Project GE 100 Introduction to College (1)
The new college student is introduced to college and to college life. The student will learn about the variety of support services available at the college, behaviors necessary to be successful in college, and issues which relate to choice of major and choice of career. Specific strategies to ensure successful college experiences are emphasized.

**GE 101 Strategies for Academic Success (3)**
This course is now taught as **GEN 102**

GE 140 Development of Leadership (3)
Development of leadership ability through the integration of theoretical concepts of leadership and group dynamics is the central focus. Opportunities to identify a personal philosophy of leadership and to develop leadership skills are included. Further, participants are encouraged to develop their leadership potential and to engage in productive leadership behavior.

GEN 102 Strategies for Academic Success (3)
Presents strategies which promote academic and personal success in college, including utilizing campus resources, learning and memory, self-management, critical reading, critical thinking, classroom skills, and career exploration.

Lecture: 3 credit hours (45 contact hours).

GEO 130 Earth’s Physical Environment (3)
A course exploring the fundamental characteristics of earth’s physical environment. Emphasis is placed on identifying interrelationships between atmospheric processes involving energy, pressure, and moisture, weather and climate, and terrestrial processes of vegetative biomes, soils, and landscape formation and change. Fulfills elementary certification requirements in education.

GEO 152 Regional Geography of the World (3)
A geographical study of the world by regions with a focus on the world’s physical and human landscapes. Emphasis on how regions are connected to each other. Also how each region is affected by, and affects, global issues such as economic restructuring, food production, and environmental change, will be examined. Fulfills elementary certification requirement for Education and USP disciplinary social science requirement.

GEO 160 Lands & Peoples of the Non-Western World (3)
The geographic study of the conceptual and historical definition of regions of the world as “Non-Western.” Global patterns of social, cultural, economic, and political difference between the West and Non-West as well as the processes key to the making of the Non-Western world (such as colonialism and imperialism) are discussed. In addition, selected current issues of significance to peoples in the Non-Western world, such as sustainable development, environment, human rights, and gender relations, are considered.

GEO 172 Human Geography (3)
A study of the spatial distributions of significant elements of human occupancy of the earth’s surface, including basic concepts of diffusion, population, migration, settlement forms, land utilization, impact of technology on human occupancy of the earth. Fulfills elementary certification requirement for Education and University Studies requirement.

GEO 210 Pollution, Hazards, and Environmental Management (3)
An introduction to environmental systems such as weather and climate, vegetation, land forms and soils, and how the quality of these systems is modified by human use. Resource issues discussed include: atmospheric pollution and global warming; groundwater, flooding, and flood plain management; volcanic activity and earthquakes; and biospheric processes associated with deforestation and lake eutrophication. Case studies based upon important environmental problems illustrate how human activity and environmental systems interrelate.
GEO 222 Cities of the World (3)
Focuses on the historical development, contemporary character, and alternative futures of cities in both developing and developed regions. The spatial, social, economic, and political processes of major world cities are studied and contemporary urban problems are discussed.

GEO 240 Geography and Gender (3)
Adopts a geographic approach to the study of gender relations. The role of space and place in shaping the diversity of gender relations throughout the world will be considered. Through case studies the importance of gender relations in understanding a variety of issues will be stressed. Such issues include: the design and use of urban and rural environments; “Third World” development; regional economic restructuring; changing political geographies; and migration.

GEO 260 Third World Development (3)
This course focuses on characteristics of developing countries as well as solution strategies to development problems and conditions. Cultural distinctions, traditions, and institutions are recognized as keys to development condition and progress. Selected theories show how cultural variations in language and religion may be used to explain development. Numerous case studies are discussed, including Indonesia, China, India, Brazil, Kenya and Zimbabwe.

GER 101 Basic German (4)
Fundamentals of German with development of the four basic skills: reading, writing, listening, and speaking.

GER 102 Basic German (4)
Continuation of German 101. Prerequisites: GER 101, or one year of high school German, or equivalent.

GIS 110 Spatial Data Analysis and Map Interpretation (3)
This course is an introduction to the development and spatial interpretation of data so that it may be prepared for statistical analysis on a two or three-dimensional surface. The course will also introduce remote sensing techniques, Global Positioning Systems, the interpretation of aerial photography for environmental, commercial and/or demographic purposes, and the application of Geographic Information Systems in both the public and private sector. Students will receive a cursory introduction to a current software package and will have the opportunity to complete basic projects using that software.

GIS 120 Introduction to Geographic Information Systems (3)
This course, a continuation of GIS 110, will introduce the fundamentals of Geographic Information Systems. The course will cover the basic operating systems of a current GIS software package including the use of graphic user interface, common theme operations, importation of a foreign database, introductory scripts and layouts, manipulation of tables, the creation and editing of shapefiles, and geocoding. This course is designed for those with little to no experience with GIS who are exploring career opportunities. Prerequisite: GIS 110.

GIS 210 Advanced Topics in GIS (3)
This course will explore advanced topics in Geographic Information Systems. The course will teach students how to import foreign databases into a GIS, advanced theme operations, extensive use with scripts, introductory programming with both Avenue and Visual Basic for GIS, and how to incorporate remotely sensed imagery into GIS. Prerequisite: GIS 120.

GLY 130 Dinosaurs and Disasters: A Brief History of the Vertebrates (3)
More than 65 million years ago, dinosaurs and their kin dominated the earth and relegated our mammalian ancestors to positions of unimportance for nearly 155 million years. This course traces the history of dinosaurs from early vertebrate ancestors to their final extinction and surveys the evolutionary, paleogeographic, environmental, and possible extraterrestrial causes for the rise to dominance and sudden fall. Along the way and afterwards, dinosaur interactions with other organisms and the environment, as well as their indirect influence on mammals, particularly on the much later evolution of humankind, will be examined.
GLY 220 Principles of Physical Geology (4)
How the Earth Works: an integrated course in physical geology, covering the physical, chemical, and biological processes that combine to produce geological processes. Attention is focused on plate tectonics, earth surface processes, and properties and formation of earth materials. Laboratory exercises emphasize identification and interpretation of geologic materials and maps.

HIS 101 World Civilization I (3)
A multi-cultural survey of the major civilizations of the world from ancient to medieval times.

HIS 102 World Civilization II (3)
Presents a multicultural survey of world cultures and contemporary global issues from 1600 to the present.

HIS 104 A History of Europe Through the Mid-Seventeenth Century (3)
This course is a survey of the development of European politics, society, and culture through the Age of Religious Conflict.

HIS 105 A History of Europe From the Mid-Seventeenth Century to the Present (3)
This course is a survey of the development of European politics, society, and culture from the Age of Absolutism to the present. It is a continuation of HIS 104.

HIS 106 Western Culture: Science and Technology I (3)
Presents the interactions of science and technology with the social and cultural development of Western civilization; the values in scientific inquiry as compared with other kinds of inquiry; the importance of science and technology in modifying social organization and human expectations. Emphasizes the period to the Industrial Revolution.

HIS 107 Western Culture: Science and Technology II (3)
Presents the interactions of science and technology with the social and cultural development of Western civilization; the values in scientific inquiry as compared with other kinds of inquiry; the importance of science and technology in modifying social organization and human expectations. Emphasizes the period since the Industrial Revolution.

HIS 108 History of the United States Through 1865 (3)
This course traces the nation’s development through the Civil War. It is designed to meet the demands for a general understanding of American history. This course fulfills the requirements for the elementary teachers’ certificate.

HIS 109 History of the United States Since 1865 (3)
A continuation of HIS 108 from 1865 to the present.

HIS 120 The World at War, 1939-45 (3)
A global overview of the events of the Second World War, including consideration of the conflict’s military, diplomatic, political, social and economic dimensions.

HIS 202 History of British People to the Restoration (3)
From the Roman period to the Stuart period. A general survey of the various epochs and phases of the English people at home and abroad.

HIS 203 History of the British People Since the Restoration (3)
From the Stuart period to the present. A continuation of HIS 202.

HIS 206 History of Colonial Latin America, 1492 to 1810 (3)
A board survey of the social, economic, political and cultural development of Latin America from the fifteenth century to 1810. Includes analysis of such topics as pre-Columbian societies on the eve of conquest, the Iberian kingdoms in the Age of Expansion, the conquest and colonization of the indigenous cultures of the New World, the establishment of Spanish and Portuguese institutions, the relations between the Church and the State, the encomienda and the hacienda slavery and the impact of the Bourbon Reforms on America.

HIS 207 History of Modern Latin America, 1810 to Present (3)
A broad survey of the Latin American nations focusing on their social, economic, political and cultural
development. Traces the history of the Independence movements, nation building, the struggle for modernization dependency and the phenomenon of revolution in the twentieth century.

HIS 240 History of Kentucky (3)
A general survey of the chief periods of Kentucky’s growth and development from 1750 to the present.

HIS 247 History of Islam & Middle East Peoples, 500-1250, A.D. (3)
A survey of the origins and development of the Islamic civilization from the time of the Prophet Mohammed to 1250, with special consideration on the role of the Arab, Iranian, and Turkic peoples.

HIS 248 History of Islam and Middle East Peoples, 1250 to the Present (3)
A continuation of HIS 247. A survey of the religion and institutions of the Islamic world in the Middle East with special emphasis on the Mongol, Ottoman, Safavid and Qajar empires. The demise of these empires, the response of the Middle East peoples to European imperialism, and their national development up to the present will be considered.

HIS 260 African-American History to 1865 (3)
A study of the Black experience in America through the Civil War. An examination of the African heritage, slavery, and the growth of Black institutions. (Same as AAS 260.)

HIS 261 African-American History 1865-Present (3)
This course traces the Black experience from Reconstruction to the Civil Rights Movement of the 1960s. The rise of segregation and the ghetto and aspects of race relations are examined. (Same as AAS 261.)

HIS 265 History of Women in America (3)
History of American women, with particular emphasis on the mid 19th through the mid 20th centuries. Major themes include the family, work, social ideas about women, and feminism. Prerequisites: HIS 109 or consent of instructor.

HIS 296 East Asia Since 1800 (3)
A continuation of HIS 295. A survey of the political and economic modernization of traditional East Asian society with emphasis on nationalistic reactions to Western pressure and international rivalry in East Asia.

HS 101 Human Services Survey (3)
Community human service agencies are examined regarding their organization, service delivery system, staffing patterns, and funding sources. The origin and development of the social welfare system are explored as well as social welfare policy.

HS 102 Values of Human Services in a Contemporary Society (3)
The values and ethics of human service professions are examined. A personal philosophy of client intervention is encouraged, including the development of a professional value base, achieved through the examination of major social problems and issues.

HS 103 Theories and Techniques in Human Services (3)
Philosophies, theories for intervention, and the problem-solving process will be introduced. Emphasis will be placed on the development of a skill base used in counseling techniques and client intervention. Interpersonal relationship skills will be enhanced through knowledge of communication techniques. Activities will be provided in which the student will apply this knowledge and these skills. Prerequisites: HS 101 and HS 102 or consent of coordinator.

HS 104 Group Dynamics for Human Services (3)
Based on various theoretical models, group techniques in clinical or agency settings are covered with emphasis on the leadership role, phases of group development, and interaction within the group. Prerequisites: HS 103 or consent of coordinator.
**HS 210 Drugs, Society, & Human Behavior (3)**
Study of the nature and progression of chemical abuse and dependency, and effects on the individual, family, and society. Includes strategies for prevention, intervention, and treatment.

**HS 225 Application of Assistive Technology for Persons with Disabilities (3)**
Students are provided information and practice in working with children and adults with disabilities. Students are prepared for careers in direct services working with individuals with disabilities, with a particular emphasis on developmental disabilities and mental retardation.

**HS 250 Clinical Practice in Human Services (4)**
The application of principles and skills previously learned in the Human Services courses are practiced in community agencies. Prerequisites: HS 104 or consent of coordinator.

**HS 265 Working with Disabilities in Human Services (3)**
An in-depth study of the coordination and provision of services and supports for individuals with disabilities in community settings, including the provision of community-referenced instruction, vocational instruction in community settings, school-to-work transition planning, integrated recreation/leisure opportunities, and personal management/ independent living skill training and supports. The course emphasizes developmental disabilities and mental retardation.

**HS 299 Special Topics in Human Services: (Topic) (3)**
An in-depth knowledge of a selected topic in human services is the goal of this course. The topic of study may be the student’s choice per coordinator/instructor’s approval or an issue or topic developed by an instructor for course presentation.

**HSE 101 Introduction to the Health Sciences (1)**
Limited to students contemplating a career in one of the health sciences.

**HSEM 100 Introduction to Homeland Security (3)**
Introduces the basic organization of the US Department of Homeland Security as well as the history of its origins and subsequent organizational development. The student will learn the roles and functions of the various components of Homeland Security and their relationships to state and local agencies as well as current trends and career guidance.

**HSEM 110 Introduction to Emergency Management (3)**
Introduces the field of emergency management, the incident command system, including the terminology and definitions used in emergency and disaster management. Students will study the four phases of emergency management and disaster planning: mitigation, response, recovery, and preparedness and examine the legal requirements, responsibilities, and laws pertaining to emergency management. Students will develop an understanding of the procedures and requirements in emergency management including identification of hazards and response capabilities, both governmental and private sector.

**HSEM 225 – Ethical and Legal Issues in Homeland Security (3)**
Examines the ethical and legal issues in the administration of Homeland Security and its efforts to combat terrorism. Examines the legal powers and ethical standards entrusted in the personnel empowered with the implementation of the issues of Homeland Security. Provides an opportunity to demonstrate knowledge of the ethical and legal complexities and dilemmas involved in the establishment and enactment of policies pertaining to Homeland Security.
Lecture: 3 credits (45 contact hours).

**HUM 120 Introduction to the Humanities (3)**
Interdisciplinary course acquainting students with the humanities including five or more of the following topics: art, literature, drama, philosophy, music, architecture, religion, and mythology. Students will explore basic methods, themes, and forms of each discipline through exposure to primary materials.

**HUM 135 Introduction to Native American Literature (3)**
With an emphasis on the cultural and historical contexts, this course introduces the study of the oral and written literature of Native American peoples.

**HUM 150 Introduction to African Literature (3)**
Presents a cross-cultural and historical approach to the oral and written works by major Black writers of Africa.

**HUM 220 Historical Perspectives on Peace and War (3)**
Provides an introduction to the history of violence and peace movements. Examines the anthropological, political, cultural and technological forces contributing to the frequent occurrence of war throughout history. Explores the history of movements and organizations, both religious and secular, intended to minimize warfare and oppression. Examines literature and visual arts to enhance and elaborate on the themes presented in the anthropological and historical sections of the course. Sophomore standing or consent of instructor. (spring of even years)

**HUM 221 Contemporary Perspectives on Peace and War (3)**
Introduces the effects of modern-day warfare and the countervailing trends, actions, and movements to create peace. Focuses on aspects of peace and war such as the role of women, the perspectives of notable scientists, philosophical perspectives, the role of economic globalization in social justice, the environmental impacts, and conflict resolution. Sophomore standing or consent of instructor. (spring of odd years)

*IECE 101 Orientation to Early Childhood Education (3)*
Provides a practical and realistic introduction to the early childhood profession. Satisfies the requirements for the Kentucky Commonwealth Child Care Credential and satisfies a portion of the training component of the Child Development Associate (CDA) credential. Required: Twenty hours of field experience. *Effective Spring, 2011, the IECE prefix will be IEC.*

*IECE 102 Foundations of Early Childhood Education (3)*
Builds on a student’s knowledge of appropriate practices for children birth to eight (8) years of age. Satisfies a portion of the training component of the Child Development Associate (CDA) credential. Required: Twenty hours of field experience. (This requirement can be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.) *Effective Spring, 2011, the IECE prefix will be IEC.*

*IECE 120 Health, Safety, and Nutrition (3)*
This course develops an understanding of components and skills necessary for maintaining a healthy and safe environment for young children. Required: ten hours of field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.) *Effective Spring, 2011, the IECE prefix will be IEC.*

**IEC 125 - Children with Complex Medical Conditions (3)**
Provides an overview of policies, procedures, and best practices for caring for a child with complex medical conditions with emphasis on growth and development, nutrition, emergencies, and medication administration. Includes ten (10) hours of required field experience. (Effective Spring, 2011.)

*IECE 130 Early Childhood Development (3)*
Addresses the physical, language, cognitive, social and emotional development of children beginning with conception. Includes methods of observation that are practiced during field experiences. Required: Ten hours of field experience. (This requirement can be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291).
*Effective Spring, 2011, the IECE prefix will be IEC.

**IEC 135 - Complex Medical Conditions in Early Childhood Settings (3)**
Explores symptomology and strategies for caring for children with cerebral palsy, spina bifida, fetal alcohol syndrome, juvenile diabetes, and shaken baby syndrome in child care settings. Includes ten (10) hours of required field experience.

**IEC 145 - Therapies for Complex Medical Conditions (3)**
Introduces the critical importance of early therapeutic intervention for children with complex medical needs and the terminology associated with different therapy disciplines. Includes types of assistive technology and services provided by resource agencies. Includes ten (10) hours of required field experience.

*IECE 170 Observation and Assessment (3)*
Presents the process of observation, documentation, and assessment. Includes assessment skills, identification of appropriate methods and instruments, and linking results to planning, guidance, and instruction. Emphasizes recommended practices, ethical and legal responsibilities for educators, and the role of the family in the process. Required: Twenty hours of field experience. Prerequisites: IECE 101 or IECE 102 or IECE 130 or permission of program coordinator.
*Effective Spring, 2011, the IECE prefix will be IEC.

*IECE 180 Approaches to Early Childhood Education Curriculum (3)*
Introduces theoretical perspectives for curriculum in early childhood programs. Teaches the design of curriculum and examines the societal factors that impact programming for young children. Prerequisites: IECE 101 or IECE 102 or IECE 130 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

*IECE 190 Applied Experiences in Early Childhood Education (3)*
Students will participate in supervised teaching experiences in early childhood settings. Skills will include observing, planning, implementing and assessing learning experiences based on developmentally appropriate practices. Pre-requisites: Any 100 level IECE course or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

*IECE 200 Child Guidance (3)*
Examines appropriate methods for guiding children and promoting the development of prosocial behaviors. Required: Ten hours of field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.) Prerequisites: IECE 101 or IECE 130 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

*IECE 210 Families and Communities in Early Childhood Education (3)*
Examines community programs that focus on forming partnerships with families to support child development and family well-being. Builds an awareness of family in context of a diverse society to create respect, build reciprocal relationships, and empower families. Required: Ten hours of field experience.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 216 Literacy and Language in IECE (3)**
Aids the teacher in bringing together language theory with classroom instruction techniques to promote language and literacy development in young children. Required 10 hours of field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.) Prerequisites: IECE 180 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 221 Creative Expressions in Interdisciplinary Early Childhood Education (3)**
Addresses the role of creativity as it relates to the development of young children. Studies a variety of art, music, drama, and movement experiences that encourage creative expression in young children. Implementation of appropriate creative activities in a child-centered environment is included. Required: Ten hours of field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.
Prerequisites: IECE 180 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 230 Business Administration of ECE Programs (3)**
Students are introduced to the many facets of establishing, operating and/or owning an early childhood program. Topics include legal forms for early childhood programs, finance, accounting, insurance, governmental regulations and assistance, economics, marketing and management principles.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 235 Introduction to Inclusive Education (3)**
Introduces and sensitizes the student to exceptionalities that occur in the development of children. Includes the law as related to serving children with exceptionalities and their families, various disabling conditions, the gifted, advocacy, home-based intervention, referral sources and the process of diagnosing, treating, and educating children with exceptionalities. Required 20 hours of field experience. (Faculty may waive this requirement for students who are concurrently enrolled in IECE 190 or IECE 291.) Prerequisites: IECE 180 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 240 Administration of Early Childhood Education (3)**
Focuses on the administrative responsibilities of creating and implementing quality education programs for young children and their families. Develops an understanding of administrative, organizational, and legal responsibilities in operating early childhood programs. Required: Ten hours of field experience.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 246 Sciences and Math in IECE (3)**
Applies the concepts and principles of science, social studies, mathematics, and health in learning experiences for young children. Includes activities, materials, and units. Required: Ten (10) hours field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291). Prerequisites: IECE 180 or coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

**IECE 250 School Age Child Care (3)**
Provides the student with specialized knowledge, skills, and abilities for working with school age children.
*Effective Spring, 2011, the IECE prefix will be IEC.
IECE 260 Infant and Toddler Education Programming (3)
Examines the developmental and educational needs of children from birth to age three. Provides an opportunity for students to plan, prepare, and implement the care and educational environment for children birth to age three by integrating an understanding of the physical, social, emotional, and cognitive development with developmentally appropriate practices for each stage. Required: Ten hours of field experience. (This requirement may be waived by faculty for students who are concurrently enrolled in IECE 190 or IECE 291.).
*Effective Spring, 2011, the IECE prefix will be IEC.

