first semester of a two-semester non-calculus physics
sequence. The entire sequence covers topics in mechanics, heat, sound,
electricity, magnetism, optics and modern physics. Additional lab hours
required. Prerequisites: MTH:144, MTH:160 or concurrent enrollment in
MTH:160A, MTH:160B or MTH:160C and Reading Proficiency.

PHY:112  COLLEGE PHYSICS II  4
This course is the second semester of a two-semester non-calculus physics
sequence. The entire sequence covers topics in mechanics, heat, sound,
electricity, magnetism, optics and modern physics. Additional lab hours
required. Prerequisites: PHY:111 and Reading Proficiency.

PHY:122  ENGINEERING PHYSICS I  5
This course is the first semester of a two-semester calculus-level physics
sequence. The entire sequence covers topics in mechanics, heat and
thermodynamics, optics, electricity and magnetism, with mechanics being one
of the topics covered in the first semester. Additional lab hours required.
Prerequisites: MTH:210 with a minimum grade of C and Reading Proficiency.

PHY:223  ENGINEERING PHYSICS II  5
This course is the second semester of a two-semester calculus-level physics
sequence. The entire sequence covers topics in mechanics, heat and
thermodynamics, optics, electricity and magnetism, with mechanics being one
of the topics included in the second semester. Additional lab hours required.
Prerequisites: PHY:122 and MTH:220 both with a minimum grade of C and Reading Proficiency.

PHY:224  ENGINEERING PHYSICS III  3
The third semester of a three-semester, calculus-level physics sequence. The
entire sequence covers topics in mechanics, heat and thermodynamics optics,
electricity and magnetism, and nuclear and atomic physics, with modern
(nuclear and atomic) physics being the primary topics included in the third
semester. Additional lab hours required. Prerequisites: PHY:223 and prior or
concurrent enrollment in MTH:240 and Reading Proficiency.

PLASTICS TECHNOLOGY
PLA:100  INTRODUCTION TO PLASTICS TECHNOLOGY  4
This is an introductory course in Plastics Technology program. The course is
designed to give an overview of the plastics industry, plastics materials, and
various methods of plastics processing including injection and blow molding
and extrusion processes. Additional lab hours required. Prerequisite: Reading Proficiency.

PLA:150  PLASTICS MATERIALS, TESTING AND HANDLING  4
This course will provide an introduction to the structure of polymers to include
composition and applications of thermo-plastics and thermoset materials.
Details with examples of flow of materials beginning with receiving, through
handling, processing, and shipping of the product will be presented. The
course will also cover hands-on demonstration on measurement techniques
for the commonly used physical properties of plastic materials utilizing ASTM
standards. Additional lab hours required. Prerequisites: PLA:100 and Reading Proficiency.

PLA:200  PLASTICS MACHINE OPERATIONS I  4
This is the third course in the Plastics Technology Certificate program. It is
the first of a two course sequence that details plastics processing techniques
including injection molding, blow molding, and extrusion. The hydraulic
and electric principles of machine operation are considered, and followed
through with “hands on” operation for verification. Safety considerations in
processing are included where applicable. Prerequisites: PLA:100 or consent of
department and Reading Proficiency.

PLA:250  PLASTICS MACHINE OPERATIONS II  4
This is the last course in the plastics technology certification program, and
the second of a two course sequence that details processing techniques. The
primary emphasis is on injection molding, blow molding, and secondary
operations. Process capability and process control are also considered.
Additional lab hours required. Prerequisites: PLA:200 or consent of department
and Reading Proficiency.

POLITICAL SCIENCE
PSC:101  INTRODUCTION TO AMERICAN POLITICS  3
Introduction to American Politics surveys the American political system. Basic
values, past and current Constitutional issues, government processes and
institutions, and citizen rights are discussed in a modern framework. National,
state, and local political issues are covered. Prerequisite: Reading Proficiency.

PSC:103  STATE AND LOCAL POLITICS  3
State and Local Politics is a study of the political patterns of the American
states and their formal and informal relationships to local governments. Special
emphasis is placed on urban, suburban, and metropolitan politics. Prerequisite:
Reading Proficiency.

PSC:104  BRITISH POLITICS AND SOCIETY  3
This course introduces students to some of the main institutions and issues
of contemporary British politics and society. Through lectures, videos, text
assignments, and field trips, students will explore government in 21st-century
Britain. Prerequisite: Reading Proficiency.

PSC:106  BLACKS AND THE AMERICAN POLITICAL PROCESS  3
This is a study of the American political system and its effect on Black
Americans. This includes an analysis of governmental processes, current
issues, citizen’s rights, and techniques for effective participation in the political
process. Prerequisite: Reading Proficiency.

PSC:201  INTERNATIONAL RELATIONS  3
International Relations looks at the politics and policies among nations. Topics
discussed include theories of international politics, levels of foreign policy
analysis, conflict and peace, terrorism, globalization, international political
economy, and the specific foreign policies of great, middle, and small states.
Prerequisite: Reading Proficiency.

PSC:204  POLITICS OF AFRICAN NATIONS  3
This course is an analysis of representative and current problems of African
states with particular attention to some specific problems of political
development and modernization common to all of them. Prerequisite: Reading Proficiency.

PSC:205  CONSTITUTIONAL ISSUES  3
Constitutional Issues covers the concepts of American federalism, civil
liberties, civil rights, and the responsibilities of citizenship. Basic values,
current constitutional controversies, and citizen rights are discussed in a
modern framework with particular emphasis upon important U.S. case law.
Prerequisite: Reading Proficiency.
PSY:120 HUMAN SEXUALITY 3
Human sexuality includes not only the biological component of male and female sexuality, but also attitudes, values and feelings about one's own gender and sex role. Consequently, in dealing with sex as a natural biological function, the expression of which is a dimension of psychosocial behavior, the sexual development and differentiation of men and women from conception to maturity will be stressed. Same course as BIO:122. Prerequisite: Reading Proficiency.

PSY:200 GENERAL PSYCHOLOGY 3
This course is an introduction to the scientific study of human behavior. It attempts to help students gain insights into their own and others' behavior. A variety of topics (such as personality, learning, emotion, motivation, human growth and development, abnormal behavior and psychotherapy) relating to psychological development will be covered. Prerequisite: Reading Proficiency.

PSY:205 HUMAN GROWTH AND DEVELOPMENT 3
This course is a survey of the basis of human growth and development. Biological, cognitive and socioemotional needs of children, adolescents and adults are reviewed. The multiple factors which influence shape behavior and personality are analyzed. Prerequisites: PSY:200 and Reading Proficiency.

