

Course Descriptions

The instructional course categories are general core courses, occupational courses, and elective courses.

General Education courses—Common to many majors, general education courses include English or language arts, speech communications, humanities/fine arts, social or behavioral sciences, mathematics and science.

Occupational courses—These courses are intended to develop skills and related knowledge for job performance and are part of the course sequence of an occupational program offered by the College. They are designed primarily for job preparation and/or upgrading and not for general education purposes.

Elective courses—The administration of the College, the program faculty, and the program advisory committee cooperate in establishing and utilizing a system to recommend needed and feasible elective courses; advisors will determine the appropriateness of a student's choice of elective courses. The admissions requirements and prerequisites for the elective course must be met.

Practicum/Clinical/Internship—These supervised work experience activities require the application of occupational competencies. Activities include supervised educational work experiences, internships, practicums, and other specialized and/or innovative learning arrangements.

Prerequisite—Prerequisite courses are required prior to taking another course or a more advanced course. Other prerequisites may be required or necessary as a prior condition, such as placement scores or program admission.

Corequisite—Corequisite courses are required to be taken during the same semester as another; they require simultaneous enrollment.

General education, occupational, practicums/clinicals, and elective courses are specified in individual program descriptions in a previous section of this catalog. Prerequisites and corequisites for each course are listed in the following section of course descriptions.

NOTE: To meet academic requirements, a minimum grade of C is required for all occupational courses, including program-specific electives, and for any general education course that is a prerequisite for a subsequent course.

ACCT - Accounting

NOTE: Credits for ACCT courses other than ACCT 2140 and 2145 are awarded only if the courses have been completed within the last seven years. Courses over seven years old may be recommended by the program chair and approved by the Dean of the School of Business/Public Services if the student presents recent, documented, in-field experience or current accounting certification.

ACCT 1100 - Financial Accounting I
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Introduces the basic financial accounting concepts of the complete accounting cycle and provides the student with the necessary skills to maintain a set of books for a sole proprietorship. Topics include accounting vocabulary and concepts, the accounting cycle for a personal service business, the accounting cycle for a merchandising business, inventory, cash control and receivables. Laboratory work demonstrates theory presented in class.

ACCT 1105 - Financial Accounting II
4 Credits 5 Contact Hours
Prerequisites: ACCT 1100

Introduces the intermediate financial accounting concepts that provide the student with the necessary skills to maintain a set of books for a partnership and corporation. Topics include fixed and intangible assets, current and long-term liabilities (notes payable), payroll, accounting for a partnership, accounting for a corporation, statement of cash flows, and financial statement analysis. Laboratory work demonstrates theory presented in class.

ACCT 1115 - Computerized Accounting
3 Credits 5 Contact Hours
Prerequisites: ACCT 1100; COMP 1000

Emphasizes operation of computerized accounting systems from manual input forms. Topics include company creation (service and merchandising), chart of accounts, customers' transactions, vendors' transactions, banking activities, merchandise inventory, employees and payroll, and financial reports. Laboratory work includes theoretical and technical application.

ACCT 1125 - Individual Tax Accounting
3 Credits 4 Contact Hours
Prerequisites: ACCT 1100

Provides instruction for the preparation of individual federal income tax returns. Topics include taxable income, income adjustments, schedules, standard deductions, itemized deductions, exemptions, tax credits, and tax calculations.

ACCT 1130 - Payroll Accounting
3 Credits 4 Contact Hours
Prerequisites: ACCT 1100

Provides an understanding of the laws that affect a company's payroll structure and practical application skills in maintaining payroll records. Topics include payroll tax laws, payroll tax forms, payroll and personnel records, computing wages and salaries, taxes affecting employees and employers, and analyzing and journalizing payroll transactions.

ACCT 2000 - Managerial Accounting
3 Credits 4 Contact Hours
Prerequisites: ACCT 1105

(Formerly ACCT 1110) Emphasizes the interpretation of data by management in planning and controlling business activities. Topics include managerial accounting concepts, manufacturing accounting using a job order cost system, manufacturing accounting using a process cost system, cost behavior and cost-volume-profit, budgeting and standard cost accounting, flexible budgets, standard

costs and variances, and capital investment analysis and budgeting. Laboratory work demonstrates theory presented in class.

ACCT 2110 - Accounting Simulation
3 Credits 5 Contact Hours
Prerequisites: ACCT 1105; ACCT 1115; BUSN 1410

Students assume the role of a business owner where he/she can directly experience the impact and importance of accounting in a business. At the end of the simulation course, the student will have completed the entire accounting cycle for a service business, merchandising business and a corporation using an Accounting Information System software (different from software used in ACCT 1115-Computerized Accounting). Emphasis placed on providing students with real-world opportunities for the application and demonstration of accounting skills by using Simulation Projects will enable them to build a foundation for understanding and interpreting financial statements. Topics include company creation, chart of accounts, customers transactions, vendors transactions, banking activities, merchandise inventory, employees and payroll, financial statements, preparation of payroll tax forms and preparation of income tax forms. Laboratory work includes theoretical and technical application.

ACCT 2115 - Bookkeeper Certification Review
3 Credits 4 Contact Hours
Prerequisites: Advisor Approval; ACCT 1105 and ACCT 1130 recommended

Reviews the topics of adjusting entries, correction of accounting errors, payroll, depreciation, inventory, internal controls and fraud prevention. Prepares the students to take certification testing.

ACCT 2120 - Business Tax Accounting
3 Credits 4 Contact Hours
Prerequisites: ACCT 1125

Provides instruction for preparation of both state and federal partnership, corporation, and other business tax returns. Topics include organization form, overview of taxation of partnership, special partnership issues, corporate tax elections, adjustments to income and expenses, tax elections, forms and schedules, tax credits, reconciliation of book and tax income, tax depreciation methods, and tax calculations.

ACCT 2130 – Integrated Accounting Management Systems
3 Credits 3 Contact Hours
Prerequisites: ACCT 1105; ACCT 1115; BUSN 1410

Emphasizes use of database management packages, electronic spreadsheet packages, and accounting software packages for accounting/financial applications with more advanced systems. Topics include creation and management of database applications, creation and management of spreadsheet applications, and creation and management of accounting integrated software systems.

ACCT 2140 – Legal Environment of Business
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Introduces law and its relationship to business. Topics include legal ethics, legal processes, business contracts, business torts and crimes, real and personal property, agency and employment, risk-bearing devices, and Uniform Commercial Code.

ACCT 2145 - Personal Finance
3 Credits 3 Contact Hours

Introduces practical applications of concepts and techniques used to manage personal finance. Topics include cash management, time value of money, credit, major purchasing decisions, insurance, investments, retirement, and estate planning.

AIRC – Air Conditioning Technology

AIRC 1005 - Refrigeration Fundamentals
4 Credits 6 Contact Hours

Introduces the basic concepts, theories, and safety regulations and procedures of refrigeration. Topics include an introduction to OSHA, safety, first aid, laws of thermodynamics, pressure and temperature relationships, heat transfer, the refrigerant cycle, refrigerant identification, and types of AC systems.

AIRC 1010 - Refrigeration Principles and Practice
4 Credits 6 Contact Hours

Introduces the student to basic refrigeration system principles and practices, and the major component parts of the refrigeration system. Topics include refrigeration tools, piping practices, service valves, leak testing, refrigerant recovery, recycling, and reclamation, evacuation, charging, and safety.

AIRC 1020 - Refrigeration System Components
4 Credits 6 Contact Hours
Prerequisites: AIRC 1005

Provides the student with the skills and knowledge and skills to install, test, and service major components of a refrigeration system. Topics include compressors, condensers, evaporators, metering devices, service procedures, refrigeration systems, and safety.

AIRC 1030 - HVACR Electrical Fundamentals
4 Credits 6 Contact Hours

Provides an introduction to fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include AC and DC theory, electric meters, electrical diagrams, distribution systems, electrical panels, voltage circuits, code requirements, and safety.

AIRC 1040 - HVACR Electrical Motors
4 Credits 6 Contact Hours
Prerequisites: AIRC 1030

Provides the student with the skills and knowledge necessary for application and service of electric motors commonly used by the refrigeration and air conditioning industry. Topics include diagnostic techniques, capacitors, installation procedures, types of electric motors, electric motor service, and safety.

AIRC 1050 - HVACR Electrical Components and Controls
4 Credits 6 Contact Hours

Provides instruction in safely identifying, installing, and testing commonly used electrical components and control systems used in an air conditioning system. Topics include identification, installation, application, diagnosis and safety procedures for transformers, thermostats, pressure switches, control boards and commonly used HVACR controls and control systems.

AIRC 1060 - Air Conditioning Systems Application and Installation
4 Credits 6 Contact Hours

Provides instruction on the installation and service of residential air conditioning systems. Topics include installation procedures, split-systems, add-on systems, packaged systems, system wiring, control circuits, and safety.

AIRC 1070 - Gas Heat
4 Credits 6 Contact Hours
Prerequisites: AIRC 1030

Introduces principles of combustion and service requirements for gas heating systems. Topics include servicing procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion, and safety.

AIRC 1080 - Heat Pumps and Related Systems
4 Credits 6 Contact Hours
Prerequisites: AIRC 1010; AIRC 1030

Provides instruction on the principles, applications, and operation of a residential heat pump system. Topics include installation and servicing procedures, electrical components, geothermal ground source energy supplies, dual fuel, valves, and troubleshooting techniques.

AIRC 1090 - Troubleshooting Air Conditioning Systems
4 Credits 6 Contact Hours
Prerequisites: AIRC 1010; AIRC 1030

Provides instruction on the troubleshooting and repair of major components of a residential air conditioning system. Topics include troubleshooting techniques, electrical controls, air flow, the refrigeration cycle, electrical servicing procedures, and safety.

ALET – Alternative Energy Technology

ALET 1100 – Foundations of Energy Technologies
3 Credits 3 Contact Hours

Allows students to develop a broad understanding of the energy industry, to include infrastructure, generation, transmission, and distribution of nonrenewable, renewable, and inexhaustible energy sources. Energy sources will be researched, to include the regional and global economic implications, environmental, and sustainability issues. Students will explore future trends of energy and power. Through research, students will develop an alternative energy system that will demonstrate their understanding of a unique, as well as appropriate, approach to energy and power generation.

ALET 1120 – Energy and Power Generation, Transmission, and Distribution
3 Credits 3 Contact Hours

Continues the discussion of energy and power industry fundamentals by furthering students' knowledge about electric power generation, transmission and distribution. Students will gain knowledge about business models, regulations, and safety within the energy industry.

ALET 1130 – Energy Systems Applications
3 Credits 3 Contact Hours

Explores the relationship between force, work, energy, and power. Students study the characteristics, availability, conversion, control, transmission, and storage of energy and power. Students will explore and apply the principles of electrical, fluid, and mechanical power. Students will research renewable, non-renewable, and inexhaustible resources and conservation efforts. Students will develop an awareness of the many careers that exist in energy and related technologies.

ALHS – Allied Health Services

ALHS 1011 – Structure and Function of the Human Body
5 Credits 5 Contact Hours
Prerequisites: Regular Status

Focuses on basic normal structure and function of the human body. Topics include general plan and function of the human body, integumentary system, skeletal system, muscular system, nervous and sensory systems, endocrine system, cardiovascular system, lymphatic system, respiratory system, digestive system, urinary system, and reproductive system.

ALHS 1040 - Introduction to Health Care
3 Credits 5 Contact Hours

Introduces a grouping of fundamental principles, practices, and issues common in the health care profession. In addition to the essential skills, students explore various delivery systems and related issues. Topics include basic life support/CPR, basic emergency care/first aid and triage, vital signs, infection control/blood and air-borne pathogens.

ALHS 1060 - Diet and Nutrition for Allied Health Sciences
2 Credits 2 Contact Hours
Prerequisites: Regular Status

A study of the nutritional needs of the individual. Topics include nutrients, standard and modified diets, nutrition throughout the lifespan, and client education.

ALHS 1090 – Medical Terminology for Allied Health Sciences
2 Credits 2 Contact Hours

Introduces the elements of medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include origins (roots, prefixes, and suffixes), word building, abbreviations and symbols, and terminology related to the human anatomy.

AMCA – Advanced Machine Tool

AMCA 2110 - CNC Fundamentals
3 Credits 6 Contact Hours
Prerequisites: MCHT 1011; MCHT 1012

Provides a comprehensive introduction to computer numerical controlled (CNC) machining processes. Topics include safety, Computer Numerical Control of machinery, setup and operation of CNC machinery, introduction to programming of CNC machinery, introduction to CAD/CAM.

AMCA 2130 - CNC Mill Manual Programming
5 Credits 7 Contact Hours

Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) milling machines. Topics include safety, calculation for programming, program codes and structure, program run and editing of programs.

AMCA 2150 - CNC Lathe Manual Programming
5 Credits 7 Contact Hours

Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) Lathes. Topics include safety, calculations for programming, program codes and structure, program run and editing of programs.

AMCA 2170 - CNC Practical Applications
3 Credits 6 Contact Hours
Prerequisites: AMCA 2110; AMCA 2130; AMCA 2150

Provides additional instruction in part holding and fixture design. Students will also gain additional experience in print-to-part development of CNC programming. Topics include safety, fixture design and manufacturing, and CNC part manufacturing.

AMCA 2190 - CAD/CAM Programming
4 Credits 6 Contact Hours

Emphasizes the development of skills in computer aided design (CAD) and computer aided manufacturing (CAM). The student will design and program parts to be machined on computer numerical controlled machines. Topics include hardware and software, drawing manipulations, tool path generation, program posting, and program downloading.

ARTS – Art

ARTS 1101 - Art Appreciation
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C
Explores the visual arts and the relationship to human needs and aspirations. Students investigate the value of art, themes in art, the elements and principles of composition, and the materials and processes used for artistic expression. Well-known works of visual art are explored. The course encourages student interest in the visual arts beyond the classroom.

AUMF - Automated Manufacturing Technology

AUMF 1110 - Flexible Manufacturing Systems I
5 Credits 7 Contact Hours
Prerequisites: IDFC 1000; IDFC 1005

Provides instruction in manufacturing control process and work cell interfacing. Emphasis is placed on open and closed loop systems. Instruction is also given in the area of linear integrated circuits. Topics include process control, sensor and cell level interfacing, fluid level, pressure, and flow measurement, pneumatic controls, and human factors and safety.