IECE 291 IECE Practicum/Cooperative Education (3)
Requires participation in supervised teaching experiences in early childhood settings where practical skills are applied. Includes observing, planning, implementing and assessing learning experiences based on developmentally appropriate practices. Required: Two hundred twenty-five field hours of experience. Prerequisites: Program coordinator's approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

IECE 299 Special Topics in Early Childhood Education (1-3)
An in-depth knowledge of a selected topic in early childhood education is the goal of this course. The topic of study may be the student’s choice per instructor’s approval or an issue or topic developed by an instructor for course presentation. Prerequisites: Coordinator’s approval.
*Effective Spring, 2011, the IECE prefix will be IEC.

IEX 293 Special Problems II (2)
This is a course designed for the student who has demonstrated specific needs. Prerequisites: Permission of Instructor.

IMD 100 Introduction to Information Systems (3)
Essential computer concepts and terminology are introduced in this course. An overview of operating systems software, a graphical user interface environment and multitasking concepts, disk and file management, Internet capabilities, and telecommunications are included. Introduction to word processing, spreadsheets, databases, and the integration of these three applications are included.

IMD 114 Information Literacy (3)
This course is an introduction to the use of information resources, both traditional print materials and online materials, for academic and professional research. Topics include development of search strategy, evaluation of resources, use of database search techniques, ethical and legal aspects of information management and documentation of sources.

IMD 115 Introduction to Computer Graphic Design (3)
In this course, students will be introduced to the theory and techniques behind computer graphic design. Students will be introduced to layout; color theory and use; design, photo and illustration techniques; and exploration of media in respect to digital design. Also, students will be introduced to the production process including pre-press, printing, other production techniques and distribution. Prerequisites: IMD 100 or CIT 105 or equivalent skills.

IMD 116 Keyboarding (2)
Students use a microcomputer and software to develop proper techniques of touch keyboarding. Speed, accuracy and control are emphasized.

IMD 117 Keyboarding and Basic Word Processing (3)
Students use a microcomputer and software to develop proper techniques of touch keyboarding. Basic word processing skills are integrated with a thorough study of form, style, and arrangement of business documents. Speed, accuracy and control are emphasized.
IMD 118 Document Processing (3)
Document formatting and word processing techniques are integrated to produce a wide variety of business documents. Emphasis is placed upon planning, organizing, and formatting business documents and upon meeting production standards essential to the operation of modern offices. Prerequisites: IMD 117 or consent of instructor.

IMD 126 Introduction to Desktop Publishing (3)
The use of microcomputers for designing and producing various publications is introduced. Hands-on experience is provided in using desktop publishing software and a laser printer to produce high-resolution publications, such as flyers, brochures, business forms, and newsletters. Students are also introduced to basic design techniques, type and graphics layout, and the related terminology. Prerequisites: IMD 100 or equivalent skills.

IMD 127 Vector Design with Adobe Illustrator (3)
In this course, students will be introduced to and develop vector (line-based) graphics using industry-standard application(s). Topics covered will include examining the theory behind vector graphics, investigating the advertising and print industry’s use of this type of graphic, creation of graphics from simple to increasingly complex, as well as development of a portfolio of vector art. Prerequisites: IMD 115 or concurrent or consent of instructor.

IMD 128 Raster Design with Adobe PhotoShop (3)
In this course, students will be introduced to and develop raster (photo or pixel-based) graphics using industry-standard application(s). Topics covered will include examining the theory behind raster graphics, investigating the advertising and print industry’s use of this type of graphic, creation and manipulation of raster-based graphics from simple to increasingly complex, as well as development of a portfolio of raster art and photo editing and manipulation samples. Prerequisites: IMD 115 or concurrent or consent of instructor.

IMD 133 Beginning Web Design (3)
Introduces the creation and publication of a web site and covers extensible hypertext markup language (XHTML) and introductory cascading style sheets (CSS). Covers code editing and web authoring software for web design, along with the incorporation of graphics into web sites and publishing.

IMD 150 Presentations (3)
In this course, students will learn to produce and present digital presentations, making effective use of correct grammar, presentation writing style, topography, graphics, sound and video. Students will install and use current digital hardware and software.

IMD 160 Introduction to E-commerce (3)
Students are introduced to the concepts, issues and application of business on the Internet. Students will examine the business as well as technical aspects of e-commerce. Topics include the relationship of business and the Internet, types and specific examples of e-business, the planning and development of an e-business as well as security issues, monetary transaction options, international concerns, legal and regulatory issues, ethical concerns, and the future of e-commerce. Specific technical issues will include examination of Internet infrastructure including the options, functions of the web server as well as e-commerce software options. Students will create an e-commerce business website plan and develop it into a simple, effective e-business website. Prerequisites: IMD 100 or CIT 105 or consent of instructor.

IMD 175 Web Usability Design (3)
Students focus on effective communication through web design. Topics include web planning, navigation and usability based on market research (audience capabilities and preferences) as well as site content and goals, financial considerations and technical capabilities. Other issues such as browser compatibility, marketing and site “gimmicks,” customer tracking, and site redesign will be addressed. Prerequisites: IMD 133 or consent of instructor.

IMD 180 Intermediate Web Design (3)
Covers the development of advanced hypertext markup language (HTML) skills and examination of new standards and technologies. Includes extensible hypertext markup language (XHTML), professional and contemporary web-
design theory, layout and formatting, accessibility, forms, image maps, multimedia, image optimization, web graphics, advanced cascading style sheets (CSS), JavaScript code analysis site planning, and designer-client relationships. Students will complete a well-formed website on a specific topic utilizing the theories and technologies learned. Prerequisites: IMD 133 or consent of instructor.

**IMD 185 Web Graphic Design with Adobe Fireworks (3)**
Introduces the theory and techniques behind the design of high-quality and efficient graphics for the World Wide Web. Includes theory behind design for the Web, creation of gifs, animated gifs and jpegs, text as graphics, and sliced images for the web. Teaches how to use an industry-standard web graphics editing software application to apply design theory. Prerequisites: IMD 133.

**IMD 205 Computerized Accounting Systems (3)**
In this course, students will be introduced to financial accounting software. Topics and issues addressed in this applications-based course include analyzing business transaction; recording and posting business transactions; recording period end adjustments and completing the end-of- period closing process; implement internal cash controls: processing payroll activities; and recording transactions for merchandising businesses.

**IMD 210 Microsoft Office Applications (3)**
Utilizes Microsoft Office applications for the creation, manipulation and integration of information. Includes word processing, spreadsheet, database management, presentation and personal information management. Prerequisites: IMD 100 or equivalent skills.

**IMD 212 Advanced Microsoft Office Application (3)**
Students learn advanced Microsoft Office skills utilizing spreadsheet and database management applications through creation, management and integration of documents. Prerequisites: IMD 210 or consent of instructor.

**IMD 215 Administrative Office Procedures (3)**
The roles and responsibilities of the office professional and the interrelationships of people, procedures, and technology are introduced, with emphasis on appropriate decision-making techniques and productivity in the office. Prerequisites: IMD 118 or consent of instructor.

**IMD 220 Administrative Office Simulations (3)**
Students use administrative procedures to complete office simulations with an emphasis on accuracy, productivity, efficiency, and problem solving. Students will be utilizing skills in word processing, spreadsheet, database management, presentation, and e-mail applications. Standard business transactions will be completed through electronic commerce. Pre-requisites: IMD 150; IMD 235; IMD 212 or concurrent; or consent of instructor.

**IMD 226 Advanced Desktop Publishing (3)**
In this course, students will learn to design and produce text- and image-intensive publications. Industry-standard desktop publishing software will be utilized to create brochures, newsletters, proposals and other documents. Students also will use drawing and image-editing software for the purpose of creating and editing graphics for publications. Emphasis will be placed on importing text and graphics from word processing and graphics programs into desktop publishing software. Students will study the desktop publishing process from concept and creation through pre-press and printing. Prerequisites: IMD 126; IMD 127, 128 and 150 or concurrent; or consent of instructor.

**IMD 230 Advanced Web Design (3)**
Explores existing and emerging web technologies through the role of web designers. Covers topics and issues to include modification of prewritten scripts and applets as well as analysis of current client- and server-side technologies including PHP, MySQL and XML. Students will conclude the course via the creation of a comprehensive, database-driven dynamic website utilizing current client- and server-side technologies including PHP, MySQL, and XML. Prerequisites: IMD 180 or consent of instructor.

**IMD 232 Web Design with Adobe Dreamweaver (3)**
Utilizes an advanced web authoring software application for design and development. Uses a professional WYSIWYG (what-you-see-is-what-you-get) editor to develop and create web pages, automate production, and
manage and maintain entire websites. Builds XHTML, CSS, and web development knowledge to customize features and integrate applications. Prerequisites: IMD 133 or consent of instructor.

**IMD 235 Advanced Word Processing (3)**
Students will learn current word processing software from intermediate skills through advanced utilities. Topics include producing customized documents, enhancing the visual display of documents, creating customized desktop publishing documents, organizing text in documents using advanced features, and integrating data utilizing various applications. Emphasis will be on mastering the software for optimal use. Prerequisites: IMD 210 or CIT 130, or equivalent skills.

**IMD 240 Web Development with Adobe Flash (3)**
Introduction to designing and delivery of interactive web sites using the professional, industry-standard software Flash. Covers integrating animation into web design, along with increasing interactivity and incorporating video into a web site. Covers integration with other web development applications. Prerequisites: IMD 180 and IMD 185, or consent of instructor.

**IMD 245 Multimedia for the Web (3)**
Students develop multimedia products for information delivery, training and advertising on the web using industry-standard applications. Students will storyboard, plan, produce and execute a multimedia product; integrate the final product into a web environment; and test for product performance and correct production flaws. Students will also explore topics such as platform and server considerations and limitations and the basics of continuity in multimedia design. Prerequisites: IMD 180 and IMD 185; or consent of instructor.

**IMD 250 Digital Video Editing with Final Cut Pro (3)**
Students will capture and edit digital video using industry-standard desktop video software and export to DVD, VHS, and the Internet for use in entertainment, documentary films, commercials, and newscasts. Students will learn to storyboard, plan, and produce a digital video project from conception to final packaging and explore topics such as compositing, alpha channels, and special effects. Prerequisites: IMD 100 or IMD 133 or consent of instructor.

**IMD 270 Professional Practices (3)**
This course is designed to assist students develop strategies for entering the Information Management & Design profession by editing and refining portfolios and creating correspondence to meet professional standards, designing resumes and other self-promotional materials, developing a job search strategy, practicing interview techniques and professional presentations. Prerequisites: IMD 210 or IMD 235 or consent of instructor.

**IMD 271 Internship (1-3)**
On-the-job experience will be required of the Information Management & Design student. A minimum of 40 clock hours of appropriate experience per credit hour will be required. The learning plan will be discussed and agreed upon by the student, instructor and site supervisor. Prerequisites: Consent of instructor, 2.0 G.P.A., and the completion of 12 credit hours of IMD course work (including IMD 270).

**IMD 275 Workplace Management (3)**
Management principles and techniques and their applications to the contemporary business workplace are included. Emphasis is on information management, team concepts and the role of personnel management.

**IMD 276 Legal Office Procedures (3)**
Legal office procedures and the transcription of legal forms and documents are included in this course. Prerequisites: IMD 118 or BE 267.

**IMD 278 Medical Office Procedures (3)**
Medical office procedures using a medical practice management software program, medical coding, and the transcription of medical forms, histories, and reports are included in this course. Prerequisites: IMD 118, CLA 131, or consent of instructor.

**IMD 280 Portfolio Practicum: Graphic Design (3)**
Provides an opportunity to assemble a comprehensive graphic design portfolio using skills learned within the IMD Graphic Design core courses which will assess students’ overall skills learned in the graphic design option. Provides IMD students with a professional design portfolio to aid in the search for employment. Provides the capstone for students choosing the graphics option. Uses presentation, vector, raster, and desktop publishing software to create design-intensive portfolio pieces. Prerequisites: IMD 127, IMD 128, IMD 185, IMD 226 or consent of instructor.

**IMD 290 Photography (3)**
Teaches students basic photography principles and skills to compose technically proficient photographs. Emphasis is on basic camera operations, with exploration of film speeds, apertures, and shutter speeds. Explores composition and elements of lighting. Uses slide lectures, a brief overview of contemporary photography to acquaint students with past and current photography.

**IMD 292 Portfolio Practicum: Web Design (3)**
In this capstone course, students will assemble a comprehensive web site design portfolio using skills learned in the IMD Web Design core courses. The purpose of the portfolio will be to assess students’ overall skills learned in the web design option. It will also be used to provide IMD students with a professional design portfolio to aid in the search for employment. Students will use Macromedia Fireworks, Dreamweaver, Flash, Adobe Photoshop/ImageReady, and dynamic scripting languages to assemble the comprehensive design portfolio. Prerequisites: IMD 225, 232, 240 or consent of instructor.

**IMD 294 Seminar in Information Management & Design Technologies (3)**
Includes research, study, and discussion of a current or emerging topic, issue, or trend in information management and design technologies. May be repeated with different topic for a maximum of 6 credit hours. Prerequisite: IMD 100 or consent of instructor.

**IMD 299 Selected Topics in Information Management and Design (1-3)**
This course is designed to expand course offerings as new technology is developed, as well as consider contemporary and/or emerging trends in information management and design. Topics may vary from semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Prerequisite: Consent of instructor.

**IMT 100 Welding for Maintenance (3)**
Provides basic instruction needed for student to weld using SMAW, MIG, TIG and Oxy-Fuel. Corequisites: IMT101 or Consent of Instructor.

*Sub-Categories of IMT 100*

**IMT 1001 Welding for Maintenance (Oxy-Fuel) (0.75)**
Provides basic instruction needed for student to weld using Oxy-Fuel.

**IMT 1002 Welding for Maintenance (SMAW) (0.75)**
Provides basic instruction needed for student to weld using Shielded Metal Arc Welding (SMAW).

**IMT 1003 Welding for Maintenance (MIG) (0.75)**
Provides basic instruction needed for student to weld using MIG (Metal Inert Gas Welding).

**IMT 1004 Welding for Maintenance (TIG) (0.75)**
Provides basic instruction needed for student to weld using TIG (Tungsten Inert Gas Welding).

**IMT 101 Welding for Maintenance Lab (2)**
Provides application of basic welding skills used in SMAW, MIG, TIG and Oxy-Fuel. Corequisites: IMT 100 or Consent of Instructor.

*Sub-Categories of IMT 101*
IMT 1011 Welding for Maintenance (Oxy-Fuel Lab) (0.5)
Provides application of basic welding skills used in Oxy-Fuel.

IMT 1012 Welding for Maintenance (SMAW Lab) (0.5)
Provides application of basic welding skills used in Shielded Metal Arc Welding (SMAW).

IMT 1013 Welding for Maintenance (MIG Lab) (0.5)
Provides application of basic welding skills used in Metal Inert Gas Welding (MIG).

IMT 1014 Welding for Maintenance (TIG Lab) (0.5)
Provides application of basic welding skills used in Tungsten Inert Gas Welding (TIG).

IMT 1012 Welding for Maintenance (SMAW Lab) (0.5)
Provides application of basic welding skills used in Shielded Metal Arc Welding (SMAW).

IMT 1013 Welding for Maintenance (MIG Lab) (0.5)
Provides application of basic welding skills used in Metal Inert Gas Welding (MIG).

IMT 1014 Welding for Maintenance (TIG Lab) (0.5)
Provides application of basic welding skills used in Tungsten Inert Gas Welding (TIG).

IMT 110 Industrial Maintenance Electrical Principles (3)
This course introduces the theory of electricity and magnetism and the relationship of voltage, current, resistance, and power in electrical circuits. The course is designed to develop an understanding of alternating and direct current fundamentals. Students will apply formulas to analyze the operation of AC and DC circuits.

IMT 111 Industrial Maintenance Electrical Principles Lab (2)
Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Various types of circuits are constructed and their parameters measured. The use of test equipment, safety and troubleshooting are stressed. Co-requisites: IMT 110 or consent of instructor.

IMT 115 Basic Machine Tool I (3)
This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills and lathes.

IMT 116 Basic Machine Tool I Lab (2)
Provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills and lathes. Co-requisite: IMT 115 or consent of instructor.

IMT 120 Industrial Maintenance Rotating Machinery (3)
Students will learn the basic principles needed for the proper maintenance of AC and DC motors. Prerequisites: Permission of the instructor.

IMT 121 Industrial Maintenance Rotating Machinery Lab (2)
Provides practical experience in the construction, operation and maintenance of AC motors and alternators and DC motors and generators. Co-requisites: IMT 120 or Consent of instructor.

IMT 131 Industrial Maintenance Electrical Concepts Lab (4)
Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Various types of circuits are constructed and their parameters measured. This use of test equipment, safety, and troubleshooting are stressed. This lab course provides practical experience in the construction, operation, and maintenance of AC and DC motors. Co-requisites: IMT 130 or consent of instructor.

IMT 150 Maintaining Industrial Equipment I (3)
Introduces the student to maintenance techniques and procedures used to maintain industrial equipment. Corequisites: IMT 151 or Consent of Instructor.

Sub-Categories of IMT 150

IMT 1501 Introduction to Mechanical Drive Systems (0.3)
Introduces the student to basic mechanical systems. Covers safety, mechanical systems and a basic understanding of mechanical maintenance.

**IMT 1502 Introduction to Belt Drives (0.3)**
Introduces the student to basic and advance belt drive systems. Covers how to maintain, repair and troubleshoot belt drive systems.

**IMT 1503 Introduction to Chain Drives (0.3)**
Introduces the student to basic and advance chain drive systems.

**IMT 1504 Bearings (0.3)**
Introduces the student to basic and advance bearings.

**IMT 1505 Gearing and Gear Drives (0.3)**
Introduces the student to basic and advance gearing

**IMT 1506 Precision Shaft Alignment (0.3)**
Introduces the student to basic and advance couplings.

**IMT 1507 Lubrication (0.3)**
Introduces the student to basic and advanced lubrication techniques.

**IMT 1508 Brakes and Clutches (0.3)**
Introduces the student to basic and advance brake and clutch applications.

**IMT 1509 Industrial Pumps (0.3)**
Introduces the student to industrial pumps and motors.

**IMT 1510 Vibration Analysis (0.3)**
Introduces the student to basic and advance brake and clutch applications. Includes the theory and principles of how to replace, identify and install brakes and clutches according to standard industrial methods.