PSY:206 INTRODUCTION TO SOCIAL PSYCHOLOGY 3
This course is an overview of social psychology, the scientific study of how people think about, influence, and relate to one another. Specifically, this course explores social thinking, social influence, social relations, and the application of social psychological processes. Specific topics include: conformity, obedience, persuasion, group influence, prejudice, attraction, aggression, and prosocial behavior. Prerequisites: PSY:200 and Reading Proficiency.

PSY:207 APPLIED PSYCHOLOGY 3
This course involves the application of psychological principles to problems of personal and social adjustment in a variety of settings. Prerequisites: PSY:200 and Reading Proficiency.

PSY:208 ABNORMAL PSYCHOLOGY 3
A survey of abnormal/deviant behavior, including the causes and theories concerning neuroses, psychoses, mental retardation, drug abuse, sexual disorders, criminal behavior, and other selected topics. A discussion of the prevention and treatment of these disorders is included. Prerequisites: PSY:200 and Reading Proficiency.

PSY:210 PERSONALITY AND ADJUSTMENT 3
An examination of the contributions of the major schools of human personality and its expression in patterns of adjustment and growth as well as in dysfunctional behavioral patterns. Theories surveyed will represent dynamic, humanistic, cognitive and behavioral perspectives. Adjustment issues include: self concept, social environment and role adaptation, self-management, maladjustment, remediation and treatment. Prerequisites: PSY:200 and Reading Proficiency.

PSY:213 PSYCHOLOGY OF AGING 3
An examination of normal and pathological aging changes in personality, sensory mechanisms, intelligence, creativity, and sexuality with some emphasis on methods of treatment. Prerequisites: PSY:200 and Reading Proficiency.

PSY:214 ADOLESCENT PSYCHOLOGY 3
This course is an overview of adolescent psychology, the study of the individual from puberty to young adulthood. The course explores the physiological, cognitive, social, and emotional changes in adolescence, specifically examining the biological basis and environmental contributions to adolescent thought and behavior. Issues facing adolescents will also be discussed including gender, self, family, peers, sexuality, education, work, and problems in adolescence. Prerequisites: PSY:200 and Reading Proficiency.

PSY:215 BRAIN AND BEHAVIOR 3
This course examines the basic mechanisms of neuronal structure, function and communication. Behavioral functions studied include: sensations and perception, emotion and drives, learning and memory, vision, sleep and dreams, stress, addiction, language, aging effects, sex differences, and disorders. Prerequisites: PSY:200 and Reading Proficiency.

PSY:216 PSYCHOLOGY OF GENDER 3
Psychological and cultural examination of gender, gender roles, socialization, and issues related to stereotyping, gender differences and similarities, and mental health. Prerequisites: PSY:200 and Reading Proficiency.

PSY:217 CROSS-CULTURAL PSYCHOLOGY 3
Cross-Cultural Psychology will examine the influence and impact of a variety of cultures (e.g., Chinese, Indian, Latino, Japanese, Middle Eastern) on psychological issues. Among the psychological issues included are: parenting, aging, gender, personality, cognition, and stress. Prerequisites: PSY:200 and Reading Proficiency.

PSY:218 ADDICTION AND COMPULSIVE BEHAVIOR 3
This course explores the dynamics and scope of addiction and compulsive behavior in human experience. Unlike a course strictly devoted to substance abuse, this course examines the extent to which a chemical dependency model of addiction is applicable to other forms of compulsive behavior. Prerequisites: PSY:200 and Reading Proficiency.

PSY:219 FREUD AND PSYCHOANALYSIS 3
This course examines the life and thought of Sigmund Freud, the founder of psychoanalysis, as the necessary background for understanding the major developments in psychoanalytic theory. The goal is to provide students with an introductory overview of the central concepts of psychoanalytic theory and practice. Prerequisites: PSY:200 and Reading Proficiency.

PSY:220 THE PSYCHOLOGY OF HOMICIDE AND CRIME 3
This course is an introduction to the psychological study of various types of homicide and crime. A variety of topics related to the psychological signature of serial killing, mass murder and spree killing will be analyzed, including cases such as the Green River Serial Killings and the Boston Marathon bombing. Prerequisites: PSY:200 and Reading Proficiency.

QUALITY CONTROL

QC:100 INTRODUCTION TO QUALITY CONTROL 3
A course that teaches the basic theories and concepts of quality control. Emphasis will be placed on the current technology used in quality control. Topics covered will include organization structure, collection of quality related information, quality engineering and total quality control. Computer applications and quality control software will be utilized to develop graphical analysis and diagnosis of symptoms. Quality planning principles will be introduced as a method of quality improvement. Prerequisite: Reading Proficiency.

QC:102 QUALITY COST ANALYSIS 3
A survey course on the elements of product costs as they relate to quality. Direct quality cost, prevention, appraisal and failure and indirect quality cost: consumer incurred, customer dissatisfaction will be discussed in detail. The collection and evaluation of cost data as related to quality will be developed on a measurement base that is sensitive to change. Prerequisite: Reading Proficiency.
QC:104 PRINCIPLES AND APPLICATION OF QUALITY 3
A course designed to teach the current technology used in quality control
with emphasis on computer applications and software. Product control, job
shop control and quality planning will be emphasized. Quality improvement
through graphical analysis and diagnosis of symptoms, causes and remedies
will be stressed. Prerequisite: Reading Proficiency.

QC:105 NON-DESTRUCTIVE TESTING 4
This course presents the theory and application of the common non-
destructive test methods. Students will learn the types of equipment and
procedures for the humerus, shoulder girdle, lower extremity (limb), femur,
and vertebra column. Prerequisites: XRT:101 and Reading Proficiency.

QC:200 QUALITY ASSURANCE 3
Advanced course on the scope and function of quality assurance. Topics
covered include vendor selection, records, procurement methods and data
analysis. The subject of quality standards will be covered and students will be
instructed in quality audit techniques. Prerequisite: Reading Proficiency.

QC:202 INSPECTION METHODS 3
This course will introduce the subject of inspection as it relates to the product
or process specification. The location of various inspection functions, type of
inspection plans, the inspection standard and inspection organization will be
discussed. Inspection records keeping and tool calibration will be developed
for a typical inspection function. Prerequisite: Reading Proficiency.