AUMF 1120 - Programmable Controllers
5 Credits 10 Contact Hours
Prerequisites: IDFC 1005

Studies basic programmable controller application skills and techniques, and programmable controllers in typical environments as an element of a complex manufacturing cell. Topics also discussed will include the hands-on development of the programming, operation, and maintenance of industrial PLC systems.

AUMF 1130 - Applied Hydraulics, Pneumatics, and Mechanics
2 Credits 4 Contact Hours
Prerequisites: Regular Status

Emphasizes mechanical techniques for maintaining, troubleshooting, installing, and repairing drives, conveyor systems, and valves. Topics include gas laws; pressure and force calculations; hydraulic systems vs pneumatic systems; cylinders, pressure controls, and system controls; hydraulic and pneumatic symbology; hydraulic and pneumatic system layout; interfacing hydraulic or pneumatic systems with other systems; applied mechanisms; belt, chain, and gear drives; drive train components; valves; and conveyor systems.

AUMF 1150 - Introduction to Robotics
3 Credits 5 Contact Hours
Prerequisites: AUMF 1120

Explores basic robotic concepts. Studies robots in typical application environments. Topics include robot history and fundamentals, robot classification, power sources, robot applications in the workplace, robot control techniques, path control, end of arm tooling, robot operation and robot controllers, controller architecture in a system, robotic language programming, and human interface issues.

AUMF 1210 - Flexible Manufacturing Systems II
5 Credits 7 Contact Hours
Prerequisites: AUMF 1110

Reviews flexible manufacturing system electrical, electronic, and mechanical principles by providing opportunities to plan and prepare for constructing and operating an actual flexible automated system. Emphasis is also placed on work cell design by allowing students to work in instructor-supervised teams assembling and operating automated production system cells. Topics include flexible system planning and preparation, work cell design, prototype or demonstration work cell operation, and work cell debugging and troubleshooting.

AUMF 1310 - Flexible Manufacturing Systems III
5 Credits 7 Contact Hours
Prerequisites: AUMF 1210

Continues the study of flexible manufacturing systems. Students will employ planning documentation skills developed in previous flexible manufacturing courses to install an automated system, produce a first run product, and operate the system. Emphasis is placed on changing the function for product produced by the automated system to adapt the system to function as a flexible system.

AUMF 1560 – Manufacturing Production Requirements
1 Credits 1 Contact Hours

Provides learners with the knowledge and skills associated with quality and productivity in the manufacturing environment. Topics include world class manufacturing, statistical process control, and problem solving.

AUMF 1580 – Automated Manufacturing Skills
3 Credits 3 Contact Hours

Provides learners with an introduction to computerized process control and the operational requirements associated with automated machines. It provides theory on basic mechanical fundamentals, the use of hand and power tools, and basic equipment systems found in manufacturing facilities.

AUTT – Automotive Technology

AUTT 1010 - Automotive Technology Introduction
2 Credits 3 Contact Hours
Corequisites: AUTTI020

Introduces basic concepts and practices necessary for safe and effective automotive shop operations. Topics include safety procedures; legal/ethical responsibilities; general service; hand tools; shop organization, management, and work flow systems.

AUTT 1020 - Automotive Electrical Systems
7 Credits 16 Contact Hours
Corequisites: AUTTI010

Introduces automotive electricity, emphasizes the basic principles, diagnosis, and service/repair of batteries, starting systems, starting system components, alternators and regulators, lighting system, gauges, horn, wiper/washer, and accessories.

AUTT 1030 - Automotive Brake Systems
4 Credits 7 Contact Hours
Prerequisites: AUTTI010; AUTT 1020

Introduces brake systems theory and its application to automotive systems and anti-lock brake system (ABS) to include ABS components and ABS operation, testing, and diagnosis. Topics include hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; miscellaneous brake components (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair; test, diagnose, and service electronic brake control system.

AUTT 1040 - Automotive Engine Performance
7 Credits 15 Contact Hours
Prerequisites: AUTT 1010; AUTT 1020

Introduces basic engine performance systems that support and control four stroke gasoline engine operations and reduce emissions. Topics include general engine diagnosis, computerized engine controls and diagnosis, ignition system diagnosis and repair, fuel and air induction, exhaust systems, emission control systems diagnosis and repair.

AUTT 1050 - Automotive Suspension and Steering Systems
4 Credits 8 Contact Hours
Prerequisites: AUTTI010; AUTT 1020

Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include general suspension and steering systems diagnosis; steering systems diagnosis and repair; suspension systems diagnosis and repair; related suspension and steering service; wheel alignment diagnosis, adjustment and repair; and wheel and tire diagnosis and repair.

AUTT 1060 - Automotive Climate Control System
5 Credits 7 Contact Hours
Prerequisites: AUTT 1010; AUTT 1020

Introduces the theory and operation of automotive heating and air conditioning systems. Students attain proficiency in inspection, testing, service, and repair of heating and air conditioning systems and related components. Topics include a/c system diagnosis and repair; refrigeration system component diagnosis and repair; heating, ventilation, and engine cooling systems diagnosis and repair; operating systems and related controls diagnosis and repair; refrigerant recovery, recycling, and handling.

AUTT 2010 - Automotive Engine Repair
6 Credits 12 Contact Hours
Prerequisites: AUTTI010; AUTT 1020

Introduces the student to automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques for both 2 cycle and 4 cycle internal combustion engines. Topics include general engine diagnosis, removal and reinstallation, cylinder heads and valve trains diagnosis and repair, engine blocks assembly diagnosis and repair, and lubrication and cooling systems diagnosis and repair.

AUTT 2020 - Automotive Manual Drive Train and Axles
4 Credits 7 Contact Hours

Prerequisites: AUTTT1010; AUTTT 1020

Introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive line related operation, diagnosis, service and related electronic controls. Topics include drive shaft and half shaft, universal and constant-velocity (CV) joint diagnosis and repair; ring and pinion gears and differential case assembly; limited slip differential; drive axle shaft; four-wheel drive/all-wheel drive component diagnosis and repair. Introduces basics of front- and rear-wheel drive. Clutch operation, diagnosis and service is included. Electronic controls related to transmission/transaxles operation are discussed. Topics include clutch diagnosis and repair and transmission/transaxles diagnosis and repair.

AUTT 2030 - Automotive Automatic Transmissions and Transaxles

5 Credits 9 Contact Hours

Prerequisites: AUTTT 1010; AUTTT 1020

Introduces students to basic automatic transmission/transaxle theory, operation, inspection, service, and repair procedures as well as electronic diagnosis and repair. Topics include general automatic transmission and transaxle diagnosis; in vehicle and off vehicle transmission and transaxle maintenance, adjustment, and repair.

BARB – Barbering

BARB 1000 - Introduction to Barber/Styling Implement
3 Credits 6 Contact Hours

Designed to give an overview of the barbering profession. Students are also taught the fundamentals of each barber/styling implement. Emphasis will be placed on the maintenance and care of each implement. Topics include barbering history, personality development, professional barbering ethics, and professional barbering image, safety, and reception and telephone techniques, nomenclature, types and sizes, proper use and care, and maintenance.

BARB 1010 - Science: Sterilization, Sanitation, and Bacteriology
3 Credits 5 Contact Hours

Prerequisites: BARB 1000

Introduces fundamental theories and practices of bacteriology, sterilization, sanitation, safety, and the welfare of the barber/stylist and patron. Topics include sterilization, sanitation, safety, bacteriology, and Hazardous Duty Standards Act compliance.

BARB 1022 - Haircutting and Shampooing I
3 Credits 6 Contact Hours

Introduces the theory and skills necessary to apply basic haircutting techniques. Safe use of haircutting implements is stressed. The course also introduces the fundamental theory and skills required to shampoo hair. Laboratory training includes shampooing a live model. Topics include patron preparation, haircutting terminology, safety and sanitation, implements, basic haircutting techniques, shampoo chemistry, and shampoo procedures.

BARB 1024 - Haircutting and Shampooing II
3 Credits 6 Contact Hours

Continues the theory and skills necessary to apply basic haircutting techniques. Safe use of haircutting implements is stressed. Also continues the fundamental theory and skills required to shampoo hair. Laboratory training includes shampooing a live model. Topics include patron preparation, haircutting terminology, safety and sanitation, implements, intermediate haircutting techniques, shampoo chemistry, and shampoo procedures.

BARB 1030 - Haircutting/Basic Styling
3 Credits 7 Contact Hours

Continues the theory and application of haircutting techniques and introduces hairstyling. Topics include introduction to styling, client consultation, head and hair analysis, style cutting techniques, and implements for style cutting and tapering techniques

BARB 1040 - Shaving
2 Credits 4 Contact Hours

Introduces the theory and skills necessary to prepare and shave a patron. Simulated shaving procedures will precede practice on live models. Topics include patron preparation, beard preparation, shaving techniques, once-over shave techniques, and safety precautions.

BARB 1050 - Science: Anatomy and Physiology
3 Credits 3 Contact Hours

Develops knowledge of the function and care of the scalp, skin, and hair. Emphasis is placed on the function, health, and growth of these areas. Topics include cells, skeletal system, muscular system, nervous system, circulatory system, and related systems.

BARB 1082 - Advanced Haircutting and Styling I
3 Credits 8 Contact Hours

Continues the theory and application of haircutting and styling techniques. Topics include elevation and design cutting, introduction to hairpieces, blow-dry styling, thermal waving and curling, advanced haircutting and styling; use of clippers, shears, and razor; permanent waving and styling; shaving techniques and beard trimming

BARB 1084 - Advanced Haircutting and Styling II
3 Credits 9 Contact Hours

Provides further instruction in the theory and application of haircutting and styling techniques. Topics include elevation and design cutting, introduction to hairpieces, blow-dry styling, thermal waving and curling, advanced haircutting and styling; use of clippers, shears, and razor; permanent waving and styling; shaving techniques and beard trimming.

BARB 1090 – Structures of Skin, Scalp, Hair, and Facial Treatments

3 Credits 7 Contact Hours

Introduces the theory, procedures, and products used in the care and treatment of the skin, scalp, and hair. Provides instruction on the theory and application of techniques in the treatment of the skin, scalp, and hair; and introduces the theory and skills required in massaging the face, preparing the patron for facial treatment, and giving facial treatments for various skin conditions. Benefits of facial treatments and massage will be emphasized. Emphasis will be placed on work with live models. Topics include treatment theory, basic corrective hair and scalp treatments, plain facial, products and supplies, disease and disorders, implements, products and supplies, diseases and disorders, corrective hair and scalp treatments, facial procedures and manipulations, and safety precautions, theory of massage, preparation of patron for massage, massage procedures, facial treatment, types of facials, and facial treatment benefits.

BARB 1100 - Barber/Styling Practicum and Internship
3 Credits 9 Contact Hours
Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting or in a combination of a laboratory setting and an approved internship facility. Topics include haircutting/styling, hairstyling texturizing, shaving, beard trimming, thermal waving, hairpiece fitting and styling, safety precautions, and licensure preparation.

BARB 1110 - Shop Management/Ownership
3 Credits 7 Contact Hours
Emphasizes the steps involved in opening and operating a privately owned cosmetology salon or barber/styling shop. Topics include planning a salon/shop, business management, retailing, public relations, sales skills, client retention, and entrepreneurship.

BIOL – Biology

BIOL 1111 –Biology I
3 Credits 3 Contact Hours
Prerequisites: Regular Status
Corequisites: BIOL 1111L
Provides an introduction to basic biological concepts with a focus on living cells. Topics include chemical principles related to cells, cell structure and function, energy and metabolism, cell division, protein synthesis, genetics, and biotechnology.

BIOL 1111L –Biology I Lab
1 Credits 3 Contact Hours
Prerequisites: Regular Status
Corequisites: BIOL 1111
Selected laboratory exercises paralleling the topics in BIOL 1111. The laboratory exercises for this course include chemical principles related to cells, cell structure and function, energy and metabolism, cell division, protein synthesis, genetics, and biotechnology, and evolution.

BIOL 1112 –Biology II
3 Credits 3 Contact Hours
Prerequisites: BIOL 1111 with a minimum grade of C;
BIOL 1111L with a minimum grade of C
Corequisites: BIOL 1112L
Provides an introduction to basic evolutionary concepts. Also, the course emphasizes animal and plant diversity, structure and function including reproduction and development, and the dynamics of ecology as it pertains to populations, communities, ecosystems, and biosphere. Topics include principles of evolution, classification and characterizations of organisms, plant structure and function, animal structure and function, principles of ecology, and biosphere.

BIOL 1112L –Biology II Lab
1 Credits 3 Contact Hours
Prerequisites: BIOL 1111 with a minimum grade of C;
BIOL 1111L with a minimum grade of C
Corequisites: BIOL 1112
Selected laboratory exercises paralleling the topics in BIOL 1112. The laboratory exercises for this course include principles of evolution, classification and characterizations of organisms, plant structure and function, animal structure and function, principles of ecology, and biosphere. Required laboratory components include microscopic studies, biodiversity exercises, and dissections.

BIOL 2113 - Anatomy and Physiology I
3 Credits 3 Contact Hours
Prerequisites: Regular Status
Corequisites: BIOL 2113L
Introduces the anatomy and physiology of the human body. Emphasis is placed on the development of a systemic perspective of anatomical structures and physiological processes. Topics include body organization, cell structure and functions, tissue classifications, integumentary system, skeletal system, muscular system, and nervous and sensory systems.

BIOL 2113L - Anatomy & Physiology Lab I
1 Credits 3 Contact Hours
Prerequisites: Regular Status
Corequisites: BIOL 2113
Selected laboratory exercises paralleling the topics in BIOL 2113. The laboratory exercises for this course include body organization, cell structure and functions, tissue classifications, integumentary systems, skeletal system, muscular system, and nervous sensory systems. Required laboratory components include microscopic studies, physiology exercises, and dissections.

BIOL 2114 - Anatomy and Physiology II
3 Credits 3 Contact Hours
Prerequisites: BIOL 2113 with a minimum grade of C;
BIOL 2113L with a minimum grade of C
Corequisites: BIOL 2114L
Continues the study of the anatomy and physiology of the human body. Topics include the endocrine system, cardiovascular system, blood and lymphatic system, immune system, respiratory system, digestive system, urinary system, and reproductive system.