**IMT 151 Maintaining Industrial Equipment I Lab (2)**
Provides the student with lab experience in the maintenance of industrial equipment. Corequisites: IMT 150 or Consent of Instructor.

**Sub-Categories of IMT 151**

**IMT 1511 Introduction to Mechanical Drive Systems Lab (0.2)**
Covers safety, mechanical systems, and a basic understanding of mechanical maintenance.

**IMT 1512 Introduction to Belt Drives Lab (0.2)**
Includes how to maintain, repair and troubleshoot belt drive systems.

**IMT 1513 Introduction to Chain Drives (0.2)**
Introduces the student to basic and advance chain drive systems. Students will be able to maintain, repair and troubleshoot chain drive systems.

**IMT 1514 Bearings Lab (0.2)**
Covers how to maintain, replace, identify and install bearings.

**IMT 1515 Gearing and Gear Drives Lab (0.2)**
Covers the identification, installation, maintenance, and replacement of gear drives.

**IMT 1516 Precision Shaft Alignment Lab (0.2)**
Introduces the student to basic and advance couplings. Covers how to maintain, replace, identify and how to install couplings using several industrial methods.

**IMT 1517 Lubrication Lab (0.2)**
Introduces the student to basic and advance lubrication techniques. Covers how to identify and apply proper lubrication techniques using standard industrial methods.

**IMT 1518 Brakes and Clutches Lab (0.2)**
Covers how to maintain, replace, identify and install brakes and clutches according to standard industrial methods.

**IMT 1519 Industrial Pumps Lab (0.2)**
Includes the application of skills related to industrial pumps and motors.

**IMT 15110 Vibration Analysis Lab (0.2)**
Introduces the student to basic and advance brake and clutch applications. Covers the replacement, identification, and installation of brakes and clutches according to standard industrial methods.

**IMT 198 Practicum (3)**
The Practicum provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Practicum do not receive compensation. Prerequisite: Permission of instructor.

**IMT 199 Cooperative Education (3)**
Co-op provides supervised on-the-job work experience related to the student’s educational objective. Students participating in the Co-op Education program receive compensation for their work. Prerequisite: Permission of instructor.

**IMT 220 Industrial Maintenance Electrical Motor Controls I (3)**
This course addresses the diversity of electric motor control devices and applications used in industry today with safety and electrical lockouts included. Prerequisites: IMT 110, IMT 111.

**IMT 221 Industrial Maintenance Electrical Motor Controls I Lab (2)**
Addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included. Co-requisites: IMT 110 and IMT 111 or consent of instructor.

**IMT 230 Industrial Maintenance of PLCs (5)**
This course includes the theory or programmable logic controllers to include installation, programming, interfacing, and troubleshooting of industrial PLC’s. Prerequisites: IMT 240.

**IMT 231 Industrial Maintenance of PLC’s Lab (2)**
Addresses the diversity of PLC control devices and applications used in industry today. Safety and electrical lockouts are also included. Prerequisites: [(IMT 110 and 111) or IMT 130 and 131] with a grade of C or greater] or consent of instructor. Co-requisites: IMT 230 or consent of instructor.

**IMT 240 Industrial Maintenance Motor Control Concepts (6)**
Addresses the diversity of control devices and applications used in industry today with safety and electrical lockouts included. The basic theory of programmable logic controllers is also included. Prerequisites: (IMT 110 and IMT 111) or (IMT 130 and IMT 131) with a grade of C or greater, or consent of instructor. Co-requisites: IMT 241 or consent of instructor.

**IMT 241 Industrial Maintenance Motor Control Concepts Lab (4)**
Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Various types of circuits are constructed and their parameters measured. The use of test equipment, safety, and troubleshooting are stressed. This lab course also provides practical experience in the construction, operation, and maintenance of AC circuits.
and DC motors. Prerequisites: (IMT 110 and 111) or (IMT 130 and 131) with a grade of C or greater, or consent of instructor. Co-requisite: IMT 240 or consent of instructor.

**IMT 250 Maintaining Industrial Equipment II (3)**
This class is designed to be an integration of the student’s accumulative knowledge from the IMT 150 and IMT 151 courses. Special emphasis will be placed on troubleshooting techniques and applied machine repair situations that require the student to apply learned skills from all areas of the curriculum. Prerequisites: IMT 150, IMT 151

**IT 132 – Web Page Development (3)**
Introduces web page design using HTML. Focuses on creating web documents using a simple text editor. Covers how to use a simple web editor. Explores features such as layout, tables, images, forms, frames, and the incorporation of sound and video. Includes developing site specifications and methods to increase the appeal and effectiveness of web sites. Covers preparation of web documents appropriate for use in business and professional web sites. Prerequisite: Computer literacy course or consent of instructor.

**IT 170 Introduction to Database Design (3)**
Provides an overview of database management system (DBMS) concepts, internal design models, network communications architectures, development tools, and applications. Prerequisite: Computer literacy course, MT 120 or MT 122, or consent of instructor.

**IT 250 Introduction to Security (4)**
Introduces computer and network security. Covers communications, infrastructure, operational, and organizational security and cryptography.

**JOU 101 Introduction to Journalism (3)**
This course surveys the history and social theories of journalism and introduces students to contemporary journalistic practice. Student will learn about the function and operation of print, electronic and on-line news media. Issues and concepts to be covered include the relationship of government to media; press freedom and controls; media ethics, and the impact of global communications. The course also covers the relationship of journalism to advertising, public relations and telecommunications, particularly with regard to new technologies.

**JOU 204 Writing for the Mass Media (3)**
An introduction to the concepts and techniques of media writing. This course offers hands-on instruction in information gathering, organization, and writing for print, broadcast and on-line media. Prerequisites: JOU pre-major status; JOU 101 or consent of instructor.

**JPN 101 Beginning Japanese I (4)**
A course in first semester Japanese language.

**JPN 102 Beginning Japanese II (4)**
A course in second semester Japanese language. Prerequisites: JPN 101 or equivalent.

**KHP 100 Walking (1)**
Instruction in a variety of motor skill activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit.

**KHP 230 Human Health and Wellness (3)**
The study of health promotion, wellness, and disease prevention concepts as applied to individual, familial, and community health.

**LIT 115 Introduction to Reference Services (3)**
This course presents an introduction to library reference sources and services. Reference interview techniques, use of standard print and online reference tools, bibliographic databases, web search engines and subject guides, and
LIT 124 Library Administration (3)
This course provides an introduction to basic principles of library organization and management. Emphasis is on the practical application of management concepts to the effective administration of library systems. This is a web-based distance course. Prerequisites: LIT 115 or consent of instructor.

LIT 132 Library Technical Services (3)
This course is an introduction to library technical services. Acquisitions, processing, cataloging and classification are introduced. This is a web-based distance course. Prerequisites: LIT 115 or consent of instructor.

LIT 200 Seminar in Kentucky Literature (Subtitle Required) (3)
This is an online or computer-assisted seminar course in Kentucky literature recognizing, examining, and studying distinct regional differences and similarities with concentration on major contemporary and traditional Kentucky writers and their texts. Topics will vary, from a group of authors, and historical period or aesthetic movement, to a genre, a theme, or an aspect of literary theory.

LIT 240 Literature of Appalachian Kentucky (3)
This is an online or computer-assisted introductory survey course in the Appalachian literature of Kentucky concentrating on the major contemporary and traditional writers who are distinctly identified with that region. Approaches may include a group of authors, an historical period or aesthetic movement, a genre, a theme, or an aspect of literary theory.

LIT 241 Literature of Central Kentucky (3)
This is an online or computer-assisted introductory course in the literature of Central Kentucky concentrating on the major contemporary and traditional writers who are distinctly identified with that region. Approaches may include a group of authors, an historical period, or aesthetic movement, a genre, a theme or an aspect of literary theory.

LIT 242 Literature of Western Kentucky (3)
This is an online or computer-assisted introductory survey course in the literature of Western Kentucky which concentrating on the major contemporary and traditional writers who are distinctly identified with that region. Approaches may include a group of authors, an historical period, or aesthetic movement, a genre, a theme or an aspect of literary theory.

LIT 243 Library Services for Children (3)
This course is a study of library services for children. Topics include library programming development and production, children’s literature, collection development, Internet resources, and legal issues. This is a web-based distance course that involves service learning activities. Prerequisite: LIT 115 or consent of instructor.

LIT 245 Library Services for Young Adults (3)
This course is a study of library services for young adults from 6th to 12th grades. Topics include programming, collection development, the use of the Internet, and ethical and legal issues. Emphasis is on the development and promotion of young adult library services. This is a web-based distance course that involves service learning activities. Prerequisites: LIT 115 or consent of instructor.

LIT 247 Library Services for Adults (3)
This is a study of library services for adults. Topics include adult literature, collection development, reader’s
advisory service, programming, circulation services, reference services, and customer relations. This is a web-based distance course that involves service learning activities. Prerequisites: LIT 115 or consent of instructor.

**LIT 248 Library Services for Preschool Children (3)**
This course is a study of library services for preschool children, age infant to 5 years. Topics include library programming development and production, preschool children’s literature, services for parents and for child care services, collection development, and legal issues. This is a web-based distance course that requires service learning activities. Prerequisite: LIT 115.

**LIT 280 Genealogy Services in Libraries (3)**
This course prepares librarians to provide quality services to genealogical patrons. Topics include: definitions of genealogy and motivations of patrons; genealogical data, sources, and research methods; reference interviews; orientation of patrons to genealogical resources; collection development; interlibrary loan; patron referral; and legal and ethical issues relating to genealogical research. This is a web-based distance course that requires a service learning project. Prerequisites: LIT 115 or consent of instructor.

**LIT 285 History of Libraries (3)**
This course is a survey of the development of libraries from ancient times to the present, with emphasis on academic and public libraries in the United States. Attention is given to the interaction of libraries with economic, social and political trends in the larger society. Prerequisites: LIT 115 or consent of instructor.

**LIT 299 Selected Topics in Library Information Technology: Topic (1-3)**
This course is designed to expand library course offerings as new technologies develop, new issues evolve, and/or to address local library issues. Topics may vary from semester to semester at the discretion of the instructor. Course may be repeated with different topics to a maximum of nine credit hours. This is a web-based distance course that involves service learning activities. Prerequisites: LIT 115 or consent of instructor.

**LSI 120 Comprehensive Security Specialist (4)**
Training for the security professional in all aspects of security, addressing current trends in policies and procedures, including physical security, crime prevention, security surveys and contingency planning for internal and external threats. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 130 GSA: Locks, Vaults & Containers Certified Technician Training (4)**
Instruction to successfully service, maintain, perform covert and forced entry, and repair GSA approved security containers. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 131 GSA: Locks, Vaults & Containers Certified Inspectors Training (1)**
Certification instruction for inspector of GSA locks, vaults and containers. Certified inspectors are able to assess and certify the complete functionality of GSA locks, vaults and containers. Prerequisites: LSI 130 or consent of instructor.

**LSI 140 Managing Terrorism and Other Crises (1)**
An overview of domestic and international terrorist groups, introducing the concept of contingency planning in comparison to other types of operations planning, and providing basic knowledge regarding the management of a bomb threat and identification of explosives and incendiary devices. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 146 Crisis Management/ Contingency Planning (2)**
Crisis Management/Contingency Planning. An NIMS approach to a consistent nationwide approach for Federal, State, Local, and Tribal governments to work effectively and efficiently together to prepare for, prevent, respond to,
and recover from domestic incidents, regardless of cause, size, or complexity. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 150 Professional Locksmithing (4)**
Comprehensive hands-on knowledge of locks, providing the student with the information necessary to become a competent technician who can service, maintain, troubleshoot and master key any industrial key lock system. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 151 Basic Penetration of Safes (1)**
Techniques and skills that are required to strategically drill into a container and defeat the locking mechanism in order to penetrate a safe or security. Prerequisite: LSI 153.

**LSI 152 Combination Lock Manipulation (1)**
Complex and in-depth investigation of the working of the combination lock that will provide the technician with the capability of determining the combination without drilling the lock. Prerequisite: LSI 153.

**LSI 153 Safe Lock Servicing Mechanical and Electronic (2)**
Instruction in the operation and servicing of mechanical and electronic safe locks. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 160 Fundamentals of Electricity (2)**
Instruction in basic electrical principles, circuit design and application, and electrical components needed to comprehend the principles of electronic security systems. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**LSI 170 Electronic Access Control (2)**
Instruction in the latest security technology utilizing electronic access control systems, enabling the technician to design, install, and troubleshoot the latest electronic access control systems. Prerequisite: LSI 160.

**LSI 182 Managing a Security Operation (2)**
Training for security managers to effectively and efficiently operate a security operation, including both security specific and non-security specific management issues. Prerequisite: Students will be required to undergo a criminal background investigation. If a student is presently employed by a law enforcement or federal agency that requires criminal checks, this requirement may be waived by LSI.

**MA 108R Intermediate Algebra (3)**
This course is remedial in nature and covers material commonly found in second year high school algebra. Specific topics to be discussed include numbers, fractions, algebraic expression, simplifying, factoring, laws of exponents, linear equations, simple graphs and polynomial algebra. This course is not available for degree credit toward a bachelor’s degree. Credit not available on the basis of special examination. Prereq: One year of high school algebra. Recommended for students with a Math ACTE score of 18 or less, or consent of department.

**MA 109 College Algebra (3)**
Selected topics in algebra. Develops manipulative algebraic and mathematical reasoning required for further study in mathematics. Includes brief review of basic algebra, quadratic formula, systems of linear equations, introduction to functions and graphing. This course is not available for credit to persons who have received credit in any
mathematics course of a higher number with the exceptions of MA 112, 123, 162, 201 and 202. Credit not available on the basis of special examination. Prereq: Two years of high school algebra and a Math ACT score of 21 or above or a Math SAT score of 510 or above, or MA 108R, or a grade of C or better in MA 111, or appropriate score on the math placement test.

MA 111 Introduction to Contemporary Mathematics (3)
An introduction to concepts and applications of mathematics, with examples drawn from such areas as voting methods, apportionment, consumer finance, graph theory, tilings, polyhedra, number theory and game theory. This course is not available for credit to persons who have received credit in any mathematics course of a higher number with the exceptions of MA 112, 123, 162, 201 and 202. This course does not serve as a prerequisite for any calculus course. Credit not available on the basis of special examination. Prereq: Two years of high school algebra and a Math ACT score of 21 or above or MA 108R, or math placement test.

MA 113 Calculus I (4)
A course in one-variable calculus, including topics from analytic geometry. Derivatives and integrals of elementary functions (including the trigonometric functions) with applications. Lecture, three hours; recitation, two hours per week. Students may not receive credit for MA 113 and MA 137. Prereq: Math ACT of 27 or above, or math SAT of 620 or above, or MA 109 and MA 112, or MA 110, or consent of the department. Students who enroll in MA 113 based on their test scores should have completed a year of pre-calculus study in high school that includes the study of the trigonometric function. Note: Math placement test recommended.

MA 114 Calculus II (4)
A second course in Calculus. Applications of the integral, techniques of integration, convergence of sequence and series, Taylor series, polar coordinates. Lecture, three hours; recitation, two hours per week. Prereq: A grade of C or better in MA 113, MA 137 or MA 132.

MA 123 Elementary Calculus and Its Applications (3)
An introduction to differential and integral calculus, with applications to business and the biological and physical sciences. Not open to students who have credit in MA 113 or MA 137. Prereq: Math ACT score of 26 or above, or MA 109 or MA 112, or MA 110, or consent of department. Note: Math placement test recommended.

MA 162 Finite Mathematics and Its Applications (3)
Finite mathematics with applications to business, biology, and the social sciences. Linear functions and inequalities, matrix algebra, linear programming, probability. Emphasis on setting up mathematical models from stated problems. Prereq: MA 109 or equivalent.

MA 193 Supplementary Mathematics Workshop I: (Subtitle required) (1-2)
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Co-req: Set by instructor.

MA 194 Supplementary Mathematics Workshop II: (Subtitle required) (1-2)
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Co-req: Set by instructor.

MA 201 Mathematics for Elementary Teachers (3)
Sets, numbers and operations, problem solving and number theory. Recommended only for majors in elementary and middle school education. Prereq: MA 109 or MA 111 or consent of department.

MA 202 Mathematics for Elementary Teachers (3)
Algebraic reasoning, introduction to statistics and probability, geometry, and measurement. Prereq: A grade of “C” or better in MA 201. Also recommended: a course in logic (e.g. PHI 120) or a course in calculus (e.g. MA 123).

MA 213 Calculus III (4)
A course in multi-variable calculus. Topics include vectors and geometry of space, three-dimensional vector calculus, partial derivatives, double and triple integrals, integration on surfaces, Green’s theorem. Optional topics
include Stokes’ theorem and the Gauss’ divergence theorem. Lecture, three hours; recitation, two hours per week.
Prereq: MA 114 or 138 or equivalent.

**MA 214 Calculus IV (3)**
MA 214 is a course in ordinary differential equations. Emphasis is on first and second order equations and applications. The course includes series solutions of second order equations and Laplace transform methods.
Prereq: MA 213 or equivalent.

**MAI 105 Introduction to Medical Assisting (3)**
Rights, roles, responsibilities and functions of the medical assistant including personal and professional awareness, communication, interpersonal relationships, psychological concepts, ethics and legalities. Prerequisites: Acceptance into the Medical Assisting program or consent of Medical Assisting coordinator/director.

**MAI 120 Medical Assisting Laboratory Techniques I (3)**
Theory and practical application in the physician’s office laboratory including patient preparation, specimen collection and transport, processing and testing, blood collection and prevention of disease transmission.
Prerequisites: Acceptance into the Medical Assisting Program or consent of Medical Assisting coordinator/director.

**MAI 140 Medical Assisting Clinical Procedures I (4)**
Clinical skills and techniques used in the physician’s office for patient examination, diagnosis and treatment are introduced. Principles and practical applications related to medical asepsis, infection control, vital signs, routine and specialty patient examinations, diagnostic testing, and treatments are presented with an emphasis on OSHA regulations. Prerequisites: Consent of Medical Assisting program coordinator/director or acceptance into the Medical Assisting program.

**MAI 150 Medical Assisting Administrative Procedures I (3)**
Provides knowledge of the duties required in an office with emphasis placed on a medical office environment. Course content includes communication with patients and co-workers, completion of medical office forms, telephone techniques, filing office correspondence, mail processing, appointment scheduling, processing medical records, and an introduction to medical office computer software. Prerequisites: Acceptance into the Medical Assisting program or consent of Medical Assisting coordinator/director.

**MAI 170 Dosage Calculations (2)**
Provides a review of basic mathematic skills related to dosage calculations, a thorough knowledge of the systems of measurement and conversion, and application skills to perform dosage calculations. Prerequisite: Consent of Medical Assisting coordinator.

**MAI 200 Pathophysiology for the Medical Assistant (3)**
Provides instruction related to common acquired diseases, congenital conditions, injuries, illnesses, and trauma situations as related to the major body systems. Prerequisites (BIO 135) and (CLA 131 OR AHS 115 OR AHS 120 OR OST 103) or consent of Medical Assisting coordinator. All prerequisites must be achieved with a grade of “C” or greater.