QC:206 STATISTICAL QUALITY CONTROL I 3
Introduction to frequency distributions and the normal curve. Concepts of
variation, statistical process control and process capability. Pre-control, control
charts for variables and attributes, and SPC techniques for short runs will be
discussed. Prerequisites: MTH:124 or QC: 204 and Reading Proficiency.

QC:208 STATISTICAL QUALITY CONTROL II 3
Fundamentals of probability and probability distributions. Development and
use of acceptance sampling plans and operating characteristic curves.
Introduction of a wide assortment of sampling strategies and hypothesis testing.
Prerequisites: QC: 206 and Reading Proficiency.

QC:210 SOFTWARE QUALITY ASSURANCE 3
Course provides theory and application of quality assurance practices at each
phase of software life cycle development. Government and industry software
quality assurance standards are covered. Prerequisite: Reading Proficiency.

QC:212 QUALITY TOOLS FOR ADVANCED MANUFACTURING 3
This advanced course covers tools used in a manufacturing environment.
Topics covered include quality attitude, quality statistics, probability, the
tools of quality, process improvement, metrology, and computer generated
charts and graphs. Prerequisites: MTH:124, MTH:140, MTH:144 and Reading
Proficiency.

RADIOLOGIC TECHNOLOGY

XRT:101 RADIOGRAPHIC PROCEDURES I 4
This course covers radiographic anatomy, positioning and examination
procedures for the chest, abdomen, urinary system, gastrointestinal systems,
selected portions of the upper extremity (limb) and mobile radiography. Basic
radiation protection, patient care procedures and radiographic terminology
are presented. Additional lab hours required. Corequisites: XRT:104, XRT:111.
Prerequisites: Current enrollment in the Radiologic Technology program and
Reading Proficiency.

XRT:102 RADIOGRAPHIC PROCEDURES II 3
This course covers radiographic anatomy, positioning, and examination
procedures for the humerus, shoulder girdle, lower extremity (limb), femur,
pelvic girdle, vertebral column, bony thorax and pediatric radiography.
Prerequisites: XRT:101 and Reading Proficiency.

XRT:103 RADIOGRAPHIC PROCEDURES III 3
This course covers radiographic positioning, anatomy and examination
procedures of the cranium and sinuses. The procedures and principles of
surgical and trauma radiography are presented. The student will be introduced
to various patient care and management considerations and pharmacology
principles. Additional lab hours required. Corequisites: XRT:108, XRT:122,
XRT:213. Prerequisites: Current enrollment in the Radiologic Technology
program, XRT:102 and XRT:116 and Reading Proficiency.

XRT:104 PRINCIPLES OF RADIOGRAPHIC EXPOSURE I 3
This course will give students a foundation in radiographic image acquisition
and evaluation of image quality. An in-depth coverage of technical factors
and image characteristics will be presented. Additional lab hours required.
Corequisites: XRT:101, XRT:111. Prerequisites: Reading Proficiency.

XRT:105 PRINCIPLES OF RADIOGRAPHIC EXPOSURE II 3
This course is an in-depth coverage of image acquisition technologies,
accessories, advanced technical factor selection and effects on image quality
and patient exposure. Additional lab hours required. Corequisites: XRT:102,
XRT:107, XRT:112. Prerequisites: XRT:104 and Reading Proficiency.

XRT:107 RADIOLOGIC PHYSICS I 2
This course covers the fundamental principles of radiation physics and
equipment to include the study of x-ray tubes, rating charts, radiation control
Prerequisites: XRT:104, XRT:111 and Reading Proficiency.

XRT:108 RADIOLOGIC PHYSICS II 2
This course examines the x-ray machine through discussion of basic electrical
concepts and circuit design. The course also examines x-ray tubes, high
voltage sources and exposure timers. Corequisites: XRT:103, XRT:122,
XRT:213. Prerequisites: XRT:105, XRT:107, XRT:116 and Reading Proficiency.

XRT:111 CLINICAL EDUCATION I 2
This course is designed to provide the student with an overview of all
aspects of the radiology department and responsibilities of a radiologic
Prerequisites: Current enrollment in Radiologic Technology program and
Reading Proficiency.

XRT:112 CLINICAL EDUCATION II 2
This course is designed to provide the student with the clinical applications
of basic radiographic positioning, radiation protection, patient care, radiographic
exposure factors and image processing. Additional hours required. Corequisites:
XRT:102, XRT:105, XRT:107. Prerequisites: XRT:111 and Reading Proficiency.

XRT:116 CLINICAL EDUCATION III 3
This course is designed to provide the student with an introduction to pediatric
radiography and development of critical thinking skills in radiographic
procedures. Additional hours required. Prerequisites: XRT:112 and Reading
Proficiency.

XRT:121 RADIOGRAPHIC IMAGE EVALUATION I 2
This course provides a critical analysis of radiographic images in the
examination of the respiratory, abdominal, digestive, and urinary systems.
Prerequisites: XRT:102, XRT: 112 and Reading Proficiency.

XRT:122 RADIOGRAPHIC IMAGE EVALUATION II 2
This course provides a critical analysis involving radiographic images of the
upper and lower extremities, the shoulder and pelvic girdles, bony thorax and
vertebral column. Corequisites: XRT:103, XRT:108, XRT:213. Prerequisites:
XRT:121, XRT:116 and Reading Proficiency.

XRT:207 RADIOLOGIC PATHOLOGY 2
This course is a presentation of the more commonly encountered lesions of the
human body as seen through the medium of x-ray. Anatomy and physiology of
pathologic processes are presented by body systems as a means of exploring
the rationale of many intricate radiologic examinations. Corequisites: XRT:208,
XRT:209, XRT:214. Prerequisites: XRT:103, XRT:122, XRT:213 and Reading
Proficiency.
Course Descriptions

XRT:208  ADVANCED IMAGING MODALITIES  2
This course presents advanced imaging modalities with an emphasis on computed tomography. Additional modalities introduced are digital radiography, magnetic resonance, sonography, nuclear medicine, radiation therapy, mammography, bone densitometry, fluoroscopy, linear tomography and fusion technology. The procedures and principles of interventional radiography are presented. Corequisites: XRT:207, XRT:209, XRT:214. Prerequisites: XRT:105 and Reading Proficiency.

XRT:209  RADIOBIOLOGY  2
This course is designed to explore the biological consequences of radiation exposure on the human body. The principles of radiation protection will be examined. Corequisites: XRT:207, XRT:208, XRT:214. Prerequisites: XRT:103, XRT:108, Reading Proficiency.