BIOL 2114L - Anatomy & Physiology Lab II
1 Credits 3 Contact Hours
Prerequisites: BIOL 2113 with a minimum grade of C;
BIOL 2113L with a minimum grade of C
Corequisites: BIOL 2114
Selected laboratory exercises paralleling the topics in BIOL 2114. The laboratory exercises for this course include the endocrine system, cardiovascular system, blood and lymphatic system, immune system, respiratory system, digestive system, urinary system, and reproductive. Required laboratory components include microscopic studies, physiology exercises, and dissections.

BIOL 2117 - Introductory Microbiology
3 Credits 3 Contact Hours
Prerequisites: BIOL 2113 with a minimum grade of C and BIOL 2113L with a minimum grade of C or BIOL 1111 with a minimum grade of C and BIOL 1111L with a minimum grade of C
Corequisites: BIOL 2117L
Provides students with a foundation in basic microbiology with emphasis on infectious disease. Topics include microbial diversity, microbial cell biology, microbial genetics, interactions and impact of microorganisms and humans, microorganisms, and human disease.

BIOL 2117L - Introductory Microbiology Lab
1 Credits 3 Contact Hours
Prerequisites: BIOL 2113 with a minimum grade of C and BIOL 2113L with a minimum grade of C or BIOL 1111 with a minimum grade of C and BIOL 1111L with a minimum grade of C
Corequisites: BIOL 2117
Selected laboratory exercises paralleling the topics in BIOL 2117. The laboratory exercises for this course include microbial diversity, microbial cell biology, microbial genetics, interactions and impact of microorganisms and humans, and microorganisms and human disease.

BMET – Biomedical Electronics Technology

BMET 1231 - Medical Equipment Function and Operation I
4 Credits 6 Contact Hours
Prerequisites: ALHS 1011

Introduces the study of electromechanical systems currently in use throughout the health care field with an emphasis on typical biomedical instrumentation. Topics include monitors, ECG machines, intensive care units, coronary care units, operating room equipment, and telemetry systems.

BMET 2242 - Medical Equipment Function and Operation II
4 Credits 6 Contact Hours
Prerequisites: BMET 1231

Continues the study of electromechanical systems currently in use throughout the health care field. Topics include life support equipment, respiratory instrumentation, measuring brain parameters, medical ultrasound, electrosurgery units, and hemodialysis machines.

BMET 2243 - Internship Medical Systems
3 Credits 7 Contact Hours
Prerequisites: BMET 1231

Introduces the student to an on-site learning experience at an operating biomedical equipment section of a health care facility. Supervision of the intern is shared by the working environment supervisor and the faculty advisor. Internist performance is evaluated at weekly seminars. Topics include problem solving, use of proper interpersonal skills, interpreting work authorizations, identifying logistical support requirements, servicing biomedical instruments, evaluating operating cost, and professional development.

BUSN – Business Technology

NOTE: Credits for BUSN 1190, BUSN 1400, BUSN 1410, BUSN 1420, BUSN 1430, BUSN 1440, BUSN 2160, BUSN 2350, and BUSN 2370 or courses requiring those courses as pre-requisites are awarded only if the courses have been completed within the last seven years. Courses over seven years old may be recommended by the program chair and approved by the Dean of the School of Business/Public Services if the student presents recent, documented, in-field experience or current software certification.

BUSN 1000 - Computers in Healthcare
3 Credits 5 Contact Hours
Introduces the fundamental concepts, terminology, and operations necessary to use computers in a business healthcare setting. Emphasis is placed on familiarity with basic computer functions and computer use; the role of information technology in business healthcare decision making; and legal, ethical, and privacy issues related to computer use in the business healthcare environment. Topics include an introduction to computer terminology, the Windows environment, Cloud computing, data security, Internet and email, word processing software, spreadsheet software, database software, and presentation software.

BUSN 1015 - Introduction to Healthcare Reimbursement
3 Credits 3 Contact Hours
Prerequisites: ALHS 1090
Designed to increase efficiency and streamline administrative procedures for healthcare insurance billing and reimbursement. Topics include documentation in the medical record, types of insurance, Medicare compliance policies related to documentation and confidentiality, and HIPAA and other compliance regulations.

BUSN 1100 - Introduction to Keyboarding
3 Credits 5 Contact Hours
This course introduces the touch system of keyboarding placing emphasis on correct techniques. Topics include computer hardware, computer software, file management, learning the alphabetic keyboard, the numeric keyboard and keypad, building speed and accuracy, and proofreading. Students attain a minimum of 30 GWAM (gross words a minute) on 3-minute timings with no more than 3 errors.

BUSN 1190 - Digital Technologies in Business
2 Credits 3 Contact Hours
Prerequisites: COMP 1000
Provides an overview of digital technology used for conducting business. Students will learn the application of business activities using various digital platforms.

BUSN 1240 - Office Procedures
3 Credits 4 Contact Hours
Prerequisites: COMP 1000
Emphasizes essential skills required for the business office. Topics include office protocol, time management, telecommunications and telephone techniques, office equipment, workplace mail, records management, travel/meeting arrangements, electronic mail, and workplace documents.

BUSN 1250 - Records Management
3 Credits 4 Contact Hours
Introduces records management concepts for use in any office environment. Topics include basic records management concepts; alphabetic, numeric, subject, and geographic filing; and records retention, transfer, and disposition of records.

BUSN 1300 - Introduction to Business
3 Credits 3 Contact Hours
Prerequisites: Regular Status
Introduces organization and management concepts of the business world and in the office environment. Topics include business in a global economy, starting and organizing a business, enterprise management, marketing strategies and financial management.

BUSN 1320 – Business Interaction Skills
3 Credits 3 Contact Hours
Equips participants with the tools to communicate and interact more effectively in person, in writing, and on the telephone with both internal and external customers. Participants also learn how to work in teams to create a collaborative environment for accomplishing goals. This course consists of the following: language of business, communication skills, working with information, business writing, team and collaborative skills, and resolving interpersonal conflict.

BUSN 1340 – Customer Service Effectiveness
3 Credits 4 Contact Hours
Emphasizes the importance of customer service throughout all businesses. Topics include customer service challenges and problem solving; strategies for successful customer service; effective communication and dealing with difficult customers; empowerment, motivation, and leadership; customer retention and satisfaction measurement; and excellence in customer service.

BUSN 1400 - Word Processing Applications

4 Credits 6 Contact Hours

Prerequisites: COMP 1000

Covers the knowledge and skills required to use word processing software through course demonstrations, laboratory exercises and projects. Minimal document keying will be necessary as students will work with existing documents to learn the functions and features of the word processing application. Topics and assignments will include word processing concepts, customizing documents, formatting content, working with visual content, organizing content, reviewing documents, sharing and securing content.

BUSN 1410 - Spreadsheet Concepts and Applications

4 Credits 6 Contact Hours

Prerequisites: COMP 1000

Covers the knowledge and skills required to use spreadsheet software through course demonstrations, laboratory exercises and projects. Topics and assignments will include spreadsheet concepts, creating and manipulating data, formatting data and content, creating and modifying formulas, presenting data visually, and collaborating and securing data.

BUSN 1420 - Database Applications

4 Credits 6 Contact Hours

Prerequisites: COMP 1000

Covers the knowledge and skills required to use database management software through course demonstrations, laboratory exercises and projects. Topics and assignments will include database concepts, structuring databases, creating and formatting database elements, entering and modifying data, creating and modifying queries, presenting and sharing data, and managing and maintaining databases.

BUSN 1430 - Desktop Publishing and Presentation Applications

4 Credits 6 Contact Hours

Prerequisites: COMP 1000

Covers the knowledge and skills required to use desktop publishing (DTP) software and presentation software to create business publications and presentations. Course work will include course demonstrations, laboratory exercises and projects. Topics include desktop publishing concepts, basic graphic design, publication layout, presentation design, and practical applications.

BUSN 1440 - Document Production

4 Credits 7 Contact Hours

Prerequisites: BUSN 1100 or the ability to key 30 gross words a minute on 3-minute timings with no more than 3 errors (see Admissions Office for testing); COMP 1000

Reinforces the touch system of keyboarding, placing emphasis on correct techniques with adequate speed and accuracy and producing properly formatted business documents. Topics include reinforcing correct keyboarding technique, building speed and accuracy, formatting business documents, language arts, proofreading, and work area management.

BUSN 2160 - Electronic Mail Applications

2 Credits 3 Contact Hours

Prerequisites: COMP 1000; Regular Status

Provides instruction in the fundamentals of communicating with others inside and outside the organization via a personal information management program. Emphasizes the concepts necessary for individuals and workgroups to organize, find, view, and share information via electronic communication channels. Topics include internal and external communication, message management, calendar management, navigation, contact and task management, and security and privacy.

BUSN 2170 - Web Page Design

2 Credits 3 Contact Hours

Prerequisites: Regular Status; COMP 1000

Provides instruction in the concepts necessary for individuals to create and manage professional quality web sites. Topics include web site creation, web page development and design, hyper link creation, test, and repair, integration, web site navigation, and web site management.

BUSN 2190 - Business Document Proofreading and Editing

3 Credits 4 Contact Hours

Prerequisites: ENGL 1010 (diploma) with a minimum grade of C or ENGL 1101 (degree) with a minimum grade of C

Corequisites: BUSN 1440

Emphasizes proper proofreading and editing for business documents. Topics include applying proofreading techniques and proofreaders marks with business documents; proper content, clarity, and conciseness in business documents; and business document formatting.

BUSN 2210 - Applied Office Procedures

3 Credits 5 Contact Hours

Prerequisites: BUSN 1240; BUSN 1400; BUSN 1410; BUSN 1440

Focuses on applying knowledge and skills learned in prior courses taken in the program. Topics include communications skills, telecommunications skills, records management skills, office equipment/supplies, and integrated programs/applications. Serves as a capstone course.

BUSN 2340 - Healthcare Administrative Procedures

4 Credits 6 Contact Hours

Prerequisites: ALHS 1011; ALHS 1090; BUSN 1440; COMP 1000

Emphasizes essential skills required for the business healthcare office. Introduces the knowledge, skills, and procedures needed to understand billing purposes. Introduces the basic concept of business healthcare administrative assisting and its relationship to the other health fields. Emphasizes healthcare regulations and ethics; and, the healthcare administrative assistant's role as an agent of the physician. Provides the student with knowledge and the essentials of professional behavior. Topics include introduction to business healthcare procedures, healthcare regulations ethics, healthcare records management, scheduling appointments, health insurance, billing/collection,-work area management, resource utilization, and office equipment.

BUSN 2350 – Electronic Health Records

2 Credits 3 Contact Hours

Prerequisites: ALHS 1011; ALHS 1090; BUSN 1440; COMP 1000

Provides a study of the content, code sets, storage, retrieval, control, flow, retention, maintenance of electronic health records and computerized office management. Topics include electronic healthcare information management, electronic data interchange, coding standards, health record and office management software, point of entry data entry, electronic coding from health records, speed data entry in processing healthcare records, analysis of records to improve patient care, confidentiality, release of information, security of electronic healthcare record, communication, technology, insurance payment, managed care, posting to accounts, appointment schedules, practice management, report generation, customizing medical documents, claims management, collections management and HIPAA security.

BUSN 2370 – Healthcare Coding

3 Credits 4 Contact Hours

Prerequisites: ALHS 1011; ALHS 1090;
BUSN 1000 or COMP 1000

Provides an introduction to medical coding skills and the application of international coding standards as it applies to healthcare billing for insurance purposes. Topics include current procedural terminology, International Classification of Diseases, code book formats, coding techniques, formats of the ICD and CPT manuals, and collections.

BUSN 2400 - Healthcare Procedural Coding

4 Credits 3 Contact Hours

Prerequisites: ALHS 1090; ALHS 1011; MAST 1120

Provides the knowledge and skills to apply the coding of procedures for billing purposes using the Physician's Current Procedural Terminology (CPT) resources and the Healthcare Common Procedure Coding System (HCPCS). Topics include format of CPT/HCPCS manual, CPT/HCPCS coding guidelines, and coding using the CPT/HCPCS resources. Upon completion, students should be able to apply coding principles to correctly assign CPT/HCPCS codes and apply systems to optimize reimbursement.

BUSN 2410 - ICD Coding

4 Credits 3 Contact Hours

Prerequisites: ALHS 1090; ALHS 1011; MAST 1120

Provides an introduction to medical billing and coding skills with applications of international coding standards for billing of health care services. Topics include International Classification of Diseases, code book formats, guidelines and conventions, and coding techniques.

BUSN 2420 - Advanced Medical Coding

5 Credits 3 Contact Hours

Prerequisites: BUSN 2400; BUSN 2410

Continues CPT and ICD coding. Topics include health records coding techniques, coding linkage and compliance, searching the job market, developing a resume, stress management, test-taking strategies, and reviewing for a coding certification exam.

BUSN 2440 - Healthcare Leadership and Professional Effectiveness

3 Credits 3 Contact Hours

Prerequisites: BUSN 2340

Emphasizes essential skills required for leadership and professional success in healthcare organizations. Introduces the functions, practices, and advanced interpersonal relationships, critical thinking, and problem solving. Provides the student with knowledge and the essentials of professional leadership behaviors. Topics include introduction to the supervisory role, the volatile healthcare environment, the dual nature of supervisory roles, basic functions of management, delegation, empowerment, self-management, interviewing, recruitment, professionalism, decision making managing change, professional meetings, quality, productivity, teams, and continuing education.

BUSN 2700 - Introduction to Health Informatics

3 Credits 3 Contact Hours

Prerequisites: ALHS 1090; CIST 1001

Emphasizes essential beginning skills for introductory health informatics practice. This course presents the past, present, and future of this rapidly evolving discipline, and explore the critical issues and challenges within the field as well as potential applications, benefits, and opportunities for improving the management of healthcare through information technology. Topics include development of virtual and interactive healthcare through technology; interoperability, standardization, safety, and risks associated with the implementation of the electronic health record; emergence and adoption of new information technologies; and global perspective of trends and issues in the field. Students investigate the professional roles related to managing health information technology as well as organizations that promote health informatics. Students conduct in-depth investigations on a specific health informatics positions to learn the responsibilities, essential skills sets, and professional and educational requirements of the job.