**MAI 220 Medical Assisting Laboratory Techniques II (3)**
Laboratory procedures related to waived complexity testing performed in the physician’s office laboratory. CLIA and OSHA regulations are stressed. Prerequisite: MAI 120 with a grade of C or greater.

**MAI 230 Medical Insurance (3)**
Fundamentals of insurance processing and coding for the medical office, with focus on proper procedures for accurate coding systems using the ICD, CPT and HCPCS coding system. Prerequisite: Consent of Medical Assisting program coordinator/director.

**MAI 240 Medical Assisting Clinical Procedures II (4)**
Continued instruction and application techniques for specialty examination, diagnostic testing and treatment
modalities. Fundamentals and practical applications of minor office surgical procedures are emphasized. Prerequisite: MAI 140 with a grade of C or greater.

MAI 250 Medical Assisting Administrative Procedures II (3)
Financial, insurance and billing procedures are covered. Areas of study include banking concepts, accounting systems frequently used in the medical office, payment procedures, insurance plans and claims, paper and electronic billing methods, and professional fees.

MAI 270 Pharmacology for the Medical Assistant (3)
An overview of pharmacology with concentration on prescriptions, drug nomenclature, classification of drugs, patient education, medication preparation and administration. Prerequisite: MAI 170 and BIO 135 and (AHS 115 OR AHS 120 or CLA 131 OR OST 103) with a grade of “C” or better or consent of Medical Assisting Program coordinator/director.

MAI 281 Medical Assistant Practicum (1)
Provides introductory practical experience (unpaid) through observation and work assignments in a healthcare setting. Prerequisite: Consent of Medical Assisting program coordinator/director.

MAI 282 Medical Assisting Externship (3)
Externship assignments (unpaid) are structured to allow the student to apply knowledge, perform administrative and clinical procedures, and develop professional attitudes for interacting with other professionals and consumers in the health care field. Prerequisite: Consent of Medical Assisting program coordinator/director.

MAI 299 Selected Topics: Medical Assisting: (Topic) (1-4)
Various medical assisting topics, issues and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructors; course may be repeated with different topics to a maximum of six credit hours. Prerequisite: Consent of instructor.

MAT 105 Business Mathematics (3)
Covers basic mathematical concepts as applied to finance. Includes percentages, simple and compound interest, annuities, sinking funds, depreciation, and consumer debt, including installment buying, credit cards, and mortgages. Lecture: 3 credits (45 contact hours). Prerequisite: MT 065 or equivalent as determined by KCTCS placement examination. [AAS degrees only]

MAT 110 Applied Mathematics (3)
Includes the concepts of ratio and proportion, units and conversions, linear equations in two variables, inequalities, graphing and writing equation of a line, percents, interest, descriptive statistics, and logical symbolism. Emphasizes applications in the various technologies. Lecture: 3 credits (45 contact hours). Prerequisite: MT 065 or equivalent as determined by KCTCS placement examination. [AAS degrees only]

MAT 116 Technical Mathematics (3)
Includes some mathematical concepts from algebra, geometry, and trigonometry and applications relevant to these topics. Includes unit conversions, variation, measurement of geometric figures, vectors, and solving right and oblique triangles using trigonometry. Emphasizes applications in the various technologies. Lecture: 3 credits (45 contact hours). Prerequisite: MT 065 or equivalent as determined by KCTCS placement examination. [AAS degrees only]

MAT 126 Technical Algebra and Trigonometry (3)
Examines mathematical concepts from algebra and trigonometry. Includes vectors, phasor algebra, variation, trigonometric functions, coordinate systems, system of linear equations, quadratic, rational, exponential and logarithmic equations. Prerequisite: MT 065 or equivalent as determined by KCTCS placement examination. Lecture: 3 credits (45 contact hours). [AAS degrees only]

MAT 155 Trigonometry (3)
Includes the trigonometric functions, identities, multiple analytic formulas, laws of sines and cosines, graphs of trigonometric functions in rectangular and polar coordinates, and solving trigonometric equations. Emphasizes applications in each topic. (Students may not receive credit for both MAT155 and any other trigonometry or precalculus course.) Lecture: 3 credits (45 contact hours). Prerequisite: 1. Math ACT score of 22 or above, 2. Math ACT score of 19-21 with concurrent MAT150, 3. Successful completion of Intermediate Algebra, MAT 126, or equivalent, or 4. Placement exam recommendation.

**MNA 100 Medicaid Nurse Aide (3)**
Specific knowledge and skills for students and/or nurse aides to assume the role and responsibility required in long term care is communicated to the student through lectures, lab, and clinical practice. The focus of the course is communication, infection control, safety, resident’s rights, and basic nursing skills.

**MGT 101 Quality Management Principles (3)**
Students will be introduced to fundamental concepts and principles and practices used to improve quality in organizations. The need for organizational change is reviewed and paradigms of quality are introduced. An overview of areas of change, methods of quality planning and methods for implementing quality policies are provided.

**MGT 120 Personal Finance (3)**
Information needed to make intelligent choices and take effective action in the management of personal resources is provided. Topics include financial planning, buying, borrowing, saving, budgeting, investing, insurance, and taxes.

**MGT 160 Introduction to Business (3)**
Business careers, terminology, and the interrelationships and complexities of business are introduced and examined in this survey course.

**MGT 200 Small Business Management (3)**
Students are introduced to the many facets of establishing, operating and/or owning a small business. Topics include legal forms of business organization, finance, accounting, insurance, governmental regulations and assistance, economics, marketing, and management principles. Prerequisites: MGT 160 or consent of instructor.

**MGT 240 Business Ethics (3)**
Emphasizes the need for managers to be self-directed to make ethical decisions. Explores moral principles community standards and the ethics of decision making at personal and professional levels.

**MGT 256 Operations Management (3)**
Concepts and methods for economical planning and control of activities required for transforming a set of inputs into specified goods or services are introduced. Emphasis is given to forecasting, decision analysis, cost analysis, design of production systems, production/marketing relationships, operations planning and control, and the importance of global competitiveness. Prerequisites: MGT 283 or consent of instructor.

**MGT 258 Project Management (3)**
Provides tools used in project management to accomplish the goals of society’s varied organizations. Provides insight into human behavior, knowledge of organizational issues, and skill with quantitative methods to allow successful project management. Prerequisite: MGT283 or equivalent.
MGT 267 Introduction to Business Law (3)
The student is introduced to the state and federal court systems, tort and criminal law, law of contracts, partnerships, sale of goods, government regulations, bailment and negotiable instruments.

MGT 274 Human Resource Management (3)
The student is introduced to the basic methods of recruiting, selecting, training, compensating, and maintaining a productive workforce. Concepts of effective employee relations including collective bargaining, contract administration, and safety and health programs are introduced. Techniques for systematic human resource planning and development of policies consistent with government regulations are emphasized. Prerequisites: MGT 283 or consent of instructor.

MGT 283 Principles of Management (3)
The functional framework of planning, organizing, leading, and controlling is utilized to introduce the management process. The interdisciplinary nature of management theory is introduced also, with the inclusion of relevant aspects of human behavior and rational decision making. Prerequisites: MGT 160 or consent of instructor.

MGT 284 Applied Management Skills (3)
A capstone course in which management theories and techniques are applied with emphasis on the action-skills that managers need for success. Course topics include delegating, motivating employees, team-building, conflict management, coaching and managing change. Prerequisites: MGT 283 or prior supervisory experience.

MGT 287 Supervisory Management (3)
Students study the roles and responsibilities of the supervisor, emphasizing human relations skills while recognizing the behavioral factors of individuals and groups in the work environment. Conceptual knowledge base and skills to support the supervisor’s role and responsibilities are identified and developed. Prerequisites: MGT 283 or consent of instructor.

MGT 288 Self-Management (3)
The need for managers to be self-directed before they can manage successfully the work of others is emphasized. Contemporary approaches to developing the behavioral skills needed to improve personal effectiveness are explored. Topics include personal planning and goal setting, time management, stress management, interpersonal and human relations skills.

MGT 299 Selected Topics in Management: (Topic) (1-3)
Technological developments, new business issues, and/or local management topics are presented and studied. Prerequisite: Consent of instructor.

MKT 155 Personal Selling (3)
The professional selling process which involves a series of interrelated activities is introduced. Emphasis is placed on planning and delivery of sales presentations. The six selling steps are examined - prospecting, qualifying, presenting, answering objections, closing, and the after sale service. Students demonstrate effective sales techniques through simulation and role playing.

MKT 282 Principles of Marketing (3)
The marketing function is introduced and applied to various types of business organizations with attention to the marketing concept. Topics include the marketing mix of product, price, promotion, and distribution decisions; international marketing; and social responsibility. Prerequisites: MGT 160 or consent of instructor.

MKT 290 Advertising and Promotion (3)
The principles of advertising will be introduced to the student. Topics will include economic and social aspects; advertising research; media strategy; consumer behavior; and legal issues in advertising. Prerequisite: MKT 282.
MKT 291 Retail Management (3)
Retail structure, merchandising, promotions, store control, and decision making are examined in this course. Fundamental principles of store organization, consumer behavior, and customer service are addressed. Retailing trends, opportunities, and problems are included also.

MKT 293 Buying and Merchandising (3)
Decision making strategies are used to solve problems inherent in merchandise selection. Analysis of financial statements and their relationship to buying situations are included, along with cost control and the establishment of sales goals and objectives. Mark-ups, reduction planning, unit cost control, and other computations are emphasized. Prerequisite: MKT 291.

MKT 299 Selected Topics in Marketing: (Topic) (1-3)
Technological developments, new business issues, and/or local marketing topics are presented and studied. Prerequisite: Consent of instructor.

MT 050 Developmental Mathematics Workshop (1-2)
The purpose of this course is to promote student's success in developmental mathematics by providing supplemental academic support such as extra class sessions, tutoring, and/or increased monitoring. Developmental mathematics workshop may be associated with any developmental math course offered through KCTCS and may be repeated for each math course. Credit cannot be received by special exam. Laboratory: 1-2 credits (30-60 contact hours). Co-requisite: Set by instructor.

MT 055 Pre-Algebra (3)
Students enhance their understanding and manipulative skills in the arithmetic of rational numbers. Topics include whole numbers, powers and square roots, fractions, decimal fractions, percents, ratios, proportions, signed numbers, order of operations, prime factorization, basic formulas in geometry, measurement and tables and graphs.

MT 065 Basic Algebra with Measurement (3)
Basic algebra course covering variable expressions, linear equations and inequalities, exponents, polynomials, factoring, square and cube roots, scientific and engineering notation, elementary graphing, and measurement unit and conversions. Prerequisite: MT 055 or equivalent as determined by KCTCS placement examination.

MTT 110 Fundamentals of Machine Tools – A (3)
Provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, and mills.

MTT 112 Fundamentals of Machine Tools – B (4)
Provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, and mills. Prerequisites: MTT 110 with a grade of “C” or greater or consent of instructor.

MTT 114 Fundamentals of Machine Tools (7)
Provides the skills and knowledge that is needed to progress through the machine tool program. It will include safety and benchwork. The student will be introduced to the basic power equipment and machine tools that are used in the machine trades which includes: drill presses, power saws, measurement instruments, mills and lathes.

MTT 118 Metrology/Control Charts (3)
Provides the basic principles in using precision measurement instruments and their application to inspection and quality control.

MTT 120 Applied Machining I (3)
Consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Prerequisites: MTT 110 and 112 or MTT 114 with a grade of “C” or greater in the MTT course(s) or consent of instructor.
MTT 122 Applied Machining II (4)
Carries the student to higher levels in the operation of machine tools. Prerequisites: MTT 120 with a grade of “C” or greater or consent of instructor.

MTT 124 Applied Machining (7)
Allows the student to begin performing skills that will combine the use of different types of machines and begin to give them a complete picture of the machine tool career. Prerequisites: MTT 110 and 112 or MTT 114 with a grade of "C" or greater in the MTT course(s) or consent of instructor.

MTT 130 Manual Programming (3)
Introduces the student to CNC codes and programming, set-up and operation of CNC machine tools.

MTT 132 CAD/CAM/CNC (3)
Introduces the student to CAD/CAM/CNC systems which includes CAM software.

MTT 134 Manual Programming CAD/CAM/CNC (6)
Introduces the student to CAD/CAM/CNC systems, CNC format, the Cartesian Coordinate System, CNC codes and programming, set-up and operation of CNC machine tools. Prerequisites: MTT 114 with a grade of “C” or greater or consent of instructor.

MTT 138 Introduction to Programming & CNC Machines (6)
Introduces CAD/CAM and CNC equipment. Covers program codes and set up operations used on a variety of machine tools including technologies like waterjet.

Prerequisites: (MTT 110 and MTT 112) or MTT 114 or consent of instructor.

MTT 150 Shop Theory (2)
Provides the student with an understanding of shop theory, processes and basic concepts of machine tool applications utilized in the tool and die field. Areas and machine concepts covered include safety, measurement, layout work, bench work, saws, drills, drilling machines, mills, and lathes.

MTT 151 Machinery’s Handbook and Metallurgy (2)
Introduces the student to the Machinery’s Handbook as a reference source for solving manufacturing problems and provides a working knowledge of the principles and concepts contained in the Handbook. Explores the many processes involved in heat-treating steels to specific hardness, toughness, and wear capability. Includes identification, classification, application, and processing of tool steels.

MTT 152 Jigs, Fixtures and Gauging (3)
Provides students with an understanding of jigs, fixtures, and work holding devices and their separate uses and principles. Utilizes knowledge of machining processes to design jigs and fixtures for different applications. Utilizes print knowledge to identify part datums for gauging points.

MTT 153 Mold Theory (3)
Provides students with a basic study of mold making. Includes thermoplastic and thermosetting materials, compression mold, transfer mold, injection molds and mold components, the heating and cooling of molds, and the methods of producing cores and cavities.

MTT 154 Die Theory (3)
Provides the student with a study of basic die making. Includes die sets, punch presses, blanking dies, piercing dies, screw and dowel holes, punch and punch blocks, die life, bending dies, pilots, die block construction, stock strippers, stock guides, progressive dies, stock strips, and secondary operations of notch, trim, and shave.
MTT 210 Industrial Machining I (3)
Covers the classification of metals, identification of tool steels and their applications. The student will be required to perform advanced milling machine operations that simulate industry standards. Prerequisites: MTT 122 or 124 with a grade of “C” or greater or consent of instructor.

MTT 212 Industrial Machining II (4)
Designed to allow the student to receive instruction in any area where advanced work is needed or an area where there is student interest. Prerequisites: MTT 210 with a grade of “C” or greater or consent of instructor.

MTT 214 Industrial Machining (7)
Covers the classification of metals, identification of tool steels and their applications. The student will be required to perform advanced milling machine operations that simulate industry standards. Special projects are included in this course so the student will receive instruction in a specific area. Prerequisites: MTT 122 or 124 with a grade of “C” or greater or consent of instructor.

MTT 220 Advanced Industrial Machining I (4)
Designed to allow for the construction of electrodes and the production of parts by the use of an Electric Discharge Machine. Prerequisites: MTT 134 and MTT 212 or 214 with a grade of “C” or greater in each MTT course or consent of instructor.

MTT 222 Advanced Industrial Machining II (2)
Advances students to a higher level of industrial standards by exposing them to additional tasks using a cylindrical grinder. Prerequisites: MTT 212 or 214 with a grade of “C” or greater or consent of instructor.

MTT 224 Advanced Industrial Machining (6)
Designed to allow for the construction of electrodes and the production of parts by the use of an Electric Discharge Machine (EDM), cylindrical grinder, and other type of grinders. Prerequisites: MTT 134 and MTT 212 or MTT 214 with a grade of “C” or greater in each MTT course or consent of instructor.

MTT 230 Conversational Programming (6)
Introduces the student to conversational programming of CNC machine tools. Prerequisite: consent of instructor.

MTT 2301 Introduction to Conversational Programming (3)
Introduce students to conversational programming guidelines which will include program preparation, conversational input, and minor editing. Prerequisite: Consent of instructor.

MTT 2302 Conversational Editing and Subroutines (3)
Introduces students to performing editing routines, to subroutines, and to programs that contain loops. Students will also interpret error messages from the control. Prerequisites: MTT 2301 or consent of instructor.

MTT 234 CNC Machines and Coding Practices (6)
Introduces the student to conversational programming of CNC machine tools to include conversational setup and run options found on a CNC waterjet machine.

Prerequisite: (MTT 130 and MTT 132) or MTT 134 or MTT 138.
MTT 240 Introduction to 3-D Programming (6)
Introduction to 3-D Programming using CAM systems to effect engineering changes that enhance productivity. The CAM system utilized will be used to create and produce complex 3-D parts. Prerequisites: MTT 134 with a grade of “C” or greater or consent of instructor.

MTT 2401 Introduction to 3D Code Sequencing and Tool Path Production (3)
Introduces students to creation of 3-D models and allows those models to be used in creation of tool paths for CNC machine tools. Prerequisites: MTT 134 with a grade of “C” or greater or consent of instructor.

MTT 2402 Advanced 3D Code Sequencing and Macro Systems (3)
Introduces students to more advanced manipulation of 3-D images, including projecting to surfaces, creating wrap tool paths, and macro capabilities. Prerequisites: (MTT 134 and MTT 2401) with a grade of “C” or greater in each MTT course or consent of instructor.

MTT 244 Advance Programming/Setup Practices (6)
Uses CAM systems to effect engineering changes that enhance productivity to create and produces complex shapes on the CNC mill, lathe, EDM and waterjet machines.

Prerequisite: MTT 230 or MTT 234 or consent of instructor.

MTT 298 Practicum (2)
The practicum provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Practicum do not receive compensation. Prerequisite: Permission of the instructor.

MTT 299 Cooperative Education Program (2)
Co-op provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Co-op Education program receive compensation for their work. Prerequisite: Permission of instructor.

MU 154 Class Instruction in Voice I (1)
A beginning course in the fundamentals of singing.

MUS 100 Introduction to Music (3)
A study of the elements of music as they apply to the listening experience; designed for the non-music major with no prior knowledge of music. Emphasis will be placed upon developing an awareness and understanding of musical styles from the Renaissance to the present. Music majors may not use this course to fulfill either General Studies, Universities Studies or music history requirements.

MUS 206 American Music (3)
A history of music in America from c. 1620 to the present. Will require listening to recordings, reading the primary text and suggested readings in books, periodicals and documents. Students should become aware of important names, places, events and styles in music as well as important historical trends and movements.

MUS 222 History and Sociology of Rock Music (3)
A listening survey course, with a chronological approach, covering the years 1950- present. Emphasis will be on both the music and the sociological climate reflected and advocated by the music.

NAA 100 Nursing Assistant Skills I (3)
Provides knowledge and skills for nurse aides to assume the role and responsibility required in a long term care setting. The focus is communication, infection control, safety, resident/patient rights, and basic nursing skills. Note:
Faculty and clinical sites must comply with applicable Federal and Kentucky laws and regulations including but not limited to 42 USC 1396r and 907 KAR 1:450.

**NFS 101 Human Nutrition and Wellness (3)**
Food composition, digestion, absorption and metabolism as related to selection of nutrients essential for human life, growth, reproduction, lactation, wellness and physical activity. Not open to NFS majors except hospitality management students.