XRT:211  RADIOLOGIC TECHNOLOGY REVIEW  3
This course is designed to provide a comprehensive review of the major components of radiologic technology in preparation for the American Registry of Radiologic Technologist (ARRT) national certification exam. Corequisites: XRT:212, XRT:215. Prerequisites: XRT:207, XRT:208, XRT:209, XRT:214 and Reading Proficiency.

XRT:212  PROFESSIONAL DEVELOPMENT IN RADIOGRAPHY  2
This course explores topics in the field of radiologic technology. Those topics include current trends in the imaging profession, career options, the importance of continuing education to the profession and professional traits of a registered Radiologic Technologist. Corequisites: XRT:211, XRT:215. Prerequisites: XRT:207, XRT:208, XRT:209, XRT:214. Reading Proficiency.

XRT:213  CLINICAL EDUCATION IV  3
This course is designed to provide the student with an introduction to the specialized areas of the operating room and trauma radiography. Corequisites: XRT:103, XRT:108, XRT:122. Prerequisites: XRT:116 and Reading Proficiency.

XRT:214  CLINICAL EDUCATION V  3
This course is designed to provide the student with an overview of interventional radiography, computed tomography (CT), diagnostic medical sonography (DMS), magnetic resonance imaging (MRI), nuclear medicine (NM) and radiation therapy (RT). Corequisites: XRT:207, XRT:208, XRT:209. Prerequisites: XRT:213 and Reading Proficiency.

XRT:215  CLINICAL EDUCATION VI  2
This course is designed to provide the student with the opportunity to complete all American Registry of Radiologic Technologists (ARRT) and Radiography program remaining clinical competency requirements. Corequisites: XRT:211, XRT:212. Prerequisites: XRT:214 and Reading Proficiency.

READING

RDG:012  BASIC READING SKILLS  2
This is an initial reading course with emphasis on word attack skills, basic reading comprehension skills, and basic reading vocabulary development. Corequisite: RDG:013.

RDG:013  BASIC READING SKILLS LAB  1
This is an individualized course encompassing individual diagnostic-prescriptive laboratory reading instruction. Additional lab hours required. Corequisite: RDG:012.

RDG:016  DEVELOPMENTAL READING  2
This course is designed to help students expand the range of their reading comprehension and vocabulary skills. Prerequisite: Concurrent enrollment in RDG:017.

RDG:017  DEVELOPMENTAL READING LAB  1
This is an individualized course designed to develop reading comprehension and vocabulary. Additional lab hours required. Prerequisite: Concurrent enrollment in RDG:016.

RDG:020  READING IMPROVEMENT  3
This course is designed to help students gain greater understanding of written material and to improve reading vocabulary. Prerequisites: RDG:016 and RDG:017 with grades of “C” or better or appropriate score on placement test. Prior or concurrent enrollment in STR:050 with a minimum grade of “C”.

RDG:021  READING IMPROVEMENT LAB  1
This course provides individualized practice under the supervision of a reading instructor. Additional lab hours required.

RDG:030  INTRODUCTION TO COLLEGE READING  3
This course is designed to develop college-level reading comprehension, vocabulary and study skills. Prerequisites: RDG:020 with a grade of “C” or better, or appropriate score on placement test. Prior or concurrent enrollment in STR:050 with minimum grade of “C”.

RDG:031  INTRODUCTION TO COLLEGE READING LAB  1
This course provides individualized practice under the supervision of a reading instructor. Additional lab hours required.

RDG:033  INTRODUCTION TO TECHNICAL READING  3
This is a course designed for students in or entering technical/science programs who wish to improve their reading skills in these content areas. Emphasis will be placed on skills for handling technical/scientific terminology and principles.

RDG:050  SPELLING IMPROVEMENT  1
This course is designed for students who wish to improve their spelling skills. Students are allowed to progress at their own rates.

RDG:051  SPELLING IMPROVEMENT LAB  1
This course is designed for students who wish to improve their spelling skills. In this class, the instruction is individualized. Students are allowed to progress at their own rates. Additional lab hours required.

RDG:052  VOCABULARY IMPROVEMENT  1
This course will promote vocabulary growth through the study of word parts, understanding words in context and specific development of specialized vocabularies.

RDG:053  VOCABULARY IMPROVEMENT LAB  1
This course will promote vocabulary growth through the study of word parts, understanding words in context and specific development of specialized vocabularies. In this class, the instruction is individualized. Students are allowed to progress at their own rates. Additional lab hours required.

RDG:054  STUDY SKILLS AND NOTETAKING  1
This course is designed as an introduction to general study skills.

RDG:055  STUDY SKILLS AND NOTETAKING LAB  1
This course is designed as an introduction to general study skills. In this class, the instruction is individualized. Students are allowed to progress at their own rates. Additional lab hours required.

RDG:060  COMPREHENSION DEVELOPMENT  3
This course is designed to aid students in getting meaning from their reading. The instruction includes development of comprehension skills using interesting and challenging material. Prerequisite: Placement test.

RDG:061  COMPREHENSION DEVELOPMENT LAB  2
This is an individualized course designed to aid students in getting meaning from their reading. The instruction includes development of comprehension skills using interesting and challenging material. This course is not suitable for students in RDG:012 and RDG:016. Students are allowed to progress at their own rates. Additional lab hours required.

RDG:100  COLLEGE READING AND STUDY SKILLS  3
This is an advanced course emphasizing reading in the content areas. The major focus is on study techniques applicable to transfer level courses. Prerequisite: Reading Proficiency.

RESPIRATORY THERAPY

RTH:120  INTRODUCTION TO RESPIRATORY CARE AND RESPIRATORY PHYSICS  5
This course is an introduction to the field of Respiratory Care. Instruction includes; the historical perspective of respiratory care professional organizations, and the principles of physics, as they apply to respiratory care. The theory and laboratory applications for; cylinders, regulators, flowmeters, analyzers, blenders, oxygen administration devices, aerosol and humidity therapy and nebulizers will be presented. A programmed presentation for medical terminology, mathematics, and computer applications are also presented. Prerequisites: BIO:207, CHM:101, MTH:124 or higher and Reading Proficiency.
RTH:121 ORIENTATION TO THE HOSPITAL

Topics to be covered in this course include: hospital and departmental organization, medical ethics, patient's rights, legal responsibilities, and hospital visitation. Theory, application and equipment for the management of the airway for the conscious and unconscious patient. Topics include: artificial airways, resuscitation devices, chest physiotherapy, and secretion removal. Additional lab hours required. Prerequisites: RTH:120 and Reading Proficiency.