BUSN 2720 - Healthcare Information Systems

3 Credits 3 Contact Hours

Prerequisites: ALHS 1090

Emphasizes the importance of a healthcare information system being effectively designed in order to meet the needs of the users. The course discusses the need for knowledge to maintain the system for each step within the complex process. Exploration of the technical aspects of information systems management, including key issues of systems design and development as well as system support and maintenance are discussed. Topics include terminology, functions, standards, systems development life cycle approach, analysis of necessary steps in the life cycle, identification of appropriate systems technology and data standards, creation of requirements, evaluation of security, and accommodation of human factors in design and use, basics of information architecture, and systems infrastructure.

BUSN 2750 - Healthcare Technology Regulations

3 Credits 3 Contact Hours

Emphasizes the importance of technology in healthcare to improve quality, safety, and efficiency in the delivery of healthcare. Struggles and disparities of the healthcare industry are discussed in reference to healthcare informatics advances. Topics include management aspects of healthcare informatics, infrastructure, current trends current regulations policies, patient privacy, record-keeping, database management, and information sharing.

BUSN 2800 - Practice Management Fundamental

3 Credits 3 Contact Hours

Prerequisites: BUSN 2340

Emphasizes essential skills required for the management of healthcare practices. Introduces the functions, practices, and advanced administrative skills. Emphasis is placed on management skills including practice management, personnel supervision, marketing, financial planning, and addressing health disparities. Topics include introduction to healthcare management, management and motivation, organizational behavior, strategic planning, healthcare marketing, quality improvement basics, information technology, managing costs and revenues, managing healthcare professionals, addressing health disparities, and healthcare fraud and abuse.

BUSN 2810 - Healthcare Compliance

3 Credits 3 Contact Hours

Prerequisites: ALHS 1090; ENGL 1010 or ENGL 1101 with a minimum grade of C

Covers how healthcare law and related regulations are formulated, and the impact of those laws on payers, providers, patients, and healthcare businesses. Emphasis is placed on legal compliance in the healthcare industry. Topics covered include in-depth coverage and analysis of implementation of the healthcare reform law, fraud and abuse laws, anti-kickback, false claims, Stark anti-referral provisions, Medicare and Medicaid, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the HITECH Act and related regulations, the Emergency Medical Treatment and Active Labor Act (EMTALA).

BUSN 2820 - Healthcare Practice Law and Ethics

3 Credits 3 Contact Hours

Prerequisites: ALHS 1090; ALHS 1101; MAST 1120; BUSN 1000 or COMP 1000; ENGL 1010 or ENGL 1101 with a minimum grade of C

Introduces the complex ethical, moral, and legal issues involved in providing healthcare services. Emphasis is placed on legal requirements of medical practices, professional relationships, professional liabilities, and medical practice liability. Provides the student with a working knowledge of current healthcare law and accepted ethical behavior.

BUSN 2830 - Healthcare Delivery Systems

3 Credits 3 Contact Hours

Prerequisites: ALHS 1090; ALHS 1101; MAST 1120; BUSN 1000 or COMP 1000; BUSN 1440

Provides students with a comprehensive overview of healthcare delivery systems and the economic, historic, political, and ethical issues that influence the accessibility, expense, and quality of healthcare services. Introduces provider organization and structure in a healthcare setting, healthcare funding, and rules, regulations, and governing bodies that monitor and protect the usage of health care systems in the United States.

BUSN 2850 - Health Record Auditing

3 Credits 3 Contact Hours

Prerequisites: BUSN 2340; BUSN 2370

Introduces the principles of medical auditing. Emphasis will be placed on key areas of regulation, medical record documentation, chart abstraction, and developing coding compliance plans. Topics include coding compliance, importance of documentation, medical necessity, coding compliance programs, auditing, auditing prevention techniques, and emerging technologies.

CHEM – Chemistry

CHEM 1151 - Survey of Inorganic Chemistry
3 Credits 3 Contact Hours

Co-requisite: CHEM 1151L; MATH 1101 or MATH 1103 or MATH 1111 with a minimum grade of C

Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include measurements and units, structure of matter, chemical bonding, chemical reactions, gas laws, liquid mixtures, acids and bases, salts and buffers, and nuclear chemistry.

CHEM 1151L - Survey of Inorganic Chemistry Lab
1 Credits 3 Contact Hours

Co-requisite: CHEM 1151; MATH 1101 or MATH 1103 or MATH 1111 with a minimum grade of C

Selected laboratory experiments paralleling the topics in CHEM 1151. The lab exercise for this course include units of measurements, structure of matter, chemical bonding, chemical reactions, gas laws, liquid mixtures, acids and bases, salt and buffers, and nuclear chemistry.

CHEM 1152 - Survey of Organic Chemistry and Biochemistry
3 Credits 3 Contact Hours

Prerequisites CHEM 1151 with a minimum grade of C; CHEM 1151L with a minimum grade of C
Co-requisite: CHEM 1152L

Provides an introduction to organic chemistry and biochemistry. This survey will include an overview of the properties, structure, nomenclature, reactions of hydrocarbons, alcohols, phenols, ethers, halides, aldehydes, ketones, carboxylic acids, esters, amines, amides; the properties, structure, and function of carbohydrates, lipids, proteins, and enzymes, as well as, intermediary metabolism. Topics include basic principles, hydrocarbons, hydrocarbon derivatives, heterocyclic rings and alkaloids, carbohydrates, lipids and fats, proteins, nucleic acids, and intermediary metabolism.

CHEM 1152L - Survey of Organic Chemistry and Biochemistry Lab
1 Credits 3 Contact Hours

Prerequisites CHEM 1151 with a minimum grade of C; CHEM 1151L with a minimum grade of C
Co-requisite: CHEM 1152

Selected laboratory exercises paralleling the topics in CHEM 1152. The laboratory exercises for this course include basic principles of organic chemistry, hydrocarbons, hydrocarbon derivatives, heterocyclic rings and alkaloids, carbohydrates, lipids and fats, proteins, nucleic acids, and intermediary metabolism.

CHEM 1211 - Chemistry I

3 Credits 3 Contact Hours

Prerequisites: MATH 1101 or MATH 1103 or MATH 1111 with a minimum grade of C

Corequisites: CHEM 1211L

Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include measurement, physical and chemical properties of matter, atomic structure, chemical bonding, nomenclature, chemical reactions, and stoichiometry and gas laws.

CHEM 1211L - Chemistry I Lab

1 Credits 3 Contact Hours

Prerequisites: MATH 1101 or MATH 1103 or MATH 1111 with a minimum grade of C

Corequisites: CHEM 1211

Selected laboratory exercises paralleling the topics in CHEM 1211. The laboratory exercises for this course include measurement, physical and chemical properties of matter, atomic

structure, chemical bonding, nomenclature, chemical reactions, stoichiometry and gas laws.

CHEM 1212 - Chemistry II

3 Credits 3 Contact Hours

Prerequisites: CHEM 1211 with a minimum grade of C; CHEM 1211L with a minimum grade of C

Corequisites: CHEM 1212L

Continues the exploration of basic chemical principles and concepts. Topics include equilibrium theory, kinetics, thermodynamics, solution chemistry, acid-base theory, and nuclear chemistry.

CHEM 1212L - Chemistry II Lab

1 Credits 3 Contact Hours

Prerequisites: CHEM 1211 with a minimum grade of C; CHEM 1211L with a minimum grade of C

Corequisites: CHEM 1212

Selected laboratory exercises paralleling the topics in CHEM 1212. The laboratory exercises for this course include equilibrium theory, kinetics, thermodynamics, solution chemistry, acid-base theory, and nuclear chemistry.

CIST – Computer Information Systems

CIST 1001 - Computer Concepts

4 Credits 6 Contact Hours

Provides an overview of information systems, computers and technology. Topics include information systems and technology terminology, computer history, data representation, data storage concepts, fundamentals of information processing, fundamentals of information security, information technology ethics, fundamentals of hardware operation, fundamentals of networking, fundamentals of the internet, fundamentals of software design concepts, fundamentals of software, (system and application), system development methodology, computer number systems conversion (binary and hexadecimal), mobile computing.

CIST 1122 - Hardware Installation and Maintenance

4 Credits 7 Contact Hours

Prerequisites: Regular Status

Provides students with the knowledge of the fundamentals of computer technology, networking, and security along with the skills required to identify hardware, peripheral, networking, and security components with an introduction to the fundamentals of installing and maintaining computers. Students will develop the skills to identify the basic functionality of the operating system, perform basic troubleshooting techniques, utilize proper safety procedures, and effectively interact with customers and peers. This course is designed to help prepare students for the CompTIA A+ certification examination.

CIST 1130 - Operating Systems Concepts

4 Credits 6 Contact Hours

Provides an overview of modern operating systems and their use in home and small business environments. Activities will utilize the graphical user interface (GUI) and command line environment (CLI). This will include operating system fundamentals; installing, configuring, and upgrading operating systems; managing storage, file systems, hardware and system resources; troubleshooting, diagnostics, and maintenance of operating systems; and networking.

CIST 1210 - Introduction to Oracle Databases

4 Credits 7 Contact Hours

Prerequisites: CIST 1001

Introduces the Oracle database management system platform and Structured Query Language (SQL). Topics include database vocabulary, normalization, Oracle DML and DDL statements, SQL Statements, views and constraints.

CIST 1220 - Structured Query Language
4 Credits 7 Contact Hours

Prerequisites: CIST 1001; CIST 1305; COMP 1000

Includes basic database design concepts and solving database retrieval and modification problems using the SQL language. Topics include database vocabulary, relational database design, data retrieval using SQL, data modification using SQL, developing and using SQL procedures.

CIST 1305 - Program Design and Development
3 Credits 4 Contact Hours

An introductory course that provides problem solving and programming concepts for those that develop user applications. An emphasis is placed on developing logic, troubleshooting, and using tools to develop solutions. Topics include problem solving and programming concepts, structured programming, the three logic structures, file processing concepts, and arrays.

CIST 1401 - Computer Networking Fundamentals
4 Credits 6 Contact Hours

Prerequisites: Regular Status

Introduces networking technologies and prepares students to take the CompTIA's broad-based, vendor independent networking certification exam, Network +. This course covers a wide range of material about networking, including local area networks, wide area networks, protocols, topologies, transmission media, and security. Focuses on operating network management systems, and implementing the installation of networks. It reviews cabling, connection schemes, the fundamentals of the LAN and WAN technologies, TCP/IP configuration and troubleshooting, remote connectivity, and network maintenance and troubleshooting. Topics include basic knowledge of networking technology, network media and topologies, network devices, network management, network tools and network security.

CIST 1510 - Web Development I
3 Credits 4 Contact Hours

Explores the concepts of Hypertext Markup Language (HTML), Cascading Style Sheets (CSS) and XML following the current standards set by the World Wide Web Consortium (W3C) for developing inter-linking web pages that include graphical elements, hyperlinks, tables, forms, and image maps.

CIST 1520 - Scripting Technologies
3 Credits 4 Contact Hours
Prerequisites: CIS 1510

Students learn how to use the features and structure of a client side scripting language and develop professional web applications that include special effects, interactive, dynamic, validated, and secure forms.

CIST 1530 - Web Graphics I
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Students will explore how to use industry standard or open source graphics software programs to create Web ready images and Web pages. Topics include advanced image correction techniques and adjustments, typography and interpolation as well as conditional scripting statements and arrays. The course includes a final project that allows students to develop a Web page/site using the chosen software.

CIST 1540 - Web Animation I
3 Credits 4 Contact Hours
Prerequisites: Regular Status

In this course, students will use scripting and the latest industry standard or open source software to cover the creation and manipulation of images and animations. Topics include graphic

types, organizational methods, drawing tools, beginning to complex object modeling and an introduction to scripting.

CIST 1601 - Information Security Fundamentals
3 Credits 4 Contact Hours

Provides a broad overview of information security. It covers terminology, history, security systems development and implementation. Student will also cover the legal, ethical, and professional issues in information security.

CIST 2120 - Supporting Application Software
4 Credits 7 Contact Hours
Prerequisites: COMP 1000

Provides students with knowledge in the following areas: word processing, spreadsheets, and presentation software. Word processing topics include creating, customizing, and organizing documents by using formatting and visual content that is appropriate for the information presented. Spreadsheet topics include creating and manipulating data, formatting data and content, creating and modifying formulas, presenting data visually, and collaborating on and securing data. Presentation topics include creating and formatting presentation masters and templates, creating and formatting slide content, working with dynamic visual content, and collaborating on and delivering presentations. This course is designed to help prepare students for the Microsoft Certification tests in Word, Excel and PowerPoint.

CIST 2128 - Comprehensive Spreadsheet Techniques
3 Credits 5 Contact Hours

Provides students with knowledge in spreadsheet software. Spreadsheet topics include creating and manipulating data, formatting data and content, creating and modifying formulas, presenting data visually, and collaborating on and securing data.

CIST 2130 - Desktop Support Concepts
3 Credits 5 Contact Hours

Provides an overview to desktop support management.

CIST 2311 - Visual Basic I
4 Credits 7 Contact Hours
Prerequisites: CIST 1305

Introduces event-driven programming. Common elements of Windows applications will be discussed created and manipulated using Microsoft's Visual Studio development environment. Topics include numeric data types and variables, decision making structures, arrays, validating input with strings and functions, repetition and multiple forms, test files, lists and common dialog controls.

CIST 2312- Visual Basic II
4 Credits 7 Contact Hours
Prerequisites: CIST 1305; CIST 2311

Teaches client-server systems, n-tier development environments, relational databases, use of SQL to access data, and use of ADO.NET objects, methods, and properties to access and update relational and XML databases. Advanced features of Visual Basic are explored.