**NIS 160 Networking Core Technologies (3)**
Provides a technical level of understanding in the areas of networking connectivity, data communications concepts, and communication protocols. Includes communications, networking concepts, hardware, software, transmission media, access methods, protocols, and network configurations. Addresses system design considerations. Emphasizes local area networks, and installation of a simple local area network. Prepares students to take standard industry certification tests. Prerequisite: (IT 105) OR (ET232 and ET 234) or Consent of instructor.

**NMMI 140 Clinical Procedures I (2)**
Covers skeletal system imaging procedures to demonstrate vascular, soft tissue and skeletal distribution and cardiovascular system imaging procedures for myocardial perfusion and viability, functional evaluation (equilibrium and first-pass methods) and deep vein thrombosis detection. Prereq: Admission to the NMMI program and MT 150 (or MA 109) and BIO 137 and BIO 139, or consent of instructor. Coreq: CHE 140, PH 171 (or 172), NMMI 141 and NMMI 142 and NMMI 150. Lecture: 2 cr hr (30 contact hours).

**NMMI 141 Physics and Instrumentation I (2)**
Introduces concepts and physical principles that govern radioactivity and the interactions of radiation with matter, the principles, operation and quality control for non-imaging, gas-filled detectors and non-imaging scintillation detectors; also the principles and applications of statistics as they relate to radiation detection and counting. Prereq: Admission to NMMI program and MT 150 (or MA 109) and BIO 137 and BIO 139, or consent of instructor. Coreq: CHE 140 and PH 171 (or 172), NMMI 140 and NMMI 142 and NMMI 150. Lecture 1 credit hour (15 contact hours); lab 1 credit hour (30 contact hours).

**NMMI 142 Radiation Biology/Protection (1)**
Covers interactions of ionizing radiation with human tissues, its potential effects, dosimetry and its relation to exposure. Covers radiation protection principles, applications and NRC regulations. Prereq: Admission to NMMI program and MT 150 (or MA 109) and BIO 137 and BIO 139, or consent of instructor. Coreq: CHE 140 and PH 171 (or PH 172), NMMI 140 and NMMI 141 and NMMI 150. Lecture: 1 cr hr (15 contact hours).

**NMMI 150 Clinic I (2)**
Introduces concepts of clinical practice with application of knowledge and principles from previous general education course work and/or concurrent NMMI courses. Will include actual clinical experience in an affiliated nuclear medicine clinical setting. Prereq: Admission to NMMI program and MT 150 or (MA 109) and BIO 137 and BIO 139 or, consent of instructor. Coreq: NMMI 140, NMMI 141 and NMMI 142. Clinical: 2 credits (180 contact hours).

**NMMI 160 Clinical Procedures II (2)**
Covers imaging of organs and systems in relation to the abdomen and gastrointestinal tract in addition to imaging procedures and quantitative evaluation of the pulmonary system. Prereq: NMMI 140, NMMI 141, NMMI 142 and NMMI 150 with a grade of C or greater, or consent of instructor. Coreq: CHE 150 and 155 lab, NMMI 161 and NMMI 170. Lecture: 2 credits (30 contact hours).

**NMMI 161 Physics and Instrumentation II (2)**
Includes use and quality control of the various types of systems used for scintillation imaging and computed tomography in hybrid imaging. Covers the configuration, function, and application of computers in nuclear medicine. Prereq: NMMI 140, NMMI 141, NMMI 142 and NMMI 150 with a grade of C or greater, or consent of instructor. Coreq: CHE 150 and 155 lab, NMMI 160 and NMMI 170.

**NMMI 170 Clinic II (2)**
Continuation of NMMI 150 Clinic I. Covers clinical practice with application of knowledge and principles from previous general education course work and previous/concurrent NMMI courses. Will include actual clinical experience in an approved nuclear medicine clinical setting. Prereq: NMMI 140, NMMI 141, NMMI 142 and NMMI 150 with a grade of C or greater, or consent of instructor. Coreq: NMMI 160 and NMMI 161. Clinical: 2 credits (180 contact hours).

NMMI 220 Clinic III (2)
Continuation of NMMI 170 Clinic II. Covers application of knowledge and principles from previous general education course work and/or previous/concurrent NMMI courses. Includes actual clinical experience in an affiliated nuclear medicine clinical setting. Prereq: NMMI 160 and NMMI 161 and NMMI 170 with a grade of C or greater, or consent of instructor. Coreq: NMMI 230. Clinical: 2 credits (180 hours).

NMMI 230 Radiopharmacy (2)
Covers procurement, preparation, quality control, dispensing, patient dosage calculation, identification, documentation, administration, disposal, storage, and safe handling of radioactive materials used by the nuclear medicine technologist. Includes commonly used pharmaceuticals in Nuclear Medicine, including dosages, side effects, contraindications, adverse reactions and antagonists, and CT contrast media administration. Prereq: NMMI 160, NMMI 161 and NMMI 170 with a grade of C or greater, or consent of instructor. Coreq: NMMI 220. Lecture: 2 credits (30 contact hours).

NMMI 240 Clinical Procedures III (4)
Covers imaging procedures of the urinary system, central nervous system and endocrine systems including appropriate interventional and challenge procedures. Prereq: NMMI 220 and NMMI 230 with a grade of “C” or greater, or consent of instructor. Coreq: NMMI 260. Clinical: 4 credits (360 contact hours).

NMMI 250 Clinical Procedures IV (4)
Covers oncologic imaging procedures, inflammatory/infectious process imaging procedures, radionuclide therapy procedures, non-imaging procedures related to hematology and vitamin B-12 absorption / excretion and pediatric imaging. Prereq: NMMI 240 and NMMI 260 with a grade of C or greater, or consent of instructor. Coreq: NMMI 270. Lecture: 4 credits (60 contact hours).

NMMI 260 Clinic IV (4)
Continuation of NMMI 220 Clinic III; Covers application of knowledge and principles from previous general education course work and/or previous/concurrent NMMI courses. Will include actual clinical experience in an affiliated nuclear medicine clinical setting. Prereq: NMMI 220 and NMMI 230 with a grade of C or greater, or consent of instructor. Coreq: NMMI 240. Clinical: 4 credits (360 contact hours).

NMMI 270 Clinic V (4)
Continuation of NMMI 260 Clinic IV; Covers application of knowledge and principles from previous general education course work and/or previous/concurrent NMMI courses. Includes actual clinical experience in an approved nuclear medicine clinical setting. Prereq: NMMI 240 and NMMI 260 with a grade of C or greater, or consent of instructor. Coreq: NMMI 250. Lecture: 4 credits (60 contact hours).

NPN 100 Introduction to Nursing & Health Care System (2)
Includes a historical overview of current health care including medical economics, ethical and legal parameters, roles and responsibilities of health care team members with an emphasis on reflective nursing practice. Explores medical terminology, therapeutic communication techniques, concepts of health, health assessment, self care and basic needs related to activities of daily living across the lifespan. Prerequisites: Current CPR card for Health Care Providers; Current certification must be maintained throughout the program. Successful completion of a Medicaid Nurse Aide equivalent course within the past three (3) years or proof of active status on the Medicaid Nurse Aide Registry. Admission into the Practical Nursing Program. Prerequisite or Corequisites: (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Minimum “C” grade.
NPN 105 Development of Care Giver Role (6)
Introduces nursing and the nursing process as related to client activities of daily living across the life span. Provides an opportunity to develop and practice psychomotor skills related to health assessment, promotion, maintenance, and illness prevention.
Prerequisites: Current CPR card for Health Care Providers; Current certification must be maintained throughout the program. Successful completion of a Medicaid Nurse Aide equivalent course within the past three (3) years or proof of active status on the Medicaid Nurse Aide Registry. Admission into the Practical Nursing Program.
Prerequisite or Corequisites: (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Minimum “C” grade.

NPN 110 Pharmacology I (2)
Introduces techniques used to administer medications. Includes dosages, diagnostic studies, related medical therapies, and legal responsibilities.
Prerequisites: Current CPR card for Health Care Providers; Current certification must be maintained throughout the program. Successful completion of a Medicaid Nurse Aide equivalent course within the past three (3) years or proof of active status on the Medicaid Nurse Aide Registry. Admission into the Practical Nursing Program.
Prerequisite or Co-requisites: (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Minimum “C” grade.

NPN 201 Child Bearing Family (3)
Application of nursing process with the childbearing families focusing on health promotion as well as common health alterations in the reproductive process.
Prerequisites: NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Must achieve a grade of “C” or higher in each course.

NPN 125 Mental Health (3)
Applies nursing process to clients experiencing common mental health problems with emphasis on assisting clients to cope with psychological problems throughout the life span--i.e., chemical dependency, violence and other stress and developmental problems related to mental health.
Prerequisites: NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Must achieve a grade of “C” or higher in each course.

NPN 130 Pharmacology II (3)
Study of common drugs by classification and effects with emphasis on responsibility, accountability, and application of the nursing process to drug therapy. Prerequisites: NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Minimum “C” grade.

NPN 135 Introduction to Health Deviation (6)
Application of the nursing process for selected child/adult clients experiencing common health deviations interfering with activities of daily living. Emphasis is on the nurse as the provider of care. Prerequisites: NPN 100 and NPN 105 and NPN 110 and (BIO 135 or BIO 139) and (AHS 100 or PSY 223) or Consent of PN Coordinator. Minimum “C” grade.

NPN 200 Med/Surg I (5)
Applies nursing process to selected child/adult clients experiencing common health deviations interfering with activities of daily living with emphasis is on the nurse as the provider of care. Prerequisites: NPN 125 and NPN 130 and NPN 135 and NPN 201 or Consent of PN Coordinator. Minimum “C” grade.

NPN 205 Med Surg II (5)
Designed to apply the nursing process to child/adult clients experiencing more complex health alterations. The focus is on multi-system failure, fluid and electrolytes, neurological problems, and cellular deviation. Prerequisites: NPN 200. All courses must be achieved with a grade of “C” or higher.

NPN 210 Clinical Practicum (4)
Integrates the theoretical concepts learned throughout the program in application of this knowledge during the direct
care of clients. Promotes critical thinking and problem solving skills during the nursing role performances of provider of care, manager of care, and member within the discipline. Prerequisites: NPN 205. Minimum “C” grade.

**NPN 215 Nursing Trends & Issues (1)**
Prepares the student for the role of the practical nurse. Prerequisites: NPN 125 and NPN 130 and NPN 125 and NPN 201. Minimum “C” grade.

**NR 115 Nursing I (9)**
Introduces nursing and the nursing process as related to the basic human needs of clients throughout the life span. Includes foundation knowledge, concepts and skills with emphasis on health promotion and physical assessment. Prerequisites: Proof of active status on the State Nurse Aide Registry (SRNA) or documentation of successful completion of a minimum 75 hour nursing assistant course, such as NAA 100, or equivalent, within the last three years, is required to enrolling in the first nursing course. Admission to the Associate Degree Nursing Program; BIO 137, and (PY 100 or PSY 100) and (*MA 109 or MT 150 or higher) with a grade of "C" or better, and ENG 101. *Course selected from approved general education list. Prior to or concurrent: PSY 223, BIO 139, *Computer Literacy. *Course selected from approved general education list.

**NR 125 Nursing II (2)**
Covers common drugs based on their classification and their effect upon the basic human needs. Emphasizes nursing responsibility, accountability, and application of the nursing process regarding drug therapy. Credit not available by special examination. Prerequisites: Admission to the Associate Degree Nursing Program.

**NR 235 Nursing III (4)**
Areas of study include the application of the nursing process with the childbearing family focusing on health promotion and the care of families experiencing interferences with basic human needs. Emphasis is on the nurse as a provider of care. Credit not available by special examination. Prerequisites: Completion of NR 115, BIO 139, and PSY 223 with a grade of “C” or better, and Computer Literacy; at least a 2.0 cumulative grade point average. Co-requisite: NR 245 and NR 125.

**NR 245 Nursing IV (4)**
Areas of study include the application of the nursing process to health promotion and interferences with the ability to meet selected basic human needs for child/adult clients. Emphasis is on the nurse as a provider of care. Credit not available by special examination. Prerequisites: Completion of NR 115 and BIO 139 with a grade of “C” or better, PSY 223 and computer literacy; a 2.0 cumulative grade point average. Corequisite: NR 235.

**NR 255 Nursing V (9)**
Areas of study include the application of the nursing process as it relates to health promotion and care of child/adult clients experiencing interferences with the ability to meet selected basic human needs. Emphasis is on the nurse as a provider of care. Credit not available by special examination. Prerequisites: Satisfactory completion of courses required by the first year nursing curriculum as specified; satisfactory completion being "C" or better in each nursing course; BSL 214 prior to or concurrent, at least a 2.0 cumulative grade point average.

**NR 265 Nursing VI (9)**
Course content will focus on the application of the nursing process as it relates to health promotion and care of child/adult clients experiencing interferences with the ability to meet selected basic human needs. Areas of emphasis include the nurse as a provider and manager of care as well as a member of the discipline. Prerequisites: Satisfactory completion of NR 255 and BSL 214 with a grade of “C” or better; at least a 2.0 cumulative grade point average.

**OST 100 Keyboarding (1)**
Students develops skills operating a keyboard by touch.

**OST 101 Keyboarding & Intro to Document Formatting (3)**
Designed to develop skill in operating a keyboard by touch and to develop an introductory level of skill producing standard business documents using a word processing program.
OST 103 Medical Office Terminology (3)
Introduces students to medical terminology including familiar elements, body systems, operative procedures, pharmacology, and methods of researching medical information including, but not limited to, names and descriptions of diseases and drugs.

OST 104 Introduction to Medical Insurance
Introduces students to the basics of medical insurance including: insurance terminology, various coding systems, government programs, and general insurance procedures. Prerequisites: (AHS 115 or CLA 131 or OST 103). Corequisites: (AHS 115 or CLA 131 or OST 103).

OST 105 Introduction to Information Systems (3)
Introduces and familiarizes students with essential computer concepts and terminology including operating systems software, multitasking concepts, disk and file management and telecommunications. Teaches basic competencies in word processing, electronic spreadsheets, presentations, databases, and online skills including networking, electronic mail, Web browsing, and Internet research.

OST 106 Introduction to Medical Transcription (3)
Provides experience in transcription of basic medical dictation; incorporating English usage, machine transcription skills, medical knowledge, and proofreading and editing skills, while meeting progressively demanding accuracy and productivity standards. Prerequisites: Computer literacy course and OST 110 and (ENG 101 or OST 108) and (AHS 115 or CLA 131 or OST 103).

OST 108 Editing Skills for Office Professionals (3)
A hands-on approach to editing business documents. Applies proper placement and structure of business documents. Reviews principles of grammar, punctuation, vocabulary, spelling, word and number usage, and proofreading rules.

OST 109 Legal Terminology (3)
Development of an understanding of the judicial system (discovery, trial, and appellate processes), civil law, criminal law, legal terminology and legal citations commonly used in the legal field. The student will learn to define the terms and use them in legal context.

OST 110 Document Formatting and Word Processing (3)
Provides experience in word processing using industry standard software. Prerequisite: Consent of Instructor

OST 112 Financial Management (3)
Designed to teach students fundamental principles and concepts including: financial markets, futures, bonds, commodities, interest rates, and taxes. The primary emphasis is short and long term financial planning along with interpretation of financial information. Careers in the financial industry discussed.

OST 114 Computerized Financial Management (3)
Accounting concepts and principles are applied using a computerized accounting system. Activities include company setup, preparing a chart of accounts, preparing worksheets, journalizing and posting transactions, entering payroll data and producing financial statements. Computerized accounting software is utilized to automate, analyze, and interpret financial information while applying accounting concepts and principles in an automated accounting system. Prerequisite: ACT 101

OST 120 Legal Office Systems (3)
Provides a working knowledge of the scope of duties required in a legal office environment and instruction in the production of legal documentation. Prerequisite: OST 110.

OST 130 Typography (3)
Introduces the principles of typography, type basics, type aesthetics, how to design with type, parameters of type and how they can be used to produce quality type. Advanced commands and pagination utilizing composition skills, grids, file management and other options such as design standards with business publications are studied.
**OST 150 Transcription and Office Technology (3)**
Produce usable business documents from machine dictation using word processing software, with emphasis on spelling, punctuation, and grammar. Proofreading and editing applications stress the importance of accuracy and quality of document creation and production. Demonstration of office machines will be incorporated. Prerequisites: ENG 101 or Permission of Instructor and OST 110.

**OST 160 Records and Database Management (3)**
Presents aspects of the management of records from creation to disposal, using database software to create and edit files and prepare reports. Prerequisite or corequisite: Computer literacy.

**OST 204 Medical Coding (3)**
Develops medical coding skills using ICD-9, CPT, DRGs, APCs, and HCPCS coding systems as applied. Includes other reimbursement methods and medical insurance concepts. Prerequisites: OST 104 or consent of instructor.

**OST 205 Advanced Medical Coding (3)**
Applies advanced coding rules for various coding systems and applies the rules to code patient services for a variety of payment systems emphasizing payment fraud and/or abuse. Prerequisite or corequisite: OST 204.

**OST 206 Medical Transcription (3)**
Applies advanced concepts of medical transcription and provides advanced practice. Prerequisites: OST 106 or consent of instructor.

**OST 210 Advanced Word Processing (3)**
Students learn to use advanced features of current word processing software to format and produce documents utilized in an office. Prerequisite: OST 110.

**OST 213 Business Calculations for the Office Professional (3)**
Applies skills required for the performance of business tasks: use of numeric keypad to compute payroll, markup/markdown, purchases, loans, discounts, stock and bond transactions; and other business applications.

**OST 215 Office Procedures (3)**
Studies the practices and procedures of current office concepts with emphasis given to the electronic office including: job application procedures, human relations in the office, business ethics, decision-making skills, travel and meeting arrangements, time and stress management, incoming/outgoing mail processes, and telephone procedures. Prerequisite or corequisite: OST 110.

**OST 216 Selected Topics (1-6)**
Special topics expand course offerings, as well as address local office issues as new technology is developed. Topics may vary from semester to semester at the discretion of the instructor; courses may be repeated with different topics to a maximum of six credit hours.

**OST 217 Medical Office Procedures (3)**
Provides a working knowledge of the duties required in a medical office. Includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration. Prerequisite or corequisite: OST 110.

**OST 220 Administrative Office Simulations (3)**
Applies administrative procedures office simulations to include organizing, communicating, scheduling, and analyzing. Emphasizes productivity, efficiency, accuracy, and problem solving. Uses technology to research
information on the Internet and send and receive e-mail. Continues to develop speed and accuracy. Prerequisites: [OST 215 and (OST 240 or CIS 130)] or consent of instructor.

**OST 221 Legal Office Simulation (3)**
Applies classroom experiences and skills in a simulated legal office environment. Prerequisite: OST 110.

**OST 225 Introduction To Desktop Publishing (3)**
Uses desktop publishing software to design and produce high resolution publications such as flyers, brochures, business forms, and newsletters. Introduces basic design techniques, type and graphics layout, and related terminology. Prerequisites: Computer Literacy course and OST 110.

**OST 227 Medical Office Software (3)**
Provides a working knowledge of computer management software in a simulated medical office setting.

**OST 220 Medical Office Software (3)**
Identifies and applies rules and regulations of medical filing systems and procedures. Emphasizes management of both hard copy and magnetic media using alphabetic, numeric, chronologic, and color-coded filing systems. Concepts mastered for file retention and archiving. Discusses legal and ethical aspects of medical records. Prerequisite or corequisite: Computer literacy course.