RTH:125 AIRWAY MANAGEMENT

Anatomy and physiology of the upper and lower airway. Theory, application and equipment for the management of the airway for the conscious and unconscious patient. Prerequisites: RTH:120 and Reading Proficiency.

RTH:126 INTRODUCTION TO MECHANICAL VENTILATION

This course will present information relevant to positive pressure techniques, and how they are applied in mechanical ventilatory support. Basic indications and hazards of positive pressure therapies will be presented along with the technical components of intermittent positive pressure breathing, non-invasive positive pressure support, adult and pediatric mechanical ventilators. A two-hour per week laboratory session will enable the learner to observe and practice the principles of operation of mechanical ventilators prior to their hospital experience. Practice in the patient simulator laboratory is also included. Prerequisites: RTH:120, RTH:121 and Reading Proficiency.

RTH:127 RESPIRATORY PHARMACOLOGY

Basic pharmacologic principles, classification of drugs, the effects, side-effects, and hazards of the medications used in cardiopulmonary medicine. Prerequisites: Admission to program, must hold a certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

RTH:128 ARTERIAL BLOOD GASES

The theory and application of the Henderson-Hasselbach Equation, oxygen dissociation curve, oxygen uptake, transport, and consumption, oxygen and carbon exchange, renal physiology, and arterial and venous gas tensions. Clinical application of obtaining arterial samples, and interpretation of results. Prerequisites: Admission to program, must hold a certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

RTH:131 PEDIATRIC RESPIRATORY CARE

This course provides a presentation on pediatric and neonatal respiratory care to include: embryonic development of the cardiopulmonary system, cardiopulmonary malformations, and lung disease. The course will also cover the technical aspects of assessment, equipment, and maintenance of pediatric neonatal respiratory care devices, including mechanical ventilator systems. A two-hour per week laboratory session will enable the learner to observe and demonstrate the skills essential to pediatric and neonatal respiratory care. Additional lab hours required. Prerequisites: RTH:128, RTH:140, BIO:208 and Reading Proficiency.

RTH:140 RESPIRATORY CARE CLINICAL I

Application of respiratory care principles in the hospital setting. Additional hours required. Prerequisites: RTH:120, RTH:121 and Reading Proficiency.

RTH:146 CLINICAL LEVEL II

Application of respiratory care principles in the hospital. Additional hours required. Prerequisites: RTH:126, RTH:128, RTH:140 and Reading Proficiency.

RTH:220 PULMONARY PATHOPHYSIOLOGY

The etiology, pathology, symptomology, and treatment of various lung diseases, to include: C.O.P.D., asthma, restrictive lung disorders, infectious lung diseases, occupational lung diseases, pulmonary neoplasms, and pulmonary manifestations of other disease states. Prerequisites: Admission to the program, must hold certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

RTH:221 CRITICAL CARE MONITORING

The theory and clinical aspects of invasive and noninvasive hemodynamic monitoring to include: anatomy and physiology of the heart and vascular systems, equipment, procedures, and interpretation of results, the theory, application, and interpretation of basic electrocardiography. Prerequisites: RTH:126 or waiver from program director and Reading Proficiency.

RTH:222 CARDIOPULMONARY PHYSIOLOGY

A detailed discussion of the normal physiologic principles utilized by the cardiopulmonary system, to include: neurogenesis of breathing, reflexes governing respiration, properties of elastance, resistance, compliance, and conductance, the physiologic properties of the pulmonary and systemic vascular systems. Prerequisites: Admission to program, must hold a certificate or degree from an allied health program or waiver from program director and Reading Proficiency.

RTH:223 MECHANICAL VENTILATION: A CLINICAL APPROACH

This course will cover the clinical applications of mechanical ventilation, to include; ventilator commitment, discontinuance and weaning techniques, the maintenance of a patient on a mechanical ventilator. The hazards and side effects of positive and negative pressure mechanical ventilation, and the management of chronic ventilator-dependent patients is also covered. Recent development in mechanical ventilation such as inverse-ratio ventilation, APRV, and the interpretation of waveforms graphics will be covered. Demonstrations in the patient simulator laboratory are mandatory. Additional lab hours required. Prerequisites: RTH:126, RTH:128 and Reading Proficiency.

RTH:225 PULMONARY FUNCTION TESTING

The theory application and equipment for the purpose of diagnosing respiratory pathologies through the measurement of lung gas volumes, capacities, and flows. Includes evaluation through stress (exercise) testing and pulmonary rehabilitation. Additional lab hours required. Prerequisites: RTH:120, RTH:222 and Reading Proficiency.

RTH:228 N.B.R.C. REVIEW

A comprehensive review of the major components of respiratory care as they apply to the N.B.R.C. matrix for the entry-level and advanced practitioner exams. Including testing methodologies, strategies, evaluations, and simulated testing experiences; extensive simulated testing for entry-level, written and clinical simulations. Prerequisites: Admission to program and Reading Proficiency.

RTH:240 RESPIRATORY CARE CLINICAL III

Application of respiratory care principles in the hospital setting. Additional hours required. Prerequisites: RTH:146 and Reading Proficiency.

RTH:245 RESPIRATORY CARE CLINICAL IV

Application of respiratory care principles in the hospital setting. Additional hours required. Prerequisites: RTH:220, RTH:221, RTH:222, RTH:223, RTH:240 and Reading Proficiency.

RUSSIAN

RUS:101 ELEMENTARY RUSSIAN I

A beginning course presents the basic sentence structure and vocabulary necessary to participate in elementary Russian conversation and to begin reading short Russian passages. Emphasis is on the use of Russian in everyday situations. Prerequisite: Reading Proficiency.

RUS:102 ELEMENTARY RUSSIAN II

A continuation of RUS:101. Students complete the basic elements of Russian grammar, increase their vocabulary and gain added facility in speaking and reading Russian. Prerequisites: RUS:101 and Reading Proficiency.

SAFETY TECHNOLOGY

SAF:100 SAFETY PROGRAM ORGANIZATION AND ADMINISTRATION

An introduction to provide the essential knowledge and skills to organize and operate an effective safety program for any size company and type of industry. Course topics include management responsibility, accident investigation and analysis, recording and reporting occupational injuries and illnesses, making safety inspections, personal protective equipment, job safety analysis, fire prevention and control and sources of help for the safety professional and management. Prerequisite: Reading Proficiency.
Course Descriptions

SKILLED TRADES

SKT:100 BASIC RIGGING 3
This course presents an overview of industrial rigging procedures (safety, hand signals) and equipment (types and components). Specific equipment studied includes cranes, wire ropes, chains, slings, hoists, wrenches, rows, jacks, and related hardware and devices. Prerequisites: MTH:124 and Reading Proficiency.