CIST 2313- Visual Basic III
4 Credits 7 Contact Hours
Prerequisites: CIST 2311; CIST 2312

Provides a look at advanced Web Programming techniques using Microsoft Visual Basic. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIST 2341- C# Programming I
4 Credits 7 Contact Hours
Prerequisites: CIST 1305
Designed to teach the basic concepts and methods of object-oriented design and C#.Net programming. Uses practical problems to illustrate C#.Net application building techniques and concepts. Develops an understanding of C#.Net vocabulary and creates an understanding of where C#.Net fits in the application development landscape. Creates an understanding of the C#.Net Development Environment, Visual Studio, and how to develop, debug, and run C#.Net applications using the Visual Studio. Continues to develop student's programming logic skills. Topics include C#.NET Language History, C#.NET Variable Definitions, C#.NET Control Structures, C#.NET Functions, C#.NET Classes, C#.NET Objects, and C#.NET Graphics.

CIST 2342- C# Programming II
4 Credits 7 Contact Hours
Prerequisites: CIST 2341
Intermediate C#.NET programming. It is assumed that the student knows the C#.NET syntax as well as basic object oriented concepts. Teaches client-server systems, n-tier development environments, relational databases, use of SQL to access data, and use of ADO.NET objects, methods, and properties to access and update relational databases. Advanced features of C# windows programming are explored.

CIST 2343- C# Programming III
4 Credits 7 Contact Hours
Prerequisites: CIST 2342
Advanced C#.NET programming. It is assumed that the student is fairly familiar with the C#.NET programming language. The goal of this course is to help students understand how to use C# to build industry level dynamic Web-based applications. Covers in detail how to use C# to develop an Enterprise level Web application. Students will learn how to use HTML to build the client-side and how to use C# for the server-side processing of data and talking to databases.

CIST 2351- PHP Programming I
4 Credits 7 Contact Hours
Prerequisites: CIST 1305; CIST 1510
Teaches how to create dynamic websites. Topics include PHP and basic web programming concepts, installing PHP, embedding PHP in HTML, variables and constants, operators, forms, conditional statements, looping, arrays, and text files.

CIST 2352- PHP Programming II
4 Credits 7 Contact Hours
Prerequisites: CIST 2351
Reinforces and extends the concepts learned in PHP Programming I. Topics include database retrieval and updating, multiple form handling, regular expressions, and advanced array processing.

CIST 2361 – C++ Programming I
4 Credits 7 Contact Hours
Prerequisites: CIST 1305
Provides opportunity to gain a working knowledge of C++ programming. Includes creating, editing, executing, and debugging C++ programs of moderate difficulty. Topics include basic C++ concepts, simple I/O and expressions, I/O and control statements, arrays, pointers, structures, managing data and developing programs.

CIST 2362- C++ Programming II
4 Credits 7 Contact Hours
Prerequisites: CIST 2361
Develops skills for the programmer to write programs using the language of C++. Emphasis is placed on utilizing the added features of C++, which will be added to the skills mastered in Introduction to C++ Programming. Topics include objects, classes, inheritance, overloading, polymorphism, streams, containers, and exceptions.

CIST 2371 - Java Programming I
4 Credits 7 Contact Hours
Prerequisites: CIST 1305
Teaches the basic concepts and methods of object-oriented design and Java programming. Uses practical problems to illustrate Java application building techniques and concepts. Develops an understanding of Java vocabulary. Creates an understanding of where Java fits in the application development landscape. Creates an understanding of the Java Development Kit and how to develop, debug, and run Java applications using the JDK. Continues to develop student's programming logic skills. Topics include Java language history, Java variable definitions, Java control structures, Java methods, Java classes, Java objects, and Java graphics.

CIST 2372- Java Programming II
4 Credits 7 Contact Hours
Prerequisites: CIST 2371
Intermediate Java Programming. It is assumed that the student knows the Java syntax, as well as basic object oriented concepts. Uses classes and objects provided by the core Java API to accomplish tasks such as database access, file access, exception handling, running threads, using sockets to talk across a network, and remotely calling methods using RMI techniques.

CIST 2373- Java Programming III
4 Credits 7 Contact Hours
Prerequisites: CIST 2372
Building Web Applications using Java Enterprise Edition (JEE). It is assumed that the student knows Java Standard Edition as the concepts and techniques build on that foundation. The student will install Web, application, and database servers and learn to build Web applications using JEE technologies, such as Servlets, Java Server Pages and Enterprise JavaBeans.

CIST 2381- Mobile Application Development
4 Credits 6 Contact Hours
Prerequisites: CIST 1305
Explores mobile guidelines, standards, and techniques. Includes design and development techniques for multiple mobile devices, platforms, and operating systems. Students will develop mobile applications using state of practice development tools, languages, and devices.

CIST 2411 - Microsoft Client
4 Credits 6 Contact Hours
Prerequisites: Regular Status
Provides the ability to implement, administrate, and troubleshoot Windows Professional Client as a desktop operating system in any network environment.

CIST 2412 - Microsoft Server Directory Services
4 Credits 6 Contact Hours
Prerequisites: Regular Status
Provides students with knowledge and skills necessary to install, configure, manage, support, and administer Microsoft Directory Services.

CIST 2413 - Microsoft Server Infrastructure
4 Credits 6 Contact Hours
Prerequisites: Regular Status

Provides students with knowledge and skills necessary to install, configure, manage, support and administer Microsoft Network Infrastructure.

CIST 2414 - Microsoft Server Administrator
4 Credits 6 Contact Hours
Prerequisites: Regular Status

Provides students with knowledge and skills necessary to install, configure, manage, support, and administer a Windows Server. Topics include server deployment, server management, monitoring and maintaining servers, application and data provisioning, and business continuity and high availability.

CIST 2431 - UNIX/Linux Introduction
4 Credits 6 Contact Hours
Prerequisites: Regular Status

Introduces the UNIX/Linux operating system skills necessary to perform entry-level user functions. Topics include history of UNIX/Linux, login and logout, the user environment, user password change, the file system, hierarchy tree, editors, file system commands as they relate to navigating the file system tree, UNIX/Linux manual help pages, using the UNIX/Linux graphical desktop, and command options. In addition, the student must be able to perform directory and file displaying, creation, deletion, redirection, copying, moving, linking files, wildcards, determining present working directory and changing directory locations.

CIST 2510 - Web Technologies
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Students will investigate one or more software packages that help automate Web content creation. Students will explore and utilize various features of software packages such as CSS, multimedia incorporation, scripting technologies, form creation, search functionality, advanced image techniques and database connectivity.

CIST 2531 - Web Graphics II
3 Credits 4 Contact Hours
Prerequisites: CIST 1530

Students will further explore how to use an industry standard or open source graphics software program to create Web-ready images and Web pages. Topics include advanced image correction techniques and adjustments, typography, and interpolation as well as conditional scripting statements and arrays.

CIST 2550 - Web Development II
3 Credits 4 Contact Hours
Prerequisites: CIST 1220; CIST 1510; CIST 1520

Web Development II teaches students how to manipulate data in a database using the Open Database Connectivity (ODBC) model. Students will learn to retrieve, update, and display database information with a web application. Database access may be accomplished using a web programming language (such as PHP, Microsoft VB, Microsoft C#, or Sun Java). Topics include manipulating data in a database, working with a relational database via Open Database Connectivity (ODBC), working with different database systems, developing forms and applications to interact with a database server(s), modifying data in a database, and controls and validation.

CIST 2580 - Interactive and Social Apps Integration
4 Credits 5 Contact Hours
Prerequisites: CIST 1305

Explores social and interactive web application technology and its effect on the business model. Topics include interactive and social

web business model, interactive and social business web requirements, and successful interactive and social integration.

CIST 2710 - 2D Computer Animation
3 Credits 4 Contact Hours

Covers the fundamental ideas and principles of 2-dimensional form and animation. Emphasis on basic design concepts, pictorial composition, color theory, vocabulary, media and processes that allow for the creation of 2D animations that are specifically Web ready. Topics covered include principles and techniques of motion graphics, graphic file types, frame-by-frame animation, tweened animation and if the software used permits, combining a scripting language with animation.

CIST 2730 - Introduction to 3D Animation
4 Credits 6 Contact Hours

Introduces the creation and manipulation of 3D objects. Topics include 3D types and tools, 3D objects, and inverse kinematics.

CIST 2733 - 3D Graphics for Gaming I
4 Credits 6 Contact Hours

Covers the creation and manipulation of 3D objects and animations in an actual 3D game engine using the latest in industry standard or open source software. Topics covered include graphic types, organizational methods, drawing tools, object modeling, character rigging, bones, nurb manipulation and normal mapping.

CIST 2750 - Game Design
3 Credits 4 Contact Hours

Covers the history of the Video Game Industry and gives a hands-on approach to the design methodologies used to create an interactive 2D and 3D video game. Topics include story and script development, storyboarding, character analysis and creation, interface and sound design and game documentation.

CIST 2751 - Game Development I
3 Credits 4 Contact Hours

Covers the design and creation of a 2D interactive game using the latest in industry standard. Topics include game development and concepts, sprite creation using .png and .giff formats, object placement and orientation, event-driven programming, pseudocode, and level and class design.

CIST 2752 - Game Development II
3 Credits 4 Contact Hours

Covers the design, creation and implementation of 2D and 3D elements as well as programming concepts into an interactive application. Topics include interface design, 3D object creation, game flow and scripting.

CIST 2759 - Math for Game Developers
3 Credits 4 Contact Hours
Prerequisites: MATH 0090 or MATH 1013 with a minimum grade of C or diploma program admission level algebra competency

Emphasizes the math skills needed in 2D game design. These skills include trigonometric properties, vectors, and motion in one dimension.

CIST 2921 - IT Analysis Design and Project Management
4 Credits 7 Contact Hours

Provides a review and application of systems life cycle development methodologies and project management. Topics include systems planning, systems analysis, systems design, systems implementation, evaluation, and project management.

COMP 1000 - Introduction to Computers
3 Credits 5 Contact Hours

Introduces the fundamental concepts, terminology, and operations necessary to use computers. Emphasis is placed on familiarity with basic computer functions and computer use; the role of information technology in business decision-making; and the legal, ethical, and privacy issues related to computer use in the business environment. Topics include an introduction to computer terminology, the Windows environment, cloud computing, data security, Internet and email, word processing software, spreadsheet software, database software, and presentation software.

CLBT - Clinical Laboratory Technology

CLBT 1010 - Introduction to Clinical Lab Technology
2 Credits 4 Contact Hours

Prerequisites: Regular Status

Introduces students to the terms, concepts, procedures, and equipment used in a professional clinical laboratory. Topics include professional ethics and regulatory agencies; laboratory safety, equipment, and techniques; phlebotomy/specimen processing; related lab math, quality control concepts; process improvement; documentation and computer usage; and point of care testing. Practical experience in phlebotomy will be provided in the institution laboratory and/or the clinical setting.

CLBT 1030 - Urinalysis/Body Fluids
2 Credits 4 Contact Hours

Prerequisites: BIOL 2113 with a minimum grade of C;
BIOL 2113L with a minimum grade of C; CLBT 1010

Provides theory and techniques required to conduct tests on urine and various body fluids. Theory and tests are related to disease states and diagnosis. Topics include fundamental theory of urinalysis; basic urinalysis tests; correlation of urinalysis to disease states; related lab math; body fluid tests; special urinalysis and related testing; and safety and quality control.

CLBT 1040 - Hematology/Coagulation
5 Credits 9 Contact Hours

Prerequisites: BIOL 2113 with a minimum grade of C;
BIOL 2113L with a minimum grade of C; CLBT 1010

Introduces the fundamental formation, function, and degradation of blood cells. Topics include reticuloendothelial system and blood cell formation, complete blood count and differential, other related blood test, related lab math, correlation of test results to disease states, coagulation and fibrinolysis, instrumentation for hematology and coagulation, critical values and blood cell dyscrasias, safety and quality control, and process improvement.

CLBT 1050 - Serology/Immunology
3 Credits 5 Contact Hours

Prerequisites: CLBT 1010

Introduces the fundamental theory and techniques applicable to serology and immunology practice in the medical laboratory. Topics include immune system, antigen and antibody reactions, immunological diseases, related lab math, common serological techniques, safety and quality control, and process improvement.

CLBT 1060 - Immunohematology
4 Credits 8 Contact Hours

Prerequisites: CLBT 1050

Provides an in-depth study of immunohematology principles and practices as applicable to medical laboratory technology. Topics include genetic theory and clinical applications, immunology, donor unit collection, related lab math, pre-transfusion testing, management of disease states and transfusion reactions, safety and quality control, and process improvement.

CLBT 1070 - Clinical Chemistry
4 Credits 8 Contact Hours

Prerequisites: BIOL 2114 with a minimum grade of C;
BIOL 2114L with a minimum grade of C; CHEM 1151
with a minimum grade of C; CHEM 1151L with a
minimum grade of C or CHEM 1212 with a minimum
grade of C; CHEM 1212L with a minimum grade of C;
CLBT 1010

Develops concepts and techniques of clinical chemistry applicable to medical laboratory technology. Topics include carbohydrates, electrolytes and acid-base balance, nitrogenous compounds, related lab math, enzymes and endocrinology, liver functions, lipids, toxicology and therapeutic drug monitoring, safety and quality control, correlation of disease states, process improvement (team approach), and critical thinking skills.

CLBT 1080 - Microbiology
5 Credits 10 Contact Hours

Prerequisites: CLBT 1010

Introduces fundamental microbiology and parasitology theory and techniques applicable to disease state identification. Topics include microbiology fundamentals; basic techniques; clinical microbiology; related lab math; anti-microbial sensitivity; safety and quality control; parasitology; mycology, mycobacteriology, and virology; correlation of disease states; and process improvement.