**OST 235 Business Communications Technology (3)**
Presents aspects of communications technology used in the global business environment, including presentations software; a basic understanding of voice recognition software; planning and composition of written, oral, and electronic communications; grammar, punctuation, and spelling; and principles of proofreading, both manual and electronic. Prerequisites: (ENG101 or OST 118) and OST 110.

**OST 240 Software Integration (3)**
Expands computer skills through the use of spreadsheet, database management, word processing, and presentation software for the integration of information. Prerequisite: Computer literacy course.

**OST 250 Advanced Desktop Publishing (3)**
Provides advanced techniques in electronic publishing design, layout, composition and paste-up. Prerequisites: OST 272 or consent of instructor.

**OST 255 Introduction to Business Graphics (3)**
Provides instruction in the process of image-editing including how to create original artwork, manipulate color, enhance artwork, graphics and retouch photographs and clipart used in desktop publishing programs. Prerequisites: OST 225 or Consent of Instructor.

**OST 272 Presentation Graphics (3)**
Uses industry standard software to create business presentations, business graphics, transparencies, and slides. Applies editing, formatting, page layout and design, and paste-up techniques for clarity and impact. Prerequisite: Computer literacy course.

**OST 275 Office Management (3)**
Management principles and techniques and their applications to the modern business office are included. Emphasis is on information systems and the role of managerial personnel.

**OST 295 Office Systems Technology Internship (1-3)**
Provides the opportunity to apply acquired occupational skills in a realistic setting, enhancing the transition from school to work. Requires approval of OST advisor.

**PGY 206 Elementary Physiology (3)**
An introductory survey course in basic human physiology. Prerequisite: One semester of college biology.

**PH 161: Introductory Physics Laboratory I (1)**
Experiments on heat, sound, and the mechanics of solids, liquids, and gases are performed in this introductory general laboratory course. Laboratory: 2 hours. Prerequisite or concurrent: PHY 151.

**PH 162: Introductory Physics Laboratory II (1)**
Experiments in electricity, magnetism, and light are performed in this introductory general laboratory course. Laboratory: 2 hours. Prerequisite or concurrent: PHY 152

**PH 171 Applied Physics (4)**
Selected topics in mechanics, heat, sound, electricity and magnetism, light, and modern physics are covered in this course. The use of these principles in various applications is emphasized. Prerequisites: MT 110 or MT 115 or MT 120 or MT 122 or two years of high school algebra or equivalent or consent of instructor.

**PH 172 Physics for Health Sciences (2)**
This course will cover basic concepts of motion, forces, momentum, work, energy, power, and waves, as applied in electricity and magnetism, optics, atomic and nuclear physics. Prerequisites: MA 108R or 2 years of high school algebra; or consent of instructor.

**PHB 100 Phlebotomy (6)**
Prepares the student as an integral member of the health-care team and collects blood from patients/donors in hospitals, blood banks or clinics for analysis or other medical purposes. Includes standard precautions, record keeping, and therapeutic communication skills. Lecture: 6 credits (90 contact hours)

**PHB 155 Phlebotomy Clinical (3)**
This course is designed to build on the knowledge acquired in phlebotomy lecture and lab. In this course the student will utilize external institutions for clinical experience to become more proficient in the performance of routine venipuncture and dermal collections. The student will gain the experience needed to handle routine venipuncture complications, and the skills necessary to adequately perform the duties of a phlebotomist. Prerequisites: PHB 151 or PHB 100 with a grade of “C” or higher.

**PHI 100 Introduction to Philosophy: Knowledge and Reality (3)**
An introduction to philosophical studies with emphasis on issues of knowing, reality, and meaning related to human existence.

**PHI 120 Introductory Logic (3)**
A course which treats argumentation, syllogistic and sentential logic. The focus will be on the use of formal methods in the construction and criticism of actual arguments, the aim being to inculcate standards of good reasoning, e.g., clarity, consistency and validity. Credit is not given to students who already have credit for PHI 320.

**PHI 130 Introduction to Philosophy: Morality and Society (3)**
An introduction to philosophical studies with emphasis on a critical study of principles of moral action and social and political values.

**PHI 260 History of Philosophy I: From Greek Beginnings to the Middle Ages (3)**
An introductory study of the development of Western philosophy from ancient through late medieval times including systematic work in logic, metaphysics, epistemology and ethics by such philosophers as Plato, Aristotle, Augustine and Aquinas.

**PHI 270: History of Philosophy II: From the Renaissance to the Present Era (3)**
An introductory study of the development of Western philosophy from early modern to recent times including systematic work in logic, metaphysics, epistemology and ethics by such philosophers as Occam, Descartes, Hume and Kant.

**PHL 110 Bioethics : Moral Issues in Health Care (3)**
By applying major ethical theories to specific moral questions, this course attempts to teach the student to reason ethically about problems concerning health care. Topics such as abortion, euthanasia, care of the dying, paternalism, confidentiality, truth-telling, professional/patient relationships, medical experimentation (informed consent, coercion), professional/patient rights, rights to health care, and allocation of medical resources will be studied.

**PHY 151 Introduction to Physics (3)**
A lecture-demonstration course covering the mechanics of solids, liquids, gases, heat, and sound. Credit is not given to students who already have credit for PHY 201, PHY 211 or PHY 231. Prerequisites: Two years of high school algebra or MT 120.

**PHY 152 Introduction to Physics (3)**
A lecture-demonstration course covering electricity, magnetism, optics, atomic and nuclear physics. Credit is not given to students who already have credit for PHY 203, PHY 213 or PHY 232. Prerequisites: Two years of high school algebra or MT 120.

**PHY 160 Physics and Astronomy for Elementary Teachers (3)**
Course sequence (GLY 160-PHY 160 six credit hours) in physical science for prospective elementary teachers. The sequence addresses basic concepts of earth science, astronomy and physics appropriate for elementary teachers and is taught with an emphasis on inquiry-based, laboratory activities. PHY 160 includes the basics of the motion of objects, astronomy by sight, electrical circuits, magnetism and the behavior of light. Prerequisite: GLY 160.

**PHY 211 General Physics (5)**
First part of a two-semester survey of classical and modern physics, focusing on the motion of solids and fluids as governed by Newton's Laws and by the conservation laws of energy, momentum, and angular momentum. Lecture, two hours; recitation, two hours; laboratory, two hours. Credit is not given to students who already have credit for PHY 231 and 241. Prerequisites: A working knowledge of algebra and trigonometry as obtainable in MA 109 and MA 112, or as demonstrated by an ACT math score of 25 or higher.

**PHY 213 General Physics (5)**
Continuation of PHY 211, covering electrostatics, de circuits, magnetism, Maxwell’s Equations, electromagnetic radiation, light and some modern physics. Credit is not given to students who already have credit for PHY 232 and 242. Prerequisites: PHY 211 or equivalent.

**PHY 231 General University Physics (4)**
First part of a two-semester survey of classical physics. Consequences of the principles of mechanics are developed conceptually, analytically and quantitatively. Familiarity with elementary concepts and techniques of calculus (derivatives and integrals) is required. Prerequisite or concurrent: MA 114.

**PHY 232 General University Physics (4)**
A general course covering electricity, magnetism, electromagnetic waves and optics. This course is a prerequisite to a significant number of courses in this and related areas of study. Familiarity with elementary vector calculus is encouraged. Prerequisite: PHY 231; concurrent: MA 213.

**PHY 241 General University Physics Laboratory (1)**
A laboratory course offering experiments in mechanics and heat, framed in a small group environment that requires coordination and team work in the development of a well-written lab report. Prerequisite or concurrent: PHY 231.

**PHY 242 General University Physics Laboratory (1)**
A laboratory course offering experiments in electricity, magnetism, and light, framed in a small group environment that requires coordination and team work in the development of a well-written lab report. Prerequisite: PHY 241; concurrent: PHY 232.
PS 101 American Government (3)
A survey of national government and the political process in the United States, with emphasis on the Constitution, the President, Congress and the judicial system.

PS 212 Culture and Politics of the Third World (3)
This course analyzes the politics of selected states in Africa, Asia, and Latin America. Various bases of political cleavage and cooperation will be examined: ethnicity, language, social class and ideology. Cultural differences between Africa, Asia, and Latin America will be identified and their political implications explored, as well as differences within geo-cultural areas.

PS 235 World Politics (3)
A study of the most significant problems of world politics, including the fundamental factors governing international relations, the techniques and instruments of power politics, and conflicting the interests in organizing world peace.

PS 255 State Government (3)
An introduction to the institutions, political processes and policies of state governments, and the relationships of state governments with other levels of government in the United States.

PS 271 Introduction to Political Behavior (3)
The study of behavior in a political context: the analysis of basic behavioral concepts used in political science such as political roles, group behavior, belief systems, personality, power and decision-making.

PS 280 Issues in Public Policy (3)
An examination of selected major public problems, focusing on their nature, political ramifications and alternate methods of dealing with them. Policies covered will vary from semester to semester, but will include such areas as poverty, health care, energy, education, race relations environment, etc. Prerequisite: PS 101.

PSY 110 General Psychology (3) Effective Spring, 2011.
Introduces the history, methods and content of modern psychology. Covers the history and systems of psychology, psychological research, physiological psychology, psychological processes, developmental psychology, personality, abnormal behavior and social psychology. Prerequisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading course(s).

PSY 180 Human Relations (3) Effective Spring, 2011.
Explores the sociological and psychological forces that affect interpersonal relationships as individuals work and live together. Prerequisite: ACT, COMPASS, or ASSET scores for college level reading OR completion of developmental reading course(s).

PSY 185 Human Potential (3) Effective Spring, 2011.
Introduces the principles of relating to self and others and focuses upon self-growth.
PSY 195 Orientation to Psychology (1)
An orientation to educational issues and career planning for students who have declared psychology as a major. Topics include career paths and opportunities, professional resources and issues, and educational planning. Pass/Fail only. Prerequisites: Declared major in Psychology, or consent of instructor.

PSY 215 Experimental Psychology (4)
A study of the application of scientific methods to psychological research. Special emphasis is placed on the critical evaluation of contemporary research in experimental psychology. Particular attention is focused on the design, execution, and written report of laboratory research. Prerequisites: PSY 100 and sophomore standing, or consent of instructor.

PSY 216 Applications of Statistics in Psychology (4)
An introduction to statistical procedures used in making decisions based on psychological data. May not be used to satisfy the laboratory requirement in the College of Arts and Sciences. Prerequisite: PSY 100.

PSY 223 Developmental Psychology (3)
Introduces the principles of developmental psychology as seen in human growth over the entire lifespan, focusing primarily on infancy through adolescence. Emphasizes theory and data relating to developmental aspects of cognition, language, and personality. Prerequisites: PSY 100 or equivalent. (Same as FAM 254.)

PSY 230 Psychosocial Aspects of Death and Dying (3) Effective Spring, 2011.
Examines the biopsychological, sociological, and psychological aspects of death and dying. Covers the behavior and attitudes associated with death in preparation for dealing with dying and bereavement. Prerequisite: PSY 110 or SOC 101, or consent of instructor.

PSY 297 Psychology of Aging (3) Effective Spring, 2011.
Provides an overview of the demographics of aging, theories of aging and research methods used to study adult development. Examines the biological, psychological and social impact of aging, longevity work, retirement, death and bereavement. Prerequisite: PSY 110 or consent of instructor.

PY 110 General Psychology (3)
Introduces the history, methods, and content of modern psychology to include the history and systems of psychology, psychological research, physiological psychology, psychological processes, developmental psychology, personality, abnormal behavior, and social psychology. Prerequisites: Current ACT score or current COMPASS or current ASSET score for college level reading established by KCTCS, OR RDG 030, or consent of instructor. (Effective Spring, 2011, PY 110 will become PSY 110.)

PY 230 Psychosocial Aspects of Death and Dying (3)
A one-semester course designed for students who have completed at least one semester of an introductory psychology or sociology course, or its equivalent. Focus will be on the understanding of the biopsychological, sociological and psychological aspects of death and dying. The primary goal of the course is to help the individual recognize the behavior and attitudes associated with death in preparation for dealing with dying and bereavement. Prerequisites: Introductory psychology or sociology, or consent of instructor.
PY 297 Psychology of Aging (3)
An overview of the demographics of aging, theories of aging and research methods used to study adult development. The course will examine the biological, psychological and social impact of aging, longevity, work, retirement, death and bereavement. Prerequisites: PY 110 or PSY 100 or consent of instructor.

PY 298 Essentials of Abnormal Psychology (3)
An historical overview of the services provided to individuals with mental illness and theories of personality development. Assessment, diagnosis and treatment of the major mental disorders, and the biological, psychological, and sociological contributing causation factors are discussed. Prerequisites: PY 110 or PSY 100 or consent of instructor.

RADI 100 Radiography I (7)
Emphasizes historic perspective, professional ethics, introductory imaging, x-ray tube, patient management, and the role of the radiographer as a member of the health care team. Applies the principles of human anatomy to the study of fundamental radiographic procedures (exposure factors and patient positioning) used for different age groups. Covers procedures of the chest, abdomen, extremities, shoulder girdle, bony thorax, and pelvic girdle. Prerequisite: BIO 139 or equivalent at other regionally accredited college/university. Co-requisite: RADI 101.

RADI 101 Clinical I (4)
Provides experience with equipment operation, application of patient care, set-up correct technical factors for radiographic exposures, and positioning patients accurately for radiographic exams. Prerequisite: CPR must be obtained prior to enrolling in RADI 100 and certification must be kept current throughout the program. Admission to the Radiography program: BSL 110 & 111 or equivalent at other regionally accredited college/university. Co-require: RADI 100

RADI 110 Radiography II (7)
Continues Radiography I. Emphasizes radiographic imaging, related technical factors and accessories. Provides the opportunity to apply the principles of human anatomy to the study of fundamental radiographic procedures (exposure factors and patient positioning) used for different age groups. Includes discussion of procedures of the basic and complex skulls, vertebral column, alimentary canal, biliary, urinary system, and tomography. Covers special radiographic examinations and equipment. Prerequisite: RADI 100 with a grade of “C” or greater. Co-require: RADI 111

RADI 111 Clinic II (4)
Continues RADI 101Clinical I. Provides experience with equipment operation, application of patient care, set-up of correct technical factors for radiographic exposures, and positioning patients accurately for radiographic exams. Provides opportunities for more responsibility and independence with previously learned procedures. Prerequisite: RADI 101 with a grade of “C” or greater. Co-require: RADI 110

RADI 201 Clinical III (3)
Continues RADI 111Clinical II. Provides experience with equipment operation, application of patient care, set-up of correct technical factors for radiographic exposures, and positioning patients accurately for radiographic exams. Provides opportunities for more responsibility and independence with previously learned procedures. Requires performance of a critical evaluation of the finished radiograph with emphasis on acceptable technical exposure factors and accurate patient and anatomical position. Prerequisite: RADI 111 with a grade of “C” or greater.

RADI 210 Radiography IV (4)
Covers theories and principles involved in the production, control, and application of ionizing radiation in radiography. Emphasizes the development of a quality assurance program, quality control testing of radiographic equipment, and image intensification. Prerequisite: RADI 201 with a grade of “C” or greater. Co-require: RADI 211
RADI 211 Clinical IV (6)
Continues RADI 201 Clinical III. Provides experience with equipment operation, application of patient care, set-up of correct technical factors for radiographic exposures, and positioning patients accurately for radiographic exams. Provides opportunities for more responsibility and independence with previously learned procedures. Prerequisite: RADI 201 with a grade of “C” or greater. Co-requisite: RADI 210

RADI 220 Radiography V (4)
Introduces equipment and advanced modalities used to complement diagnostic radiology. Includes principles of radiation biology, radiation protection, pathology and the systematic classifications of disease. Provides for a discussion of professional and legal standards. Prerequisite: RADI 210 with a grade of “C” or greater. Co-requisite: RADI 221

RADI 221 Clinical V (6)
Continues RADI 211 Clinical IV. Provides experience with equipment operation, application of patient care, set-up of correct technical factors for radiographic exposures, and positioning patients accurately for radiographic exams. Provides opportunities for more responsibility and independence with previously learned procedures are provided. Prerequisite: RADI 211 with a grade of “C” or greater. Co-requisite: RADI 220

RAE/CHI 150 Beginning Chinese I (4)
A course in first semester Chinese language.

RAE/CHI 151 Beginning Chinese II (4)
A course in second semester Chinese language. Prerequisite: RAE 150 or equivalent.

RDG 20 — Improved College Reading (3)
Improves proficiency in reading comprehension, vocabulary, and critical thinking skills, and prepares students for college and career reading through individualized and/or group instruction practice. Prerequisite: As determined by KCTCS Placement Policy. Lecture: 3 credits (45 contact hours).

RDG 30 — Reading for the College Classroom (3)
Improves critical reading skills by developing vocabulary techniques, active reading strategies comprehension accuracy, and interpretation of visual elements in text. Applies theories and strategies taught in the course to college and career reading materials. Prerequisite: As determined by KCTCS Placement Policy, or successful completion of RDG 020. Lecture: 3 credits (45 contact hours).

RDL 230 Sectional Anatomy for Advanced Imaging (3)
Digital images will be used to aid technologists in recognizing, locating, and identifying normal and abnormal anatomy. Areas of concentration will include the head, spine, soft tissue neck, thorax, abdomen, male and female pelvis, and upper and lower extremities. Prereq: Technologists registered by the American Registry of Radiologic Technologists or Nuclear Medicine Technology Certification Board, or students who have completed one year and are currently enrolled in an accredited Radiography or Nuclear Medicine Program, or consent of instructor. Lecture: 3 credits (45 contact hours).

RDL 250 Computed Tomography Physics and Instrumentation (3)
The student will be provided with knowledge about the physics of computed tomography (CT) image production and the equipment necessary to produce these images. History of CT development, basic principles of image production, use of computers to create the CT image, methods of acquisition, image display, radiation dose, patient safety, definition of terminology specific to CT, equipment characteristics and utilization, enhancement techniques and basic site planning requirements will be included. Prerequisites: RDL/RAD 230, RDL/RAD 240, and a basic computer course, or consent of instructor.

RDL 255 Magnetic Resonance Physics and Instrumentation (3)
Basic principles of magnetic resonance imaging will be introduced. Areas of concentration will include historical development, magnetic theory, instrumentation necessary for the production of magnetic resonance images, and basic pulse sequences. Prerequisites: Technologists registered by the American Registry of Radiologic
Technologists or Nuclear Medicine Technology Certification Board, or students who have completed one year and are currently enrolled in an accredited Radiography or Nuclear Medicine program, and RDL/RAD 230 and RDL/RAD 240, or consent of instructor.

**RDL 265 Magnetic Resonance Imaging Technology (3)**
Magnetic resonance (MRI) image quality, artifacts, advanced imaging techniques including cardiac gating and magnetic resonance angiography, fast and ultrafast scanning techniques and spectroscopy will be discussed. Students will be provided with safety considerations for patients and others. Prerequisites: RDL/RAD 255 or consent of instructor.

**RE 100 Real Estate Principles I (3)**
A general introduction to real estate as a business and as a profession, designed to acquaint the student with the wide range of subjects necessary to the practice of real estate. Topics include license law, ethics, purchase and listing agreements, brokerage, deeds, financing, appraisals, mortgages, and real estate property managements.

**RE 120 Real Estate Marketing (3)**
Marketing and selling of real estate properties are included. Topics emphasized are: qualifying prospects, preparing for property showing, negotiating the sale, developing a five-year goal plan, and managing time. Computer applications are utilized in the course.