SKT:101 AEROSPACE FUNDAMENTALS 4
This course is for students preparing for employment in aircraft production. It covers the fundamental aspects of the aerospace manufacturing industry and aircraft production, including aircraft terminology, safe practices, teamwork, materials used in the production of aircraft, precision measurement, quality principles, process documentation, and technical writing. Additional lab hours required. Prerequisite: Reading Proficiency or a Work Keys Reading Score of at least 4.

SKT:102 AEROSPACE ASSEMBLY - SHEET METAL I 4
This course is designed to prepare students for entry into the fabrication of sheet metal assemblies for the aircraft production industry. The course provides entry-level skills in hole preparation and installation of fasteners, including rivets, lockbolts, nutplate installation and removal procedures, and safe practices related to manufacturing aircraft metal structures. Additional lab hours required. Prerequisites: ME:154, SKT:101 with a minimum grade of B, and Reading Proficiency.

SKT:103 AEROSPACE ASSEMBLY - SHEET METAL II 3
This is the second course in a series to prepare students for entry into the fabrication of sheet metal assemblies for the aircraft production industry. It covers topics in aerospace metal structures including gap, shim and sealing requirements and procedures. Additional lab hours required. Prerequisites: SKT:102 with a minimum grade of B and Reading Proficiency.

SKT:104 AEROSPACE ASSEMBLY - MECHANICAL COMPONENTS 3
This course prepares students for entry into the aircraft production industry by providing skills in mechanical assemblies including safe practices, safetying practices, oxygen systems, hydraulics and line installation. Additional lab hours required. Prerequisites: SKT:101 with a minimum grade of B, and Reading Proficiency.

SKT:105 AEROSPACE ASSEMBLY - ELECTRICAL COMPONENTS 5
This course prepares students for entry into the aircraft production industry by providing entry-level skills in aircraft electrical assemblies including bonding, grounding, terminals, splices, connectors and shield termination. Additional lab hours required. Prerequisites: SKT:104 with a minimum grade of B, and Reading Proficiency.

SMART START

STR:050 SMART START: STUDENT SUCCESS 3
This course is designed to enhance students' knowledge, behaviors, and skills needed for successful transition to college. Prerequisites: RDG:016 and RDG:017 with minimum grades of "C", or placement scores into RDG:020 or RDG:030, or ENG:020 or ENG:030.

SOCIETY

SOC:100 HUMAN RELATIONS 3
This course is designed to investigate interpersonal relationships. The focus is on the sociological and psychological factors which influence persons in their associations and interactions with other members of contemporary society. Discussions involve current developments in society, their causes, events and possible changes. Prerequisite: Reading Proficiency.

SOC:101 INTRODUCTION TO SOCIOLOGY 3
This course is a general survey of the discipline of sociology. The course explores the reciprocal relationship between individuals and social institutions. Specifically it examines how social forces both shape and are shaped by beliefs and behaviors regarding ourselves and others. Prerequisite: Reading Proficiency.

SOC:102 INTRODUCTION TO SOCIOLOGY - HONORS 3
The factors which determine social organization and behavior are considered in this course. An in-depth study is concentrated on the social interaction of individuals with one another, of individuals with groups and of groups with one another. Consideration is given to culture, social classes, population, institutional life and major trends in sociology. Prerequisite: Reading Proficiency.

SOC:103 HUMAN BEHAVIOR AT WORK AND IN BUSINESS 3
Course framework will be the organization and what people must do to become more effective within it. Focus will be in five major areas: self-concept development, listening skills, expression, conflict resolution, and interpersonal skills. Prerequisite: Reading Proficiency.

SOC:104 STUDY OF PSYCHODYNAMIC SUBSTANCES 3
This course will focus on the properties of drugs as chemicals and their impact on the body and mind. The history of drug use and abuse, issues surrounding addiction, factors that indicate a high risk to addiction and the interaction of drugs with each other will be examined. Prerequisite: Reading Proficiency.

SOC:201 ASPECTS OF AGING 3
Examines the factors and forces that affect life quality in the late years. The physiological, psychological, and sociological aspects of aging will be considered, including those influences in the cultural context that enhance and impede continued growth of the person. Prerequisites: SOC:101, PSY:200 or HMS:100 and Reading Proficiency.

SOC:202 SOCIAL PROBLEMS 3
A survey course that offers a sociological examination of select global social problems. Topics of examination may include poverty, delinquency and crime, education, population, racial inequality, health care, gender inequality, alcohol and drugs, and environmental degradation, among others. The course also emphasizes research methodologies used to examine these problems as well as theoretical perspectives which can be used to understand the problems and, in turn, to create social change. Prerequisites: SOC:101 and Reading Proficiency, or permissions of instructor.

SOC:203 CRIME AND SOCIETY 3
This course examines the relationship between crime and various aspects of society. The course will critically analyze crime from multiple sociological perspectives, and will compare various types of crime and crime policy globally. The course will also examine the major substantive areas of crime and society. Prerequisites: SOC:101 or SOC:102 or permission of instructor and Reading Proficiency.

SOC:204 FAMILY AND SOCIETY 3
This course examines the interaction between marriage, family, and society. Specifically, the course investigates how wider social forces influence marriages and families in both historical and contemporary times. The course will critically analyze traditional conceptualizations of marriage and family, and examine the various forms contemporary families take. The course will also examine dynamics within families, such as parenting, violence and abuse, remarriage, divorce, aging, communication, and dealing with conflicts and crises. Prerequisites: SOC:101 or SOC:102 and Reading Proficiency.

SOC:211 ALCOHOLISM AND DRUG ABUSE 3
Course focuses on nature, causes, treatment and prevention of alcoholism and drug abuse. Strategies of education and treatment will be reviewed. Course designed to deal with problems encountered either personally or professionally. Course also looks at social and cultural factors in alcoholism and drug abuse. Prerequisite: Reading Proficiency.

SOC:212 RACE AND ETHNICITY 3
A sociohistorical examination of race and ethnic group relations focusing on the forms and processes of assimilation, cultural diversity, causes of racial conflict and factors which promote racial harmony. Includes an assessment of the contemporary status and future prospects of major ethnic groups in American society. Prerequisites: SOC:101, SOC:102 or permission of instructor and Reading Proficiency.