CLBT 2090 - Clinical Urinalysis, and Serology and Preanalytic Practicum
3 Credits 9 Contact Hours

Prerequisites: CLBT 1010; CLBT 1030; CLBT 1050

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include urinalysis tests, serological tests and techniques, blood and specimen processing, correlation of test results to disease states, safety and quality control, and quality assurance. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2100 - Clinic Immunohematology Practicum
4 Credits 12 Contact Hours

Prerequisites: CLBT 1060

Provides students with an opportunity for in-depth application and reinforcement of immunohematology principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include specimen processing; slide and tube immunological techniques; criteria for special techniques; component and therapy practices; management of disease states; transfusion complications; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2110 - Clinic Hematology/Coagulation Practicum
4 Credits 12 Contact Hours
Prerequisites: CLBT 1040

Provides students with an opportunity for in-depth application and reinforcement of hematology/coagulation principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include complete blood count and differentials; other related blood tests; coagulation and fibrinolysis tests; correlation of test results to disease states and critical values; instrumentation; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2120 - Clinical Microbiology Practicum
4 Credits 12 Contact Hours
Prerequisites: CLBT 1080

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include specimen inoculations; stains; culture work-ups; bacterial identification; anti-microbial sensitivity; media preparation; safety; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2130 - Clinical Chemistry Practicum
4 Credits 12 Contact Hours
Prerequisites: CLBT 1070

Provides students with an opportunity for in-depth application and reinforcement of chemistry principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include therapeutic drugs and toxicology; automated and manual chemistry; immuno chemistry; special chemistry; safety; correlation of test results to disease states and critical values; instrumentation; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

CLBT 2200 - CLT Certification Review
2 Credits 4 Contact Hours
Prerequisites: CLBT 1030; CLBT 1040; CLBT 1050;
CLBT 1060; CLBT 1070; CLBT 1080

Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for the medical laboratory technician level. Topics include review of: professional ethics, regulatory agencies, safety, and fundamental techniques; phlebotomy and specimen collection and processing; quality control concepts; computer applications; urinalysis and body fluids; hematology and coagulation; immunology and serology; immunohematology; clinical chemistry in solutions; microbiology; parasitology, mycology, mycobacteriology, and virology; and test taking skills.

COLL – College Life

COLL 1000 - College Life
2.00 Credits 2 Contact Hours
Prerequisite: Learning Support or Provisional Admission Status

Helps students increase their success in college and life. The course will focus on assisting in developing practical study skills and techniques that will enhance academic success and increase the enjoyment of learning. In addition, the students will be exposed to academically supportive resources that are available on campus and in the community.

COSM – Cosmetology

COSM 1000 - Introduction to Cosmetology Theory
4 Credits 4 Contact Hours
Prerequisites: Regular Status

Introduces fundamental theory and practices in the cosmetology profession. Emphasis will be placed on professional practices and safety. Topics include state rules, and regulations; state regulatory agency, image; bacteriology; decontamination and infection control, chemistry fundamentals, safety, Hazardous Duty Standards Act compliance, and anatomy and physiology.

COSM 1010 - Chemical Texture Services
3 Credits 6 Contact Hours
Prerequisites: Regular Status

Provides instruction in the chemistry and chemical reactions of permanent wave solutions and relaxers, application of permanent waves and relaxers. Precautions and special problems involved in applying permanent waves and relaxers will be emphasized. Topics include permanent wave techniques, chemical relaxer techniques, chemistry, physical and chemical change, safety procedures, permanent wave and chemical relaxer application procedures, hair analysis, scalp analysis, permanent wave procedures (in an acceptable time frame), relaxer application (in an acceptable time frame), and Hazardous Duty Standards Act Compliance.

COSM 1020 - Hair Care and Treatment
3 Credits 5 Contact Hours
Prerequisites: Regular Status

Introduces the theory, procedures and products used in the care and treatment of the scalp and hair, disease and disorders and their treatments, and the fundamental theory and skills required to shampoo, condition, and recondition the hair and scalp.

COSM 1030 - Haircutting
3 Credits 7 Contact Hours
Prerequisites: Regular Status

Introduces the theory and skills necessary to apply haircutting techniques, advanced haircutting techniques, proper safety and decontamination precautions, hair design elements, cutting implements, head, hair and body analysis, and client consultation.

COSM 1040 - Styling
3 Credits 6 Contact Hours
Prerequisites: Regular Status

Introduces the fundamental theory and skills required to create shapings, pin curls, fingerwaves, roller placement, blow dry styling, thermal curling, thermal pressing, thermal waving, artificial hair and augmentation, and comb-outs. Laboratory training includes styling training on manikin. Topics include braiding/intertwining hair, styling principles, pincurls, roller placement, fingerwaves, skip waves, ridge curls, blow dry styling, thermal curling, thermal pressing, thermal waving, artificial hair and augmentation, comb-outs, and safety precautions.

COSM 1050 - Hair Color

3 Credits 6 Contact Hours

Introduces the theory and application of temporary, semipermanent, demipermanent-deposit only, and permanent hair coloring, hair lightening, and color removal products and application. Topics include principles of color theory, hair structure, color, tone, classifications of color, hair lightening, color removal, application procedures, safety precautions, client consultation, product knowledge, haircolor challenges, corrective solutions, and special effects.

COSM 1060 - Fundamentals of Skin Care

3 Credits 7 Contact Hours

Provides a comprehensive study in care of the skin for theory and practical application. Emphasis will be placed on client consultation, safety precautions, skin conditions, product knowledge, basic facials, facial massage, corrective facial treatments, hair removal, and make-up application. Other topics in this course include advanced skin treatments in electrotherapy, light therapy, galvanic current, high frequency, and microdermabrasion.

COSM 1070 - Nail Care and Advanced Techniques

3 Credits 7 Contact Hours

Provides training in manicuring, pedicuring and advanced nail techniques. Topics include implements, products and supplies, hand and foot anatomy and physiology, diseases and disorders, manicure techniques, pedicure techniques, nail product chemistry, safety precautions and practices, and advanced nail techniques (wraps/tips/acrylics).

COSM 1080 – Physical Hair Services Practicum

3 Credits 7 Contact Hours

Prerequisites: COSM 1000; COSM 1020; COSM 1030; COSM 1040;

Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is required by the Georgia State Board of Cosmetology. This course includes a portion of the required hours for licensure. Topics include permanent waving and relaxers; various hair color techniques, foiling and lightening; skin, scalp, and hair treatments; haircutting; styling; manicure/pedicure/advanced nail techniques; dispensary; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

COSM 1090 – Hair Services Practicum I

3 Credits 7 Contact Hours

Prerequisites: COSM 1000; COSM 1010; COSM 1020; COSM 1030; COSM 1040; COSM 1050

Provides laboratory experiences necessary for the development of skill levels required to be a competent cosmetologist. The allocation of time to the various phases of cosmetology is prescribed by the Georgia State Board of Cosmetology. This course includes a portion of the hours required for licensure. Topics include permanent waving and relaxers; hair color, foiling, lightening, skin, scalp, and hair treatments; haircutting; clipper design, precision cutting, styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; product knowledge, customer service skills, client retention, State Board Rules and Regulations guidelines, and State Board foundation prep.

COSM 1100 - Hair Services Practicum II

3 Credits 7 Contact Hours

Corequisite: COSM 1090

Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications for completion of state board service credit requirements for this course may be met in a laboratory setting. Topics include texture services; permanent waving and relaxers; haircolor and lightening; skin, scalp, and hair treatment; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

COSM 1110 - Hair Services Practicum III

3 Credits 7 Contact Hours

Corequisites: COSM 1100

Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting. Topics include permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatments; haircutting; dispensary; styling; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; and state licensure preparation.

COSM 1115 – Hair Services Practicum IV

2 Credits 6 Contact Hours

Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The requirements for this course may be met in a laboratory setting. Topics include permanent waving and relaxers; hair color and lightening; hair and scalp treatments; haircutting; dispensary; styling; reception; safety precautions/decontamination; Hazardous Duty Standards Act compliance; and state licensure preparation.

COSM 1120 - Salon Management

3 Credits 3 Contact Hours

Emphasizes the steps involved in opening and operating a privately owned salon. Topics include law requirements regarding employment, tax payer education / federal and state responsibilities, law requirements for owning and operating a salon business, business management practices, and public relations and career development.

COSM 1125 – Skin and Nail Care Practicum

2 Credits 6 Contact Hours

Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications for completion of state board service credit requirements for this course may be met in a laboratory setting. Topics include: skin treatment; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

CRJU – Criminal Justice

CRJU 1010 - Introduction to Criminal Justice 3 Credits 3 Contact Hours

Introduces the development and organization of the criminal justice system in the United States. Topics include the American criminal justice system; constitutional limitations; organization of enforcement, adjudication, and corrections; and career opportunities and requirements.

CRJU 1021 - Private Security 3 Credits 3 Contact Hours Prerequisites: Regular Status

Provides an orientation to the development, philosophy, responsibility, and function of the private security industry. A historical and philosophical perspective of private security will help students better understand the present stage of private security, its principles, its legal authority and its effect on society in general. Topics include private security: an overview; basic security goals and responsibilities; when prevention fails; and security systems at work: putting it all together.

CRJU 1030 - Corrections 3 Credits 3 Contact Hours Prerequisites: Regular Status

Provides an analysis of all phases of the American correctional system and practices, including its history, procedures, and objectives. Topics include history and evolution of correctional facilities; legal and administrative problems; institutional facilities and procedures; probation, parole, and prerelease programs; alternative sentencing; rehabilitation; community involvement; and staffing.

CRJU 1040 - Principles of Law Enforcement 3 Credits 3 Contact Hours Prerequisites: Regular Status

Examines the principles of the organization, administration, and duties of federal, state and local law enforcement agencies. Topics include history and philosophy of law enforcement, evaluation of administrative practices, problems in American law enforcement agencies, emerging concepts, professionalism, and community crime prevention programs.

CRJU 1043 - Probation and Parole 3 Credits 3 Contact Hours Prerequisites: Regular Status

Covers the history of both juvenile and adult probation as well as the history of parole. The probation and parole systems will be covered generally with a special emphasis on the Georgia systems and related laws. Topics include history and philosophy of probation and parole; function of the probation and parole systems; Georgia law related to probation and parole; characteristics and roles of probation and parole officers; and special issues and programs of probation and parole.

CRJU 1062 - Methods of Criminal Investigation 3 Credits 3 Contact Hours Prerequisites: Regular Status

Presents the fundamentals of criminal investigation. The duties and responsibilities of the investigator both in field and in the courtroom are highlighted. Emphasis is placed on techniques commonly utilized by investigative personnel as well as the procedures used for investigating various crimes.

CRJU 1063 - Crime Scene Processing 3 Credits 5 Contact Hours Prerequisites: Regular Status

Presents students with practical exercises dealing with investigating crime scenes and gathering various forms of physical evidence. Emphasis is placed on crime scene assessment, search, fingerprinting, and evidence collection. Topics include crime scene management, evidence characteristics, identification, documentation and collection as well as techniques for developing and lifting latent fingerprints.

CRJU 1065 - Community-Oriented Policing 3 Credits 3 Contact Hours Prerequisites: Regular Status

Presents the fundamentals for the community-oriented policing philosophy, including the comparison of traditional and community policing philosophies; law enforcement and community relationships; importance of political and public support and involvement; attitudinal changes involving the roles of police management, supervisors and line personnel; creation of partnerships with community organizations, businesses, private security, other governmental agencies, and special interest groups; and police problem-solving methodologies. Topics include foundations of community-oriented policing, partnerships and problem-solving in community-oriented policing, and community-oriented policing projects and programs.

CRJU 1068 - Criminal Law for Criminal Justice 3 Credits 3 Contact Hours Prerequisites: Regular Status

Introduces criminal law in the United States, but emphasizes the current specific Status of Georgia criminal law. The course will focus on the most current statutory contents of the Official Code of Georgia Annotated (O.C.G.A.) with primary emphasis on the criminal and traffic codes. Topics include historic development of criminal law in the United States; statutory law, Georgia Code (O.C.G.A.) Title 16 - Crimes and Offenses; statutory law, Georgia Code (O.C.G.A.) Title 40 - Motor Vehicle and Traffic Offenses; and Supreme Court rulings that apply to criminal law.

CRJU 1072 - Introduction to Forensic Science 3 Credits 3 Contact Hours Prerequisites: Regular Status

Covers the origin, history and role of forensic science in the investigative process. Philosophical, rational and practical framework that supports a case investigation will be outlined. The unifying principles of forensic science, the rooting of forensic science in the pure sciences, and the unique ways in which a forensic scientist must think will also be discussed. The special areas of forensic science will be explored.

CRJU 1075 - Report Writing 3 Credits 3 Contact Hours Prerequisites: Regular Status

Explains and demonstrates the effectiveness of the entire criminal investigation process by the quality of notes reports, and accurate documentation. An examination of what goes into the preparation, content, elements, mechanics, and format of documenting the criminal investigation process. Topics include Field notes, initial information, observations, evidence, victims, witnesses, property, neighborhood canvass, crime scene, laboratory analysis and results, investigative follow-up, suspect statements, and the characteristics essential to quality report writing.

CRJU 1400 - Ethics and Cultural Perspectives for Criminal Justice
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides an exploration ethics and cultural perspectives in criminal justice. In presenting ethics, both the individual perspective and the organizational standpoint will be examined. Four areas of ethical decision making opportunities are studied including: law enforcement ethics; correctional ethics; legal profession ethics; and policymaking ethics. The presentation of cultural perspectives is designed to aid law enforcement officers to better understand and communicate with members of other cultures with whom they come in contact in the line of duty. Topics include defining and applying terms related to intercultural attitudes, role-play activities related to intercultural understanding, developing interpersonal/intercultural communication competence, and development of personal intercultural growth plan.

CRJU 2020 - Constitutional Law for Criminal Justice
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Emphasizes those provisions of the Bill of Rights which pertain to criminal justice. Topics include characteristics and powers of the three branches of government; principles governing the operation of the U.S. Constitution, the Bill of Rights and the Fourteenth Amendment.

CRJU 2050 - Criminal Procedure
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Introduces the procedural law of the criminal justice system which governs the series of proceedings through which government enforces substantive criminal law. The course offers an emphasis on the laws of arrest and search and seizure, the rules of evidence, right to counsel, and the rights and duties of both citizens and officers. The course covers in depth appropriate case law and court rulings that dictate criminal procedure on the State and Federal Level.

CRJU 2060 - Criminology
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Introduces the nature, extent, and factors related to criminal behavior, and the etiology of criminal offenses and offenders. Topics include sociological, psychological, and biological causes of crime; effectiveness of theories in explaining crime; theory integration; and application of theory to selected issues.

CRJU 2070 - Juvenile Justice
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Analyzes the nature, extent, and causes of juvenile delinquency, and examines processes in the field of juvenile justice. Topics include survey of juvenile law, comparative analysis of adult and juvenile justice systems, and prevention and treatment of juvenile delinquency.