**RE 121 Appraising (3)**
Appraising residential real estate for loans, estates, condemnations, and listings, and the factors that contribute to the value of real estate are addressed. The 3 methods of estimating value are included, with emphasis given to the market data approach. Prerequisite: RE 100

**RE 122 Construction and Blueprints (3)**
The basic concepts of construction, design, and blueprint reading are included.

**RE 200 Real Estate Principles II (3)**
Real Estate Principles I with emphasis on license law, finance, property management, marketing, land planning and development, brokerage management, fair housing, and appraising. Prerequisite: RE 100.

**RE 201 Property Management (3)**
The basics of managing income-producing real property are examined and applied. Topics include management plans, tenant selection, marketing and advertising, accounting methods, net operating income statements, maintenance, and the Landlord Tenant Act. Prerequisite: RE 100.

**RE 202 Real Estate Investments I (3)**
A general introduction to the various types of real estate investments. A comparison of investments in real estate with other types of investments. Basic fundamentals of investment analysis and terminology.

**RE 220 Real Estate Brokerage Management (3)**
A study of the basic real estate principles and theories as they apply to real estate brokerage management are included. Topics included are: legal and work environment; brokerage management concepts; employment agreements; personnel selection, compensation, and management; policy manuals; listing and marketing management; and financial control.

**RE 225 Real Estate Finance (3)**
All aspects of real estate finance are examined, including financial instruments, financial institutions, buyer qualifications, and mortgage markets. Governmental influence, risk analysis, and financing of income producing properties are included. Prerequisite: RE 100.

**RE 230 Real Estate Law (3)**
The laws and regulations pertaining to real estate and related environmental issues are studied. Topics include: ownership rights, title examination, planning and zoning, contracts of sale, Fair Housing regulations, agency issues, court systems and recent court decisions.
RE 299 Selected Topics in Real Estate (Topic) (1-3)
Topics are presented to expand course offerings as new technology and information are developed, as well as to address local real estate needs. Topics may vary from semester to semester at the discretion of the instructor. May be repeated to a maximum of six credit hours. Prerequisite: Consent of instructor.

RCP 110 Cardiopulmonary Anatomy & Physiology (3)
Provides an in-depth analysis of the respiratory and circulatory systems with emphasis on the interaction of systems in gas exchange and acid-base balance as well as the structure and function of the chest cage mechanics of breathing and control of respiration. Prerequisite: BIO 137 with a grade of C or better. Corequisite: BIO 137.

RCP 122 Fundamentals of Respiratory Care (4)
An introduction to respiratory care including chest physical assessment, medical gas therapy, humidity and aerosol therapy, bronchial hygiene, airway management, medical asepsis and development of the respiratory care plan. Prerequisites: MAH 151 or MA 109, BIO 137 and BIO 139 with a grade of "C" or better, or consent of instructor.

RCP 121 Respiratory Care Practice I (1)
Emphasizes the health care team while practicing techniques of basic respiratory care including airway management and bronchial hygiene. Prerequisite: Concurrent with or successful completion of RCP 120 and valid Health Care Provider CPR card. Prerequisite or Corequisite: RCP 120.

RCP 130 Cardiopulmonary Pharmacology (2)
Provides an in-depth study of pharmacological agents, their use in the practice of respiratory care for patients with cardiovascular or pulmonary impairment as well as accuracy in drug calculations and delivery. Prerequisite: (RCP 110 and (MT 110 or MT 145 or MT 150) with a grade of C or better). Corequisite: RCP 110 and (MT 110 or MT 145 or MT 150).

RCP 140 Cardiopulmonary Assessment (2)
Addresses the normal structure and function of the respiratory and cardiovascular systems including acid-base physiology. Prerequisite: [(RCP 110 and RCP 122 and RCP 130 and RCP 150) with a grade of C or better] or consent of instructor.

RCP 176 Respiratory Care Practice II (2)
Students will participate in the health care team while practicing techniques of respiratory care including airway management and bronchial hygiene in the assigned setting. Clinical: 3 credits (180 contact hours). Co/Prerequisite: RCP 150 with a grade of C or better.

RCP 185 Introduction to Mechanical Ventilation (2)
Introduces the technological aspects of mechanical ventilation including the theory of operation classification and patient-ventilator system checks. Prerequisite: [(RCP 140 and RCP 176) with a grade of C or better] or consent of instructor.

RCP 201 Respiratory Care Practice III (2)
Provides practice in adult mechanical ventilation procedures and airway management in the critical care setting in addition to continued performance of the basic respiratory care skills. Prerequisite: [(RCP 140 and RCP 176) with a grade of C or better] or consent of instructor.

RCP 195 Patient-Ventilator System Management (4)
Addresses advanced concepts in ventilatory support including monitoring and management of the patient-ventilator system. Prerequisite: [(RCP 185 and RCP 201) with a grade of C or better] or consent of instructor.

RCP 210 Cardiopulmonary Pathophysiology (3)
Addresses the etiology, diagnosis, clinical manifestations and management of cardiopulmonary disorders as related to respiratory care. Prerequisite: [RCP 110 or (RCP 201 and RCP 185) with a grade of C or better] or consent of instructor.
RCP 226 Respiratory Care Practice IV (4)
Provides observation and practice in advanced cardiopulmonary evaluation techniques while improving efficiency in the ventilatory management of adult patients. Prerequisite: [(RCP 176 and RCP 185) with a grade of C or better] or consent of instructor.

RCP 212 Neonatal/Pediatric Respiratory Care (3)
Addresses the normal structure and function of the respiratory and cardiovascular systems including acid-base physiology. Prerequisite: [RCP 110 or (RCP 185 and RCP 201) with a grade of C or better] or consent of instructor. Prerequisite or Corequisite: RCP 190 with a grade of C or better or consent of Instructor.

RCP 228 Preventive & Long-term Respiratory Care (2)
Covers prevention of cardiopulmonary disorders and care of individuals with long term cardiopulmonary disability. Addresses psychosocial and physical needs of clients with emphasis on improving the quality of life and cardiopulmonary reserve. Prerequisite: [RCP 110 or (RCP 195 and RCP 210 and RCP 212 and RCP 226) with a grade of C or better] or consent of instructor.

RCP 240 Advanced Cardiopulmonary Evaluation (3)
Addresses cardiopulmonary assessment including hemodynamic monitoring, pulmonary and cardiac exercise/stress testing, advanced cardiac procedures, blood chemistry and fluid and electrolyte balance. Prerequisite: [RCP 195 and RCP 210 and RCP 212,and RCP 226] with a grade of C or better] or consent of instructor.

RCP 245 Advanced Cardiopulmonary Life Support (2)
Focuses on managing acute cardiovascular emergencies including cardiac arrest, acute myocardial infarction and stroke. Students demonstrating essential knowledge and skills and obtaining 85% or greater on the written exam will receive an American Heart Association ACLS provider card.

RCP 260 Respiratory Care Seminar (1)
Analyzes material previously studied in the program and prepares students for the National Board for Respiratory Care examination. Addresses job seeking skills. Prerequisite: [(RCP 200 and RCP210 and RCP 212 and RCP 225) with a grade of C or better] or consent of instructor.

RCP 251 Respiratory Care Practice V (4)
Prepares students to plan, manage, and deliver respiratory care to diverse client populations in various settings. Enables students to practice mechanical ventilation techniques and observe/practice techniques of advanced life support. Prerequisite: [(RCP 195 and RCP 210 and RCP 212 and RCP 226) with a grade of C or better] or consent of instructor.

RS 101 Introduction to Religious Studies (3)
An introductory study of religion with emphasis upon the varieties, differences, and similarities of religious experience and expression. The course will examine, through selected examples, the interaction between religious experience and expression and their particular social and cultural contexts.

RS 102 Philosophy of Religion (3)
Introduces students to the philosophical plausibility of religious belief; explores religious belief as an answer to questions about ultimate human destiny and the origin of evil in the universe.

RS 130 Introduction to Comparative Religion (3)
Comparative study of major world and selected regional religions with emphasis on analysis of belief, ritual, artistic expression and social organization. Eastern and Western religions are considered. (Same as ANT 130.)
SCI 295 Scientific Investigations (3)
Provides real-time, hands-on research projects using the scientific method, for presentation at the KCTCS Conference for Student Research or other scientific meetings. Students prepare research projects for inclusion in the course text, Handbook of Procedures Using the Scientific Method. Prerequisites: Mathematics, reading and English assessment placement scores above developmental levels or completion of requisite developmental courses. Completion of three credit hours of general education science are in which the research project will be carried out with grade of “B” or higher. Consent of instructor.

SDC 100 College Survival Seminar (1)
This course is designed to introduce new students to college in order to facilitate a successful college experience. Students will discover campus resources and support services available to them. Students will be introduced to career and life planning, study strategies, coping skills (i.e., stress management, interpersonal relationships), team projects, activities aimed at self discovery, and issues that impact college campuses and our global society that are important to the development of the modern college student.

SDC 102 Stress Management (1)
Students will review various physiological and psychological approaches to stress with an emphasis on creating an awareness of how to change and manage their responses to stressful situations. Options and appropriate exercises for coping with anxiety will be presented. Topics will include time management, cognitive restructuring, health, wellness and relaxation training.

SDC 105 Career Planning Seminar (1)
Students will become more knowledgeable about themselves and career options. Self-assessments and vocational inventories measuring interests, work values, skills and abilities will be administered to students. Students will learn how to research careers, career alternatives and employment trends. Topics will include goal setting, decision-making and employability skills. Students will complete a personal career plan at the conclusion of the course.

SDC 109 Employability Skills (1)
This course is designed to prepare students for the world of work. Students will be introduced to self and career assessment, employability skills (i.e., the application process, resume writing, interviewing, and follow-ups), and the job market and job search strategies.

SED 115 Heritage and Culture of Deaf People (3)
Overview of the psychological, sociological and cultural impacts of deafness upon children and adults. Explores how deafness can affect the individual's development in language, communication, cognition and psychological-emotional growth. Examines historic relations between deaf and hearing, and compares deaf culture with that of the hearing world.

SET 100 Introduction to Small Engine Repair (3)
This course introduces the student to small engines and their various applications. Also included are the identification and demonstration of hand tools, special tools, and measuring tools. It covers the selection and use of shop manuals and applying safety procedures when working with small engines.

SET 110 Basic Small Engine Theory (3)
This course introduces the student to the principles of construction and operation of internal combustion engines including the definitions of the following trade terms: valve overlap, reed value, two-stroke cycle engine and four-stroke cycle engine. Co-requisite: SET 100.

SET 111 Basic Small Engine Lab (1)
This course provides applications of the theory presented in SET 110. It includes hands-on experience, step-by-step procedures for disassembling engines, identification of engine components, inspection of parts, performing precision measurements on crankshaft, cylinder bore and valves, and the reassembly of the engines. Co-requisite: SET 110.

SET 116 Introduction to Marine Technology (3)
This course introduces the student to outboard and inboard motors and boats, safety practices and the operation of two-cycle and four-cycle motors.
SET 117 Marine Electrical and Fuel Systems (2)
This course presents electrical theory and applications for the marine technician including the marine battery, starter systems, alternator charging systems, and fuel systems.

SET 118 Powerhead Overhaul (3)
This course presents instruction in overhauling two-cycle engines and repairing and/or replacing ignition systems.

SET 119 Powerhead Overhaul Lab (1)
This course presents hands-on experience in overhauling two-cycle motors, tuning-up motors and repairing and/or replacing ignition systems. Co-requisite: SET 118

SET 120 Mid-Section, Lower Unit and Trim/Tilt (3)
This course presents the theory and application necessary to repair and/ or replace parts in the mid-section, lower unit, and trim/tilt systems in marine applications.

SET 121 Mid-Section, Lower Unit and Trim/Tilt Lab (2)
This course presents hands-on instruction in the theory necessary to repair and/or replace parts in the mid-section, lower units, and trim/tilt systems in marine applications. Co-requisite: SET 120.

SET 122 Four-Cycle Engine/Stern Drive (3)
This course presents the theory and application of repair and overhaul methods for the four-cycle engines, and how to make repairs of various stern drive systems.

SET 123 Four-Cycle Engine/Stern Drive Lab (1)
This course presents hands-on training in the theory and application of repair and overhaul methods for the four-cycle engines, and how to make repairs of various stern drive systems. Co-requisite: SET 122.

SET 200 Electrical Systems (3)
This course presents electrical systems and their application. Basic electrical theory, including electrical pressure, current, resistance and power measured in volts, amperes, and ohms is also presented. Ohm’s law will be discussed with its application to electrical circuits. Basic circuits (series, parallel, and combination of series and parallel) will be discussed.

SET 201 Electrical Systems Lab (1)
This course presents hands-on training in electrical systems and their application. Basic electrical theory, including electrical pressure, current, resistance and power measured in volts, amperes, and ohms is presented. Ohm’s law will be discussed with its application to electrical circuits. Basic circuits (series, parallel, and combination of series and parallel) will be discussed. Co-requisite: SET 200

SET 210 Ignition/Charging Systems (3)
This course presents ignition/charging systems theory, the principle of operation of a generator/alternator system, and component identification and application.

SET 211 Ignition/Charging Systems Lab (1)
This course presents hands-on experience with ignition/charging systems, the principle of operation of a generator/alternator system, and component identification and application. Co-requisite: SET 210.

SET 220 Fuel Systems (3)
This course introduces fuel systems used on two-cycle and four-cycle engines: the basic types, components, the types of carburetors, the types of fuel filters, and the types of fuel pumps and air filters.

SET 221 Fuel Systems Lab (1)
This course provides hands-on experience with fuel systems. The student will diagnose carburetor problems, rebuild diaphragm-type and float type carburetors, test carburetors and make needed adjustments, and adjust the governor according to manufacturers’ specifications on two-cycle and four-cycle engines Co-requisite: SET 220.
SET 230 Introduction to Motorcycle Technology (3)
This course will introduce the student to motorcycle repair. It will cover the career of the motorcycle repair technician, including entry-level skills, advancement opportunities and activities performed at a dealership. Safe working practices, accident prevention, proper lifting, and recognizing typical hazards around a motorcycle service department will be stressed.

SET 231 Motorcycle Chassis Systems (3)
After completion of this course, the student will be able to identify front fork components and service procedures for the steering assembly. The student will be able to identify the service requirements for final drives and the front fork. Instruction will be given in the inspection of brake systems, safe handling of brake fluid, replacing brake shoes and pads, and bleeding hydraulic brake systems.

SET 233 Carburetors and Fuel Systems (2)
The student will be able to identify parts of a motorcycle carburetor and discuss the components and operations of various carburetor circuits. The student will also be able to remove, clean, and install a carburetor and remove, clean and install a fuel valve.

SET 235 Clutches and Starter Systems (1)
Upon completion of this course the student will be able to discuss starter systems found on motorcycles and have a working knowledge of servicing kick and electric starters. The student will also be able to identify parts of a clutch, discuss guidelines for clutch service and be able to remove, disassemble, inspect and reassemble a motorcycle clutch.

SET 237 Engine Tune-Up (2)
After completion of this course the student will be able to perform motorcycle engine tune-ups including: ignition systems, replacing points and condensers, adjusting and verifying timing and service guidelines.

SET 239 Tools and Measurements (1)
After completing this course the student will be able to list and demonstrate the ability to use the tools of the motorcycle technician, including hand tools, power tools, measuring instruments and specialty tools.

SET 240 Four Stroke Cycle Engine (3)
This course presents theory, repair and overhaul methods of four-cycle engines. The student will learn to inspect engines for problems, follow service manuals for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance and valve train components. The student will use special tools including a cylinder hone, valve guide reamer, valve seat cutter, and valve grinder and demonstrate safety practices while using this equipment.

SET 241 Four Stroke Cycle Engine Lab (1)
In this course, students repair and overhaul four-cycle engines, inspect engines for problems, follow service manual specifications needed for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance and valve training components. Students will use the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while using the equipment. Co-requisite: SET 240.

SET 250 Two Stroke Cycle Engine (3)
This course presents theory, repair and overhaul methods of two-stroke cycle engines. Students learn to inspect engines for problems, follow a service manual for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance and valve training components. This course introduces students to the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while using equipment.

SET 251 Two Stroke Cycle Engine Lab (1)
Students repair and overhaul two-cycle engines. Students disassemble, inspect, and service cylinder, piston rings and connecting rod, crankshaft and crankcase assembly, and demonstrate effective safety practices while using special equipment. Students also reassemble and test engines and components to standards set by manufacturer. Co-requisite: SET 250.
SET 255 Chassis Systems (2)
This class presents hands-on application of the theory, repair, and overhaul methods of manual and hydrostatic transmissions. It includes how to inspect, diagnose, and repair manual and hydraulic steering systems and deck assemblies. The student will also learn how to perform preventative maintenance, adjust wheel bearings, check steering alignment and remove and replace tires. This course will introduce the student to special tools, tire changers, and the safety practices associated with the use of this equipment.

SET 257 Welding for Small Engines (1)
This class introduces students to the art and science of welding. Students learn to prepare the equipment and to perform basic welding operations.

SET 259 Portable Two Cycle Equipment Lab (2)
This class will enable the student to identify the external parts of the equipment, operate equipment, handle and mix fuel, and transport and handle trimmers and saws. Instruction will be given to identify and diagnose related problems in chain saws, trimmers and other two-stroke cycle equipment.

SET 298 Practicum (2)
Practicum provides supervised on-the-job work experience related to the student’s education objectives. Students participating in practicum do not receive compensation. Prerequisite: Permission of instructor.

SET 299 Cooperative Education (2)
Co-op provides supervised on-the-job work experience related to the student’s educational objectives. Students participating in the Co-op Education Program receive compensation for their work. Prerequisite: Permission of instructor.

SOC 101 Introductory Sociology (3)
Introduction to the concepts and methods of sociology. Investigation of socialization, group processes, social institutions and social change. Student may not receive credit for both this course and GEN 102.

SOC 152 Modern Social Problems (3)
An introductory course involving an examination of selected social problems of the day. Topics may include family, poverty, education, crime, race, housing, population, health care, industrial development, and power. Prerequisites: SOC 101 or SOC 151 or equivalent social science background.

SOC 235 Inequality in Society (3)
Analysis of the nature, development, and persistence of inequality in various societies. Diverse dimensions of inequality are viewed as the basis for a number of specific social problems in Western and non-Western societies. Social origins of inequality are emphasized. Policy implications are addressed. Prerequisites: Three hours of sociology or equivalent social science background.

SOC 260 Population, Resource, and Change (3)
The interrelationship among population variables (size, composition, change), social systems, and environmental conditions will be explored from an issue of problems approach. The tools of populations studies will be introduced and used to examine how population influences society and mankind’s use of the environment. Prerequisites: Three hours of sociology or equivalent social science background.

SOC 299 Special Introductory Topics in Sociology (Subtitle required) (3)
An introductory study of a selected topic in sociology. Topics may include, but are not limited to, industrial sociology, sociology of aging, sex roles, criminology, stratification and urban sociology. May be repeated to a maximum of six credits under different subtitle. Prerequisites: Three hours of introductory level sociology or consent of instructor.

SPA 101 Elementary Spanish I (spoken approach) (4)
This course is designed to introduce basic modes of communication in Spanish. The emphasis is on everyday language which the students will learn by applying essential grammatical structures to vocabulary. Both listening
and reading comprehension are stressed. The textbook provides instructional assignments and self-correctional exercises. Not open to students who have credit for SPI 141.