2014-2015 St. Louis Community College Catalog • stcc.edu
175
SPANISH

SPA:101 ELEMENTARY SPANISH I 4
A beginning course presenting the basic sentence structure and vocabulary necessary to participate in elementary Spanish conversation and to begin reading short Spanish passages. Additional lab hours required. Prerequisite: Reading Proficiency.

SPA:102 ELEMENTARY SPANISH II 4
A continuation of SPA:101. Students complete the basic elements of Spanish grammar, increase their vocabulary and gain added facility in speaking and reading Spanish. Additional lab hours required. Prerequisites: SPA:101 or 2 years of high school Spanish and Reading Proficiency.

SPA:116 COSTA RICA: THE LAND AND ITS PEOPLE 3
This course is designed to give students who participate in “the study abroad” in Costa Rica the opportunity to learn about the land and the cultural heritage of the Costa Rican people. Some samples to present are: racial and religious issues, political system, past and present relationships with neighboring countries and with the U.S. Prerequisite: Reading Proficiency.

SPA:201 INTERMEDIATE SPANISH I 4
A continuation of SPA:102. Emphasis is on speaking Spanish. A review of grammar assists the student in perfecting basic skills. A variety of up-to-date literary and cultural selections are read and form the basis for classroom discussions. Additional lab hours required. Prerequisites: SPA:102 or 3 or more years of high school Spanish and Reading Proficiency.

SPA:202 INTERMEDIATE SPANISH II 4
A continuation of SPA:201. Emphasis remains on the spoken language. A variety of literary and cultural selections are read and discussed in class in Spanish. Additional lab hours required. Prerequisites: SPA:201 or 4 or more years of high school Spanish and Reading Proficiency.

SPA:206 ADVANCED SPANISH CONVERSATION AND COMPOSITION 3
Designed to increase written and oral fluency in Spanish, this course gives the student the opportunity to express himself/herself on a wide variety of everyday topics. Short compositions will be written and brief oral reports presented to the class. A relaxed, informal atmosphere is created to stimulate conversation. Prerequisites: SPA:202 and Reading Proficiency.

SURGICAL TECHNOLOGY

ST:104 PHARMACOLOGY FOR SURGICAL TECHNOLOGISTS 2
The course is designed to provide the student with learning opportunities which will enable him to apply scientific principles of the biologic science of pharmacology. Emphasis is placed on the relationship of drugs to the surgical patient. Prerequisites: Must be enrolled in Surgical Technology program and Reading Proficiency.

ST:105 FUNDAMENTALS OF SURGICAL TECHNOLOGY 4
This course provides the student with skills necessary to function as a surgical technologist. Laboratory experience is focused so the student will achieve a satisfactory level of performance in gowns and gloves, surgical scrub, establishing and maintaining asepsis, draping, instrumentation, and proper care of the surgical patient. Students learn to work with and care for surgical equipment and supplies in both scrub and circulating roles. Students spend five hours per week at clinical site. Course will correlate with ST:101 so student may apply principles of theory and practice. Prerequisites: ST:101 to be taken concurrently with ST:105. Must be enrolled in the Surgical Technology program and Reading Proficiency. 155 labclinical hours. 64 open lab hours.

ST:108 INTRODUCTION TO SURGICAL TECHNOLOGY 6
This course will introduce the student to the field of surgical technology. Topics will include principles of aseptic technique and patient care in the operating room. Responsibilities and functions of the surgical technologist in the pre-, intra-, and post operative phases will be discussed. Corequisite: ST:105. Prerequisites: Must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:109 PRINCIPLES OF OPERATING ROOM COMMUNICATION 2
This course will address the modes of communication in the operating room, specifically focusing on medical/surgical terminology and computer technology utilization. Corequisite: ST:108. Prerequisites: Must be enrolled in Surgical Technology program and Reading Proficiency.

ST:110 SURGICAL PROCEDURES I 4
This course will introduce the surgical technology student to the principles of surgical intervention and patient care considerations in multiple specialty areas. Pathophysiology, diagnostics, prognosis and complications of procedures will be addressed. Corequisite: ST:111. Prerequisites: ST:108 and must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:111 SURGICAL TECHNOLOGY CLINICAL I 8
This course involves application of surgical technology principles in the hospital setting. Additional hours required. Corequisite: ST:110. Prerequisites: ST:108, ST:105 and Reading Proficiency.

ST:210 SURGICAL PROCEDURES II 2
This course is a continuation of Surgical Procedures I. Surgical procedures in advanced specialty areas will be introduced to the student. Content will include related pathophysiology, diagnostics, prognosis and complications. Corequisite: ST:211. Prerequisites: ST:110 and must be enrolled in the Surgical Technology program and Reading Proficiency.

ST:211 SURGICAL TECHNOLOGY CLINICAL II 4
This course involves advanced application of surgical technology principles in the hospital setting. Additional hours required. Corequisite: ST:210. Prerequisites: ST:110, ST:111 and Reading Proficiency.

TELECOMMUNICATIONS

TEL:103 INTRODUCTION TO TELECOMMUNICATIONS 3
An introduction to the types of electronic communication systems, the basic concepts of their operation and how they send and receive information is emphasized in this course. Prerequisite: Reading Proficiency.

TEL:104 VOICE COMMUNICATIONS 3
A development of characteristics of voice communication systems. Topics include transmission levels, loss, and frequency response, noise and crosstalk, return loss and echo, longitudinal balance, distortion, and standards organizations. Prerequisites: EE: 110, TEL:103 and Reading Proficiency.

TEL:205 DIGITAL SWITCHING AND TRANSMISSION 3
An analysis of the methods used to send data including voice from one point to another. Topics include encoding signals, time division multiplexing, T1 transmission, digital switching matrices, and Integrated Services Digital Network. Prerequisites: TEL:104 and Reading Proficiency.

TEL:206 NETWORK TOPOLOGY 3
Course covers various communications networks. Topics include T-1 systems, local area networks, wide area networks, internetworking, and synchronous optical networks. Prerequisites: TEL:104 and Reading Proficiency.

THEATRE

THT:101 INTRODUCTION TO THEATRE 3
Introduction to Theatre is designed to enhance the enjoyment and appreciation of theatre. Students study theatre as a collaborative art form by examining the roles and functions of playwrights, actors, directors, and designers in both traditional and contemporary contexts. Prerequisite: Reading Proficiency.