CRJU 2090 - Criminal Justice Practicum
3 Credits 9 Contact Hours
Prerequisites: Regular Status and Advisor Approval

Provides experiences necessary for further professional development and exposure to related agencies in the criminal justice field. The student will pursue a professional research project supervised by the instructor. Topics include criminal justice theory applications.

CRJU 2100 - Criminal Justice Internship/Externship
3 Credits 9 Contact Hours
Prerequisites: Regular Status and Advisor Approval

Provides experiences necessary for further professional development and exposure to related agencies in the criminal justice field. The student will pursue an externship in a related agency supervised by the instructor. Topics include criminal justice theory applications.

CTDL – Commercial Truck Driving

CTDL 1010 - Fundamentals of Commercial Driving
3 Credits 3 Contact Hours

Introduces students to the transportation industry, federal and state regulations, records and forms, industrial relations, and other non-driving activities. This course provides an emphasis on safety that will continue throughout the program.

CTDL 1020 - Combination Vehicle Basic Operation and Range Work
2 Credits 3 Contact Hours

Familiarizes students with truck instruments and controls and performing basic maneuvers required to drive safely in a controlled environment and on the Driving Range. Each student must receive 12 hours behind the wheel (BTW) instructional time in range operations such as operating a tractor trailer through clearance maneuvers, backing, turning, parallel parking, and coupling/uncoupling.

CTDL 1030 - Combination Vehicle Advanced Operations
4 Credits 8 Contact Hours

Develops students' driving skills under actual road conditions. The classroom part of the course stresses following safe operating practices. These safe operating practices are integrated into the development of driving skills on the road. Each student must receive at least twelve (12) hours behind-the-wheel (BTW) instructional time on the street/road. In addition the student must have a minimum program total of forty-four (44) hours BTW instructional time in any combination (with CTDL 1020) of range and street/road driving. Note: State law requires that whenever a combination vehicle is operated on public roads, an instructor must be present in the vehicle while the student is driving.

CTDL 1040 - Commercial Driving Internship
4 Credits 12 Contact Hours

Provides the opportunity for an individual to complete his/her training with a company. The internship takes the place of CTDL-1030, Advanced Operations. Working closely with the school a company provides the advanced training which focuses on developing students' driving skills. Each student must receive at least twelve (12) hours behind-the-wheel (BTW) instructional time on the street/road. In addition the student must have a minimum program total of forty-four (44) hours BTW instructional time in any combination (with CTDL 1020) or range and street/road driving. Note: State law requires that whenever a vehicle is operated on public roads, an instructor must be present in the truck while the student is driving.

CUUL - Culinary Arts

CUUL 1000 - Fundamentals of Culinary Arts 4 Credits 5 Contact Hours

Provides an overview of the professionalism in culinary arts, culinary career opportunities, Chef history, pride, and esprit d corp. Introduces principles and practices necessary to food, supply, and equipment selection, procurement, receiving, storage, and distribution. Topics include cuisine, food service organizations, career opportunities, food service styles, basic culinary management techniques, professionalism, culinary work ethics, quality factors, food tests, pricing procedures, cost determination and control, selection, procurement, receiving, storage, and distribution. Laboratory demonstration and student experimentation parallel class work.

CUUL 1110 - Culinary Safety and Sanitation 2 Credits 4 Contact Hours

Emphasizes fundamental kitchen and dining room safety, sanitation, maintenance, and operation procedures. Topics include cleaning standards, O.S.H.A. M.S.D.S. guidelines, sanitary procedures following SERV-SAFE guidelines, HACCAP, safety practices, basic kitchen first aid, operation of equipment, cleaning and maintenance of equipment, dishwashing, and pot and pan cleaning. Laboratory practice parallels class work.

CUUL 1120 - Principles of Cooking 6 Credits 12 Contact Hours Prerequisites: CUUL 1110

Introduces fundamental food preparation terms, concepts, and methods. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include weights and measures, conversions, basic cooking principles, methods of food preparation, recipe utilization, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

CUUL 1129 - Fundamentals of Restaurant Operations 4 Credits 7 Contact Hours Prerequisites: CUUL 1120

Introduces the fundamentals of dining and beverage service and experience in preparation of a wide variety of quantity foods. Course content reflect American Culinary Federation Education Institute apprenticeship training objectives. Topics include dining service/guest service, dining service positions and functions, international dining services, restaurant business laws, preparation and setup, table side service, and beverage service and setup, kitchen operational procedures, equipment use, banquet planning, recipe conversion, food decorating, safety and sanitation, and production of quantity food. Laboratory practice parallels class work.

CUUL 1220 - Baking Principles 5 Credits 9 Contact Hours Prerequisites: CUUL 1120

Presents the fundamental terms, concepts, and methods involved in preparation of yeast and quick breads and baked products. Emphasis is placed on conformance of sanitation and hygienic work habits with health laws. Course content reflects American Culinary Federation Educational Institute cook and pastry apprenticeship training objectives, along with Retail Bakery Association training program. Topics include baking principles; science and use of baking ingredients for breads, desserts, cakes, pastries; weights, measures, and conversions; preparation of baked goods, baking sanitation and hygiene, baking supplies and equipment. Laboratory demonstrations and student experimentation parallel class work.

CUUL 1320 - Garde Manger 4 Credits 9 Contact Hours Prerequisites: CUUL 1120

Introduces basic pantry manger principles, utilization, preparation, and integration into other kitchen operations. Course content reflects American Culinary Federation Educational Institute apprenticeship pantry, garnishing, and presentation training objectives. Topics include pantry functions; garnishes, carving, and decorating; buffet presentation; cold preparations; hot/cold sandwiches; salads, dressings and relishes; breakfast preparation; hot/cold hors d'oeuvres; chateaufroids, gelees, and molds; and pats and terrines. Laboratory practice parallels class work.

CUUL 1370 - Culinary Nutrition and Menu Development 3 Credits 6 Contact Hours Prerequisites: CUUL 1120

Emphasizes menu planning for all types of facilities, services, and special diets. Topics include menu selection, menu development and pricing, nutrition, special diets, cooking nutritional foods, and organics. Laboratory demonstrations and student management and supervision parallel class work.

CUUL 1400 - Basic Nutrition 3 Credits 3 Contact Hours Prerequisites: Regular Status

Emphasize nutrients and nutritional needs. Special needs and diets will be explored with an emphasis on manipulating meal components in order to meet the needs of these diets. Nutrition for different phases of the life cycle and current trends in nutrition will also be explored.

CUUL 1420 – Marketing and Customer Service 3 Credits 3 Credit hours Prerequisite: Regular Status

Focuses on skills necessary to promote sales and incorporate strategies to meet customer needs.

CUUL 1450- Food Service Manager in Training I 3 Credits 3 Credit hours Prerequisite: Regular Status

Introduces culinary management including menu management, production, service, and customer relations.

CUUL 1460 – Food Service Manager in Training II 3 Credits 3 Credit hours Prerequisite: CUUL 1450

Introduces culinary nutrition management that emphasizes the role of the manager, leadership, personnel, and program accountability.

CUUL 2130 - Culinary Practicum 6 Credits 16 Contact Hours Prerequisites: CUUL 1220; CUUL 1320

Familiarizes students with the principles and methods of sound decision making in the hospitality industry and provides them with the opportunity to gain management/supervisory experience in an actual job setting. Students will be placed in an appropriate restaurant, catering, or other food service business for four days per week throughout the semester. On-the-job training topics include restaurant management/on-off premise, catering/food service business, supervisory training, and management training, on-off premise catering, hotel kitchen organization, kitchen management, restaurant kitchen systems, institutional food systems, kitchen departmental responsibilities, and kitchen productivity.

CUUL 2140 - Advanced Baking and International Cuisine
6 Credits 12 Contact Hours
Prerequisites: CUUL 1220; CUUL 1320

Introduces international cuisine and acquisition of advanced cookery techniques. Course content reflects American Culinary Federation Educational Institute cook apprenticeship training objectives and provides background for those aspiring to become chefs. Topics include international cuisine, advanced grill cookery, advanced vegetable cookery, advanced meat cookery, advanced line cookery, advanced fry cookery and nutrition. Laboratory practice parallels class work. Provides in-depth experience in preparing many types of baked goods commonly found in restaurants and hotels. Course content reflects American Culinary Federation and Retail Bakery Association training objectives and provides background for those aspiring to become pastry chefs or bakery supervisors. Topics include breads, pies, cakes, pastry dough, puff pastry, icing, filling, and candy. Laboratory practice parallels class work.

CUUL 2160 - Contemporary Cuisine
4 Credits 9 Contact Hours
Prerequisites: CUUL 1220; CUUL 1320

Emphasizes all modern cuisine and introduces management concepts necessary to the functioning of a commercial kitchen. Topics include international cuisine, cuisine trends, kitchen organization, kitchen management, kitchen supervision, competition entry, nutrition, menu selection, layout and design, and on/off premise catering. Laboratory demonstration and student experimentation parallel class work.

CUUL 2190 – Principles of Culinary Leadership
3 Credits 3 Contact

Familiarizes the student with principles, skills, methods, and behaviors necessary for sound leadership of people in their job responsibilities. Emphasis will be placed on real-life concepts, personal skill development, applied knowledge, and managing human resources. Course content is intended to help leaders, managers, and supervisors deal with a dramatically changing workplace that is affected by technology changes, a more competitive and global market place, corporate restructuring, and the changing nature of work and the workforce. Topics include leadership principles, leadership relative to the function of management; decision making process; building and effect organizational culture; human resource management; and delegating management, organization, and control.

CUUL 2250 – Advanced Baking Principles
6.00 Credits 12 Contact
Prerequisites: CUUL 1220

Provides in-depth experience in preparing many types of baked goods found in restaurants, country clubs, and hotels. Course content reflects American Culinary Federation and Retail Bakery Association training objectives and provides background for those aspiring to become Executive Pastry Chefs, Working Pastry Chefs and Bakers. Topics include Artisan Breads, Tarts, Tortes, Pastry Dough, Puff Pastry, Icing (buttercreams and meringues), Filling (sauces and coulis), Sugar, Chocolates, and Confections. Laboratory practice parallels class work.

DENA - Dental Assisting

DENA 1050 - Microbiology and Infection Control
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Introduces fundamental microbiology and infection control techniques. Topics include classification, structure, and behavior of pathogenic microbes; mode of disease transmission; body's defense and immunity; infectious diseases; and infection control procedures in accordance with CDC recommendations and OSHA guidelines.

DENA 1080 - Dental Anatomy
5 Credits 5 Contact Hours
Prerequisite: Regular Status

Focuses on normal head and neck anatomy and the development and functions of oral anatomy. Topics include dental anatomy; oral histology; oral embryology; osteology of the skull; muscles of mastication and facial expression; temporal mandibular joint; blood lymphatic nerve supply of the head; and salivary glands and related structures.

DENA 1340 - Dental Assisting I: General Chairside
6 Credits 9 Contact Hours
Prerequisites: DENA 1050; DENA 1080

Introduces student to ethics and jurisprudence for the dental assistant and to chairside assisting with diagnostic and operative procedures. Topics include ethics and jurisprudence in the dental office; four-handed dentistry techniques; clinical data collection techniques; introduction to operative dentistry; and dental material basics.

DENA 1350 - Dental Assisting II: Dental Specialties and EFDA Skills
7 Credits 10
Prerequisites: DENA 1340

Focuses on chairside assisting with dental specialty procedures. Topics include prosthodontic procedures (fixed and removable); orthodontics; pediatric dentistry; periodontic procedures; oral and maxillofacial surgery procedures; endodontics procedures; management of dental office emergencies; medically compromised patients and expanded functions approved by law for performance by dental assistants in the state of Georgia. Student will pass a comprehensive examination and successfully perform all required clinical skills to receive EFDA certification.

DENA 1390 - Dental Radiology
4 Credits 5 Contact Hours
Prerequisites: DENA 1080

After completion of the course the student will be able to provide radiation safety for patient and self, expose x-rays, process x-rays, and prepare dental images for the dental office. Topics include fundamentals of radiology and radiation safety; radiographic anatomy and interpretation; intraoral and extraoral radiographic techniques; and quality assurance techniques.

DENA 1400 - Dental Practice Management
2 Credits 3 Contact Hours
Prerequisites: COMP 1000; DENA 1340

Emphasizes procedures for office management in dental practices. Topics include oral and written communication; records management; appointment control; dental insurance form preparation; accounting procedures; supply and inventory control; employability skills and basic computer skills. A computer lab provides basic skills in computer use and utilization of these skills to perform office procedures on a microcomputer.

DENA 1460 - Dental Practicum I
1 Credits 3 Contact Hours
Prerequisites: DENA 1050; DENA 1340; DENA 1350;
DENA 1390
Focuses on infection control in the dental office and assisting with diagnostic and simple operative procedures. Topics include infection control procedures; clinical diagnostic procedures; and general dentistry procedures.

DFTG – Drafting Technology

DFTG 1015 - Practical Mathematics for Drafting Technology
3 Credits 3 Contact Hours
Introduces and develops basic geometric and trigonometric concepts. Course content will emphasize geometric concepts and trigonometric concepts as they pertain to drafting/CAD.

DFTG 1101 - CAD Fundamentals
4 Credits 6 Contact Hours
Establishes safety practices as they relate to a drafting environment. Introduces basic CAD functions while presenting essential principles and practices for line relationships, scale, and geometric construction.

DFTG 1103 - Multiview/Basic Dimensioning
4 Credits 6 Contact Hours
Prerequisites: DFTG 1101
Provides multiview and pictorial sketching, orthographic drawing and fundamental dimensioning methods necessary to develop 2D and 3D views that completely describe machine parts for manufacture using intermediate CAD software techniques.

DFTG 1105 - 3D Mechanical Modeling
4 Credits 6 Contact Hours
In the 3D Mechanical Modeling course, the student becomes acquainted with concepts of the software related to Parametric modeling for mechanical drafting. The student will develop the skills necessary to create 3D models and presentation/working drawings.

DFTG 1107 - Advanced Dimensioning/Sectional Views
4 Credits 6 Contact Hours
Prerequisites: DFTG 1103
Continues dimensioning skill development and introduces tools for precision measurement and sectional views.