**SPA 102 Elementary Spanish II (spoken approach) (4)**
A continuation of SPI 101. Not open to students who have credit for SPI 142. Prerequisites: SPA 101 or consent of the department and placement test.

**SPA 201 Intermediate Spanish III (spoken approach) (3)**
Review and reinforcement of grammatical and phonological patterns. Emphasis will be given to developing reading, listening and speaking skills based on contemporary texts. Not open to students who have credit for SPI 241. Prerequisites: SPA 102 or consent of department and placement test.

**SPA 202 Intermediate Spanish IV (spoken approach) (3)**
Continuation of SPI 201. Not open to students who have credit for SPI 242. Prerequisites: SPA 201 or consent of department and placement test.

**STA 200 Statistics: A Force in Human Judgment (3)**
This course is concerned with the interaction of the science and art of statistics with our everyday lives emphasizing examples from the social and behavioral sciences. The student will not be required to learn mathematical formulas. Topics include the nature of statistics, uses and misuses of statistics, the scope and limitations of statistics, criteria by which published statistics may be judged, interpretation of probability and the art of decision making. Prereq: Completion of the mathematics basic skills requirement.

**STA 291 Statistical Method (3)**
Introduction to principles of statistics. Statistical description of sample data including frequency distributions, measures of central tendency, and measures of dispersion. Theoretical distributions, statistical estimation, and hypothesis testing. Introduction to simple linear regression and correlation. Prereq: MA 113, MA 123 or equivalent.

**SUR 100 Surgical Technology Fundamentals Theory (12)**
Provides a brief overview of the history of surgery and an in-depth introduction of the role and responsibilities of the surgical technologists, an integral health care professional in the delivery of perioperative patient care and surgical services. Includes professional responsibilities, legal and ethical considerations, interpersonal relationships and communication skills. The course also incorporates safety, aseptic technique and duties of the scrubbed and the circulating surgical technologist during a surgical procedure. It provides in-depth information for the successful preparation performance and completion of basic surgical procedures. Specialty areas of general surgery, ob/gyn with attendant specialty equipment are addressed. It further introduces the theory of abdominal incisions, wound closures, and standard precaution skills in each clinical assignment. Prerequisites: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 227 or BIO 118 or AHS 130). Current CPR certification for healthcare professionals. All prerequisites must be achieved with a grade of “C” or greater. Co-requisites: SUR 101 and SUR 125 and SUR 130.

**SUR 101 Surgical Technology Fundamentals Lab (1)**
Addresses skills in preparing the patient, operating room, basic equipment, supplies, and performance of the daily functions of an operating room team member. Incorporates safety, aseptic technique, and duties of both the scrubbed and circulating technologist during a surgical procedure, following OSHA standards. **Students must successfully complete SUR 101 prior to being eligible to participate in SUR 125; failure to successfully complete SUR 101 leads to being administratively withdrawn from the program. (SUR 101 is usually offered the first half of the semester.)**
Prerequisites: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 227 or BIO 118 or AHS 130). Current CPR certification for Healthcare Professionals. All prerequisites must be achieved with a grade of “C” or greater. Co-requisites: SUR 130. Prerequisites or Co-requisites: SUR 100 or (SUR 109 and SUR 110). If prerequisite, the student must achieve a grade of “C” or greater.
SUR 103 Surgical Technology Didactic Practicum (1)
Provides additional experience in the following areas as needed by the individual student: preparation and maintenance of operating room physical environment, patient preparation, scrub, gown and glove, setup (instrumentation, equipment, supplies) and counts. Recommended to accompany SUR 101. This course is Pass/Fail. Prerequisites: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (AHS 130 or BIO 225 or BIO 227 or BIO 118). Current CPR certification for healthcare professionals. All prerequisites must be achieved with a grade of “C” or greater. Co-requisites: SUR 101 and SUR 130 and [SUR 100 or (SUR 109 and 110)].

SUR 125 Surgical Technology Skills Practicum (2)
Provides students with experience in a clinical setting, performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure. OSHA standards are emphasized. Prerequisites: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 227 or BIO 118 or AHS 130). Current CPR certification for healthcare professionals. All prerequisites must be achieved with a grade of “C” or greater. Co-requisites: [SUR 100 or (SUR 109 and SUR 110)] and SUR 101 and SUR 130.

SUR 130 Principles of Surgical Pharmacology (2)
Introduces the fundamental principles of the clinical use of drugs. Emphasizes the role and responsibility of the surgical technologist related to drugs, a review of basic mathematic skills, a thorough knowledge of the systems of measurement, and conversion and application of skills to perform dosage calculations. Presents information related to medicines in common use in the surgical setting. Prerequisites: [BIO 130 or BIO 135 or (BIO 137 and BIO 139)] and (AHS 115 or CLA 131 or OST 103) and (BIO 225 or BIO 227 or BIO 118 or AHS 130). Current CPR certification for healthcare professionals. All prerequisites must be achieved with a grade of “C” or greater. Prerequisites or co-requisites: [SUR 100 or (SUR 109 and SUR 110)] and SUR 101 and SUR 125.

SUR 200 Surgical Technology Advanced Theory (9)
Focuses on the relevant anatomy, indications for surgery, patient preparation, special equipment and supplies, purpose, expected outcomes, and possible complications of specialty areas following OSHA standards. Prerequisites: Option 1: (SUR 100 or (SUR 109 and 110)] and SUR 101 and SUR 125 and SUR 130. Option 2: [SUR 100 or (SUR 109 and 110)] and SUR 101 and SUR 125 and SUR 126 and SUR 130. All prerequisites must be achieved with a grade of “C” or greater. Co-requisite: Option 1: SUR 201 OR Option 2: SUR 201 and SUR 202.

SUR 201 Surgical Technology Skills Practicum II (6)
Provides experience in a clinical setting, performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure, following OSHA standards. Prerequisites: Option 1: [SUR 100 or (SUR 109 and 110)] and SUR 101 and SUR 125 and SUR 130. Option 2: [SUR 100 or (SUR 109 and 110)] and SUR 101 and SUR 125 and SUR 126 and SUR 130. All prerequisites must be achieved with a grade of “C” or greater. Co-requisites: Option 1: SUR 200 OR Option 2: SUR 200 and SUR 202.

SUR 275 Surgical Technology Advanced Clinical Practicum (2)
Provides students experience in an advanced clinical setting performing the duties of a scrubbed and/or circulating technologist during an assigned surgical procedure with limited supervision. OSHA standards will be followed. Prerequisites: SUR 200 and SUR 201. All prerequisites must be achieved with a grade of “C” or greater.

SW 124 Introduction to Social Services (3)
Introduction to social welfare concepts and philosophies. Examination of the profession of social work and its philosophy and value commitments within social welfare. Public and private service delivery systems will be studied. Required of social work majors and recommended it be taken the first year.

SW 222 Development of Social Welfare (3)
Study of the cultural traditions, value orientations, and political and economic forces which have contributed to the emergence of present social welfare policies and systems in the United States. Required of social work majors and open to all others.
SWK 180 Introduction to Gerontology (3)
The major biological, psychological, and sociological issues facing America's aging population are examined. Attention is also focused on the resources available to meet needs of older Americans.

SWK 275 The Family (3)
The nature and structure of family systems and examination of major family issues. Patterns of family interaction are discussed, with attention paid to resources designed to meet family needs.

TA 101 Introduction to Theatre: Principles and Practice (3)
The cultivation of judgment, perception, and creative response to theatre, with emphasis on what and how theatre communicates through examination of both the processes and product of theatre.

TA 126 Acting I: Fundamentals of Acting (3)
A broad spectrum of skills will be explored in the creative process of acting ensemble. These skills include improvisation, movement disciplines (including theatre games, modern dance, and characterization), emotional and sensory awareness, and the process of integrating these into a clearly defined stage technique.

TA 127- Acting Techniques (3)
Movement exercises, sensory work and theatre games are used to heighten awareness, release personal blocks, and discover the experience of being truthful with fellow actors. From there, students will move on to individual work to establish techniques they will use when working on a play. Students will explore physical and emotional awareness and develop a more creative use of their imaginations. Pre req. TA 126.

TA 190 Production Practicum (1)
The study and practice of production techniques through rehearsal and performance. May be repeated to a maximum of two credits. Pass/Fail only. Prerequisites: Consent of instructor and filing of prospectus.

TA 191 Performance Practicum (1)
The study and practice of acting and directing through rehearsal and performance. May be repeated to a maximum of two credits. Pass/fail only.

TA 226 Acting II: Scene Study (Realism) (3)
A lecture/laboratory course concentrating on several components of the acting process: preliminary study in modern acting theories, Stanislavski to the present; textual analysis, character study and scene work; studio exercises aimed at refining rehearsal skills for the actor.

TA 227 Acting III: Scene Study (Styles) (3)
A continuation of TA 226, with continued emphasis on developing the actor's skills in analysis and rehearsal. This course will introduce the actor to a performance style other than realism.

TA 260 Stagecraft (3)
Study of theory, principles, and techniques of stage construction. Assignments in laboratory and backstage during rehearsals and performances.

TEC 200 Technical Communication (3)
Students will study written and oral communications in a technical environment. Emphasis is on preparing business communications, technical reports, technical instructions and proposals used in industry. Students also develop and prepare oral presentations. A review of basic grammar and writing principles is included. Students are introduced to electronic communication equipment and its functions.

WLD 100 Oxy-Fuel Systems (2)
A working knowledge of oxy-fuel identification, set-up, inspection, and maintenance; consumable identification, selection and care; principles of operation; and effects of variables for manual and mechanized oxy-fuel cutting, welding, brazing principles and practices, and metallurgy. Shop safety and equipment use are also covered. Co-requisites: WLD 101 or consent of instructor.
WLD 101 Oxy-Fuel Systems Lab (2)
Manipulative skills necessary to weld and cut plate and pipe in all positions, as well as brazing, braze welding, and gouging. Co-requisites: WLD 100 or consent of instructor.

WLD 110 Cutting Processes (2)
A working knowledge of various cutting processes used by the welding industry. Will include, but is not limited to, safety, theory of operation, setup and operating techniques, troubleshooting and making minor equipment repairs, terms and definitions, identification, evaluation, repair and prevention of discontinuities of cut surfaces. Includes oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting process. Co-requisites: WLD 111 or consent of instructor.

WLD 111 Cutting Processes Lab (3)
Designed to provide the student with practical experience to become proficient in the use of various metal cutting processes. Safety, setup, and operating techniques are employed. Students will troubleshoot and make minor repairs to equipment. Students will also learn to identify, repair, and prevent reoccurrence of cut surface discontinuities. Processes shall include, but not limited to: OFC, PAC, AAC, and mechanical methods. Various materials will be used where appropriate. Co-requisites: WLD 110 or consent of instructor.

WLD 120 Shielded Metal Arc Welding (2)
Teaches students the identification, inspection, and maintenance of SMAW electrodes; principles of SMAW; the effects of variables on the SMAW process to weld plate and pipe; and metallurgy. Co-requisites: WLD 121 or consent of instructor.

WLD 121 Shielded Metal Arc Welding Fillet Lab (3)
Provides laboratory experiences in which the student acquires the manipulative skills to perform fillet welds in all positions. Co-requisite: WLD 120 or consent of instructor.

WLD 123 Shielded Metal Arc Welding Groove with Backing Lab
Teaches the method of operation and application of the gas tungsten arc welding process for welding groove welds in both ferrous and nonferrous plate in all positions. Prerequisites: WLD 120 and 121 or consent of instructor.

WLD 130 Gas Tungsten Arc Welding (2)
Identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting. Co-requisites: WLD 131 or consent of instructor.

WLD 131 Gas Tungsten Arc Welding Fillet Lab (3)
Teaches the necessary manipulative skills needed to apply the Gas Tungsten Arc on various joint designs on plate with both ferrous and non-ferrous metals. Plasma Arc cutting included. Co-requisite: WLD 130 or consent of instructor.

WLD 133 Gas Tungsten Arc Welding Groove Lab (3)
Teaches the method of operation and application of the gas tungsten arc welding process for welding groove welds in both ferrous and nonferrous plate in all positions. Prerequisites: WLD 130 or consent of instructor.

WLD 140 Gas Metal Arc Welding (2)
Identification, inspection, and maintenance of GMAW machines; identification, selection, and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included.

WLD 141 Gas Metal Arc Welding Fillet Lab (3)
Teaches the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety situations needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions. Co-requisites: WLD 140 or consent of instructor.
WLD 143 Gas Metal Arc Welding Groove Lab (3)
Teaches the method of operation and application of the gas metal arc 170 welding process for welding groove welds in both ferrous and nonferrous plate in all positions using both short circuiting and spray transfer where appropriate. Prerequisites: WLD 140 or consent of instructor.

WLD 145 Gas Metal Arc Welding Aluminum Lab (1)
Teaches welding aluminum using the GMAW process. Fillets and groove welds are made in all positions in both plate and pipe. Short Circuiting and Spray transfers are used where appropriate. Prerequisites: WLD 140 or consent of Instructor.

WLD 147 Flux Cored Arc Welding Lab (1)
Acquaints the student with the method of operation and application of the flux cored welding system. Prerequisites: WLD 140 or consent of instructor.

WLD 151 Basic Welding A (2)
Introduction to welding, cutting processes, and related equipment. Basic setup, operation, and related safety are applied.

WLD 152 Basic Welding B (5)
An introduction to common cutting and welding processes used in industry. Theory, setup, operation, and related safety are applied.

WLD 161 Submerged Arc Welding Lab (1)
Designed to provide the student with a working knowledge of SAW set-up, maintenance, and consumable identification. Includes practice in basic SAW principles and techniques related to the field of study. Prerequisites: WLD 140 or consent of Instructor.

WLD 170 Blueprint Reading for Welding (2)
Provides a study of occupationally specific prints for welders. Advanced study of multi-view drawings, assembly drawings, datum dimensions, numerical control drawings, sheet metal prints, castings and forgings, instrumentation and control charts and diagrams, working drawings, geometric dimensioning and tolerancing and use of reference materials and books are included. Occupational specifics including welding drawings, symbols, joint types, grooves, pipe welding symbols, testing symbols and specification interpretations are stressed. Co-requisites: WLD 171 or consent of Instructor.

WLD 171 Blueprint Reading for Welding Lab (3)
Provides students with practice fabricating from a blueprint. Students will read and fabricate from detail prints, control distortion during fabrication, and follow the proper sequence in welding a fabricated part. Students will use welding symbols and study weld sizes and strengths. Co-requisites: WLD 170 or consent of instructor.

WLD 181 Advanced Welding Systems Lab (1)
Provides the student a working knowledge and hands on experience using advanced arc welding machines (STT surface tension transfer and pulsed GMA welding) on various joints and metals. Prerequisites: WLD 140 and 141 and 143 or consent of instructor.

WLD 191 Plasma Arc Welding Systems Lab (1)
Teaches the necessary manipulative techniques for plasma arc welding. Plasma arc cutting may be included.

WLD 198 Special Topics in Welding (1-6)
Various Welding Technology topics, issues and trends will be addressed. Topics may vary from semester to semester at the discretion of the instructor; course may be repeated with different topics to a maximum of six credit hours. Prerequisite: Consent of instructor.
WLD 220 Welding Certification (2)
Provides the student with a working knowledge of certification encountered in welding. The student will start with developing a WPS, qualify the WPS, and qualify personnel. Documents used in welding certification are developed and used. Co-requisites: WLD 221 or consent of instructor.

WLD 221 Welding Certification Lab (3)
Provides the student with an opportunity to test to certification standards on all types of welding. Prerequisites: WLD 220 or consent of instructor.

WLD 225 Shielded Metal Arc Welding Open Groove Lab (3)
Designed to build upon SMAW Plate Lab I & II. Offers the student the opportunity to advance skills in the practical aspects of vee-butt plate welding using SMAW. Prerequisites: WLD 120 and 121 or consent of instructor.

WLD 227 Shielded Metal Arc Welding Pipe Lab A (3)
Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 2G and 5G positions including proper pipe preparations, electrodes, safety precautions, and welding sequences. Fillet welds on pipe joints are also included in 2F, 2FR, 4F, and 5F positions. Prerequisites: WLD 225 or consent of instructor.

WLD 229 Shielded Metal Arc Welding Pipe Lab B (3)
Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 6G position including proper pipe preparations, electrodes, safety precautions, and welding sequences. Prerequisites: WLD 225 or consent of instructor.

WLD 235 Gas Tungsten Arc Welding Pipe Lab A (3)
Teaches the method of operation and application of the gas tungsten arc welding system for welding of both ferrous and non-ferrous pipe in 2G and 5G positions. Prerequisites: WLD 133 or consent of instructor.

WLD 237 Gas Tungsten Arc Welding Pipe Lab B (3)
Teaches the method of operation and application of the gas tungsten arc welding process for welding of both ferrous and non-ferrous pipe in 6G position. Prerequisites: WLD 133 or consent of instructor.

WLD 239 Orbital Tube Welding (1)
Familiarizes students with the orbital weld system, basic setup, operation, and safety. Prerequisite: WLD 130 & 131 or consent of instructor.

WLD 240 Materials Technology (2)
Provides the student with a working knowledge of materials used in welding. This class includes materials identification and classification. Metallurgy is included with a detailed analysis of physical, mechanical, and chemical properties. Introduces the student to the application of metallurgy to welding including preheat, interpass temperature, and post-weld heat treatment and their effects on welding and welding effect on them.

WLD 245 Gas Metal Arc Welding Pipe Lab A (3)
Acquaints the student with the operation and application of the Gas Metal Arc System for welding pipe in 2G and 5G positions. Co-requisites: WLD 143 or consent of instructor.

WLD 247 Gas Metal Arc Welding Pipe Lab B (3)
Acquaints the student with the operation and application of the Gas Metal Arc System for welding groove welds in pipe in 6G position. Lab: 3 credits (90 contact hours/30:1 ratio). Prerequisites: WLD 143 or consent of instructor.
WLD 253 Pipe Fitting and Template Development Lab (1)
Provides experiences in pipe template development and job knowledge and experience with the techniques and tools used to field layout, cut, and fit the various pipe joints that are used in pipe trades.

WLD 298 Welding Practicum (1-6)
Provides on-the-job work experience related to the student’s educational objectives. Students participating in the Practicum do not receive compensation. Prerequisite: Consent of instructor.

WLD 299 Cooperative Education Program (1-6)
Provides supervised on-the-job work experience related to the student’s educational objectives. Prerequisite: Consent of instructor.

WPP 200 Workplace Principles (3)

Workplace Principles examines the changing workforce and the skills needed to adapt to constantly changing demands and expectations. The course includes but is not limited to problem solving, teamwork, time management, and self-management skills. Job-seeking and job-retention skills are taught through the development of resumes and job search materials. Maximum benefit is received if this course is taken in the latter part of the student's course work.

WS 200 Introduction to Women's Studies in the Social Sciences (3)
An introduction to women’s studies from a social science perspective, using a cross-cultural and interdisciplinary approach. Introduces students to social science explanations for sex-typed behavior, to social perceptions of women and men, and to the roles of women in social and cultural life.

WS 201 Introduction to Women’s Studies in the Arts and Humanities (3)
An introduction to women’s history in work, family and creative production. This course presents a set of organizing ideas for examining issues and problems of women in contemporary society, and gives students opportunities for writing, interviewing and discussing issues of gender, class and race from an interdisciplinary point of view. It introduces students to the basic methods of humanistic inquiry in general and humanistic women’s studies in particular.