THT:102 STAGECRAFT 3
The purpose of this course is to study the technical areas of theatre production; emphasis will be on scenery construction and rigging; paints and the painting of scenery; stage lighting; costume design; and construction. Included will be a survey of terminology and equipment for the stage. Prerequisite: Reading Proficiency.
THT:103 STAGE DESIGN AND LIGHTING
This course investigates the function of the technical designer in the theatre. This course will be related to actual production in the college theatre and includes instructions in set drawings, lighting plots, and lighting. Prerequisite: Reading Proficiency.

THT:104 THEATRE PRACTICUM
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisite: Reading Proficiency.

THT:105 THEATRE PRACTICUM
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisite: Reading Proficiency.

THT:106 THEATRE PRACTICUM
Practical application of acting (when cast) and production techniques. Assignments are made on an individual basis. Prerequisites: Permission of instructor required and Reading Proficiency.

THT:107 PLAYWRITING
This course explores the fundamental processes of playwriting. It will provide the beginning student with opportunities to investigate the concepts of dialogue, plot, characterization, mood, conflict and setting as they relate to writing for the theatre. Prerequisite: Reading Proficiency.

THT:108 ACTING I
Emphasis on application of principles of theory of creative acting. Exercises in movement and voice are integrated with improvisational technique. Prerequisite: Reading Proficiency.

THT:109 ACTING II
Continuation of THT:108. Performance of scenes from both classical and contemporary plays is required in class. Emphasis is on individual development in the use of principles and styles of acting. Prerequisite: Reading Proficiency.

THT:110 HISTORY OF THEATRE
A survey of the development of the theatre from its beginnings to the present. Emphasis on the periods of history in which most significant contributions to the theatre were made. Prerequisite: Reading Proficiency.

THT:111 SCENIC DESIGN
This course investigates the function of the scenic designer in the theatre and similar venues. This course includes instruction in drafting, set drawings, digital scenic design, and supportive hardware and technology. Prerequisites: ARC:110 and Reading Proficiency.

THT:112 STAGE LIGHTING
This course investigates the function of the lighting designer in the theatre and similar venues. Instruction includes design conceptualization, lighting plots and drafting, lighting instrumentation, digital control, and technology. Additional studio hours required. Prerequisites: ARC:110 and Reading Proficiency.

THT:115 ACTING FOR THE CAMERA
This course includes the following: (1) exploration of the aesthetics and principles of acting for the camera; (2) analysis of diverse acting styles and outstanding performances in film and television; and (3) acting exercises for the camera. Some acting exercises will be videotaped and edited for analysis. (Same course as MCM:153). Prerequisite: Reading Proficiency.

THT:201 DIRECTING
This course focuses on the process of directing for the stage. Emphasis is placed on the role of the director as the interpretive artist, collaborator, and stager. Importance will be given to leadership skills and time management. Prerequisites: THT:101, THT:108 and Reading Proficiency.

TOURISM

TUR:104 TRAVEL AND TOURISM FOUNDATIONS
This course is designed to provide non-automated, foundational knowledge for those entering the travel and tourism industry. Students will learn the codes, terms, definitions, organizations, resources, and important concepts that pertain to the various segments of the industry. Prerequisite: Reading Proficiency.

TUR:105 TRAVEL AND TOURISM COMPUTER SYSTEMS
This course is designed to provide automated, foundational knowledge for those entering the travel and tourism industry. Students will learn the basics of using select computer systems and the Internet for the acquisition of travel information, the construction of travel arrangements, and the collection and use of customer data for marketing purposes. Prerequisites: TUR:104 and IS: 123 with minimum grades of “C” or equivalent experience, and Reading Proficiency.

TUR:106 TRAVEL AND TOURISM DESTINATION GEOGRAPHY
This course explores common destinations from a travel and tourism perspective. Students will study the physical environment, climate, people, manmade and natural attractions, traveler preparation, transportation, and accommodations associated with these destinations. Prerequisites: GEG:106 with a minimum grade of “C” and Reading Proficiency.

TUR:201 CONVENTION AND MEETING PLANNING
This course is designed for those people in an association or business who are responsible for planning meetings, conferences and conventions. The material in this course will cover negotiations with hotels and airlines, site inspection and selection, housing systems, conference and meeting facility needs, programs, speakers, banquet, receptions and breaks, displays and exhibits, entertainment and recreation, spouse programs, video-conferences, budgeting, audio-visual equipment, advertising and promotion, personal development. The course will consider the difference between planning for a business or planning for an association. Prerequisite: Reading Proficiency.

TUR:223 SELLING LEISURE CRUISES AND TOURS
This course will provide students with a knowledge base that is necessary to effectively sell leisure cruises and tours. Class will study the types of cruises and tours, popular cruise and tour destinations, traveler profiles, and leisure travel trends. It will cover the sales process and acquaint students with some of the brochures and websites of leading cruise and tour companies. Prerequisite: Reading Proficiency.

TUR:230 INTERNATIONAL TRAVEL AND WORLD ISSUES
The course will provide students with the essentials in international travel, including currencies, customs, immigration, insurance, time zones, passports and visas. Students will also learn how world issues and events influence the flow of travelers between countries. Prerequisites: TUR:104, TUR:105, TUR:106 and Reading Proficiency.

TUR:235 CERTIFIED TRAVEL ASSOCIATE (CTA) PREP COURSE AND TEST
The course is designed to prepare students for The Travel Institutes’ first level of certification, the CTA program, to meet the needs of travel professionals in the early stages of their careers. It focuses on eight core areas necessary for effective practice in the travel industry: Understanding Customer Needs, Customer-Focused Selling, Professionalism at Work, Customer Service, Touring the World, Selling Special Interest Travel, Interpersonal Communication, and Computer Technology. Prerequisites: Department chair approval and Reading Proficiency.

TUR:236 WORKPLACE LEARNING: TRAVEL AND TOURISM
This experiential course provides the student the opportunity to apply theory and skills learned in the classroom, learn new skills, and explore career possibilities while supervised by a professional in the field and a faculty member. Students will observe and participate in the functions of a travel and tourism organization to enhance their preparation for entering the field. Minimum 150 hours in the workplace throughout the term. Prerequisites: Department chair approval and Reading Proficiency.

WOMEN’S STUDIES

WMS:100 INTRODUCTION TO WOMEN’S STUDIES
This course is an introduction into the field of Women’s Studies. Women’s issues are explored from a variety of disciplines. An emphasis will be placed on personal experience and its relationship to larger social structures. The focus of this course is to develop a sense of empowerment and critical thinking in students. Prerequisite: Reading Proficiency.