DFTG 1109 - Auxiliary Views/Surface Development
4 Credits 6 Contact Hours
Prerequisites: DFTG 1105
Introduces techniques necessary for auxiliary view drawings, surface development, and developing sheet metal parts. Topics include primary auxiliary views, secondary auxiliary views, surface development, and developing sheet metal parts.

DFTG 1111 - Fasteners
4 Credits 6 Contact Hours
Prerequisites: DFTG 1105
Covers the basics of identifying fastening techniques, interpreting technical data, and creating working drawings. Topics include utilization of technical data, identifying thread types, graphic representation of threaded fasteners, utilization of other fastening techniques, welding symbol identification, and welding symbol usage in working drawings.

DFTG 1113 – Assembly Drawings
4 Credits 6 Contact Hours
Corequisite: DFTG 1111
Provides knowledge and skills necessary to create working drawings for the manufacturer of machine parts. Topics include detail drawings, orthographic assembly drawings, pictorial assembly drawing, and utilization of technical reference source.

DFTG 1125 - Architectural Fundamentals
4 Credits 6 Contact Hours
Introduces architectural fundamental principles and practice associated with architectural styles and drawing. Fundamentals of residential and commercial practices will be covered. Topics include specifications and materials; architectural styles, construction drawing practices and procedures, dimensioning, and scales.

DFTG 1127 - Architectural 3D Modeling
4 Credits 6 Contact Hours
Acquaints students with concepts of the software related to parametric modeling for architectural drafting. The student will develop the skills necessary to create 3D models and presentation/construction drawings.

DFTG 1129 - Residential Drawing I
4 Credits 6 Contact Hours
Prerequisites: DFTG 1125
Introduces the essential skills necessary for assessing the expected materials, labor requirements, and costs for given structures or products. Also students will be introduced to architectural drawing skills necessary to produce a basic set of construction drawings given floor plan information. Topics include material take-offs; footing and foundation; floor plans; exterior elevations, site plans; and construction drawing techniques/practices.

DFTG 1131 - Residential Drawing II
4 Credits 6 Contact Hours
Prerequisites: DFTG 1129
Continues in-depth architectural drawing practice and develops architectural design skills. Plans are designed to meet applicable codes. Topics include material take-offs; footing and foundation; floor plans; exterior elevations; site plans; and construction drawing techniques/practices.

DFTG 1133 - Commercial Drawing I
4 Credits 6 Contact Hours
Prerequisites: DFTG 1125
Introduces commercial drawing skills necessary to produce construction drawings given floor plan information. Topics include structural steel detailing, reflected ceiling plans, rebar detailing, and commercial construction drawings.

DFTG 2010 – Engineering Graphics
4.00 Credits 6 Contact Hours
Covers the basics of computer terminology, input and output devices, file formatting, file management, for CAD software. Introduces students to the fundamentals of geometric construction, scale reading line relationship and basic history of the drafting concepts. Student will also be introduced to basic and intermediate CAD commands and procedures, and drafting concepts and principles.

DFTG 2020 – Visualization and Graphics
3 Credits 7 Contact Hours
Introduces engineering graphics and component visualization. Sketching, line drawing, computer assisted drafting solid modeling, including parametric modeling, are practiced. Development of working drawings and requirements for drawing in a manufacturing and rapid pro-type environment are emphasized.

DFTG 2030 - Advanced 3D Modeling Architectural
4 Credits 7 Contact Hours
Prerequisites: DFTG 1127

Acquaints students with concepts of the software related to Presentations for architectural renderings and architectural animations. Students will demonstrate skills in texture applications, camera angles for presentations, lighting and shadow techniques for architectural renderings, and animation techniques for architectural presentations.

DFTG 2040 - Advanced 3D Modeling Mechanical
4 Credits 7 Contact Hours
Prerequisites: DFTG 1105

Acquaints students with concepts of the software related to sheet metal modeling for mechanical drafting, multi-body parts assemblies, and basic animation techniques for mechanical assembly presentations.

DFTG 2110 – Print Reading I
2 Credits 3 Contact Hours

Introduces the fundamental principles and practices associated with interpreting technical drawings. Topics include interpretation of blueprints and sketching.

DFTG 2120 - Print Reading for Architecture
3 Credits 5 Contact Hours

Emphasizes skills in reading, producing, and interpreting construction drawings. Topics include reading and measuring plans, identifying and understanding lines, symbols, dimensions, materials, schedules, and specifications.

DFTG 2210 – Print Reading II
2 Credits 3 Contact Hours
Prerequisites: DFTG 2110

Continues the development of blueprint reading as applied to technical drawing. Topics include threads (inch and metric), auxiliary views, geometric tolerancing, and weldments.

DFTG 2500 - Drafting Technology Exit Review
3 Credits 9 Contact Hours

Emphasizes students' production of portfolio-quality pieces. Focuses on the preparation for entry into the job market.

DHYG - Dental Hygiene

DHYG 1000 - Tooth Anatomy and Root Morphology
2 Credits 2 Contact Hours

Provides the student with a thorough knowledge of external and internal morphological characteristics of human primary and secondary dentition. Also introduces the student to various tooth identification systems, classifications of occlusion and dental anomalies. Topics include oral cavity anatomy, dental terminology, external and internal tooth anatomy, tooth nomenclature and numbering systems, individual tooth and root morphology, occlusion and dental anomalies.

DHYG 1010 - Oral Embryology and Histology
1 Credits 1 Contact Hours

Focuses on the study of cells and tissues of the human body with emphasis on those tissues that compose the head, neck, and oral cavity. Topics include cellular structure and organelles; histology of epithelium; histology of connective tissue; histology of muscle tissue; histology of nerve tissue; histology of oral mucosa and orofacial structures; embryological development of the head and neck; tooth development; and development of tooth supporting structures.

DHYG 1020 - Head and Neck Anatomy
2 Credits 2 Contact Hours

Focuses on anatomy of the head and neck. Emphasis is placed on those structures directly affected by the practice of dentistry. Topics include terminology; anatomic landmarks; osteology of the skull; temporomandibular joint; muscles of mastication; muscles of facial expression; nervous system; blood supply of the head and neck;

lymphatic system and immunology; endocrine and exocrine glands of the head and neck; nasal and paranasal sinuses; fascial spaces and the spread of dental infections; and anatomy concerning local anesthesia.

DHYG 1030 - Dental Materials
2 Credits 3 Contact Hours

Focuses on the nature, qualities, composition, and manipulation of materials used in dentistry. The primary goal of this course is to enhance the student's ability to make clinical judgments regarding the use and care of dental materials based on how these materials react in the oral environment. Topics include dental materials standards, dental materials properties, impression materials, gypsum products, mouthguards and whitening systems, dental bases, liners and cements, temporary restorations, classifications for restorative dentistry, direct restorative materials, indirect restorative materials, polishing procedures for dental restorations, removable dental prostheses, sealants, and implants.

DHYG 1040 - Preclinical Dental Hygiene Lecture
2 Credits 2 Contact Hours
Corequisites: DHYG 1050

Provides fundamental skills to be utilized in the delivery of optimum patient care by the dental hygienist. Topics include patient assessment, instrumentation, charting, occlusion, caries, emergencies, ethics and professionalism, asepsis, and patient and clinician positioning.

DHYG 1050 - Preclinical Dental Hygiene Lab
2 Credits 6 Contact Hours
Corequisites: DHYG 1040

Provides fundamental skills to be utilized in the delivery of optimum patient care by the dental hygienist. Topics include asepsis, ethics and professionalism, emergencies, patient assessment, patient and clinician positioning, instrumentation, charting, occlusion and caries.

DHYG 1070 - Radiology Lecture
2 Credits 2 Contact Hours
Prerequisites: DHYG 1020

Emphasizes the application of radiology principles in the study of the teeth and their surrounding structures. Topics include radiation physics principles, radiation biology, radiation safety, radiographic quality assurance, imaging theory, radiographic interpretation, radiographic need, legal issues of dental radiography, and digital radiography techniques and principles.

DHYG 1090 - Radiology Lab
1 Credits 3 Contact Hours
Prerequisites: DHYG 1020

Emphasizes the application of radiology principles in the study of the teeth and their surrounding structures. Topics include radiation safety, radiographic quality assurance, imaging theory, radiographic interpretation, radiographic need, and digital radiography principles and techniques.

DHYG 1110 - Clinical Dental Hygiene I Lecture
2 Credits 2 Contact Hours
Prerequisites: DHYG 1040
Corequisites: DHYG 1111

Continues the development of knowledge in patient care. Topics include prevention, instrumentation, patient management, dental appliances, and treatment planning.

DHYG 1111 - Clinical Dental Hygiene I Lab
3 Credits 9 Contact Hours
Prerequisites: DHYG 1050
Corequisites: DHYG 1110

Continues the development of knowledge in patient care. Topics include prevention, instrumentation, patient management, dental appliances, treatment planning, and applied techniques.

DHYG 1206 - Pharmacology and Pain Control
3 Credits 3 Contact Hours

Introduces principles of basic pharmacology as they pertain to the practice of dentistry and dental hygiene. Emphasizes actions and reactions of medications commonly used in the dental office or taken by dental patients. Topics include pharmaceutical referencing, legal and ethical considerations, drug effects, contraindications, drug related emergencies, dental related anesthesia, and pain control.

DHYG 2010 - Clinical Dental Hygiene II Lecture
2 Credits 2 Contact Hours
Prerequisites: DHYG 1070; DHYG 1110
Corequisites: DHYG 2020

Continues the development of student knowledge in treating patients and preventing oral disease. Topics include instrument sharpening; patient assessment; antimicrobial use; pulp vitality testing; treatment of hypersensitivity; whitening; implant care; tobacco cessation; pit and fissure sealants; scaling, debridement, and root planing; ultrasonics and air polishing; and dietary analysis.

DHYG 2020 - Clinical Dental Hygiene II Lab
2 Credits 6 Contact Hours
Prerequisites: DHYG 1070; DHYG 1090; DHYG 1111
Corequisites: DHYG 2010

Continues the development of student knowledge in treating patients and preventing oral disease. Topics include instrument sharpening; patient assessment; antimicrobial use; pulp vitality testing; treatment of hypersensitivity; whitening; implant care; tobacco cessation; pit and fissure sealants; scaling, debridement, and root planing; ultrasonics and air polishing; dietary analysis, and applied techniques.

DHYG 2050 – General and Oral Pathology/Pathophysiology
3 Credits 3 Contact Hours
Prerequisites: DHYG 1010; DHYG 1020

Introduces pathology as a specialty of dentistry and includes the etiology, pathogenesis and recognition of various pathological conditions. Emphasis is placed on oral and paraoral pathology and systemic conditions affecting the head and neck. Topics include terminology and biopsy procedures; inflammation, repair, and regeneration; soft tissue and dental anomalies; pathogenesis of caries and pulpal pathology; cysts and tumors of the head and neck; systemic conditions that affect the oral structures; infectious diseases; diseases of the salivary glands; diseases of bone; blood dyscrasias; vesiculo-erosive and autoimmune diseases; and genetic diseases and syndromes of the head and neck.

DHYG 2070 - Community Dental Health
3 Credits 5 Contact Hours
Prerequisites: DHYG 1110

Provides students with a broad understanding of the healthcare system and an objective view of the significant social, political, psychological and economic forces directing the system. Prepares students to promote oral health and prevent oral disease in a community, by meeting specific dental health needs of community groups. Topics include epidemiology, community dental care assessment, community dental care provision, preventive counseling for groups, group oral health education, terminology, dental care systems, biostatistics, and concepts of dental research.

DHYG 2080 - Clinical Dental Hygiene III Lecture
2 Credits 2 Contact Hours
Prerequisites: DHYG 2010
Corequisites: DHYG 2090

Continues the development of student knowledge necessary for treatment and prevention of oral diseases. Topics include treatment of patients with special needs.

DHYG 2090 - Clinical Dental Hygiene III Lab
4 Credits 12 Contact Hours
Prerequisites: DHYG 2020
Corequisites: DHYG 2080

Continues the development of student skills necessary for treatment and prevention of oral disease. Topics include special needs patients and applied techniques.

DHYG 2110 - Biochemistry and Nutrition Fundamentals for the Dental Hygienist
2 Credits 2 Contact Hours

Provides a basic introduction to organic chemistry and biochemistry. Familiarizes students with the role of nutrition in the human body with an emphasis on the dental hygienist's role as a nutritional educator. Topics include molecular structure, carbohydrates, proteins, nutrition and digestion, bioenergetics, nutritional aspects, nutritional disorders, and diet assessment.

DHYG 2130 - Clinical Hygiene IV Lecture
2 Credits 2 Contact Hours
Prerequisites: DHYG 2080
Corequisites: 2140

Focuses on the dental hygiene field and presents the fundamental concepts and principles necessary for successful participation in the dental profession. Topics include employability skills, State of Georgia Dental Practice Act, office management, expanded duties, legal aspects, ethics, dental hygiene practice settings, and dentistry and dental hygiene regulation.

DHYG 2140 - Clinical Dental Hygiene IV Lab
4 Credits 12 Contact Hours
Prerequisites: DHYG 2090
Corequisites: DHYG 2130

Continues the development of student skills necessary for treatment and prevention of oral disease. Topics include applied techniques and time management.

DHYG 2200 - Periodontology
3 Credits 3 Contact Hours
Prerequisites: DHYG 1010

Provides fundamental information on periodontal anatomy, pathogenesis of the periodontal diseases, and an introduction to modern rational periodontal therapy, including preventive, non-surgical, and surgical methods. Topics include tissues of the periodontium, periodontal pathology, periodontal diseases, assessment and treatment planning, periodontal disease therapy, and periodontal emergencies.

DIET-Diesel Equipment Technology

DIET 1000 - Introduction to Diesel Technology, Tools, and Safety
3.00 Credits 5 Contact Hours
Corequisites: DIET 1010

Introduces basic knowledge and skills the student must have to succeed in the Diesel Equipment Technology field. Topics include an overview of diesel powered vehicles, diesel technology safety skills, basic tools and equipment, reference materials, measuring instruments, shop operation, mechanical fasteners, welding safety, and basic welding skills. Classroom and lab experiences on safety, precision measuring, and basic shop practices are highly emphasized.

DIET 1010 – Diesel Electrical and Electronic Systems
7 Credits/14 Contact Hours
Corequisites: DIET 1000

Introduces students to electrical and electronic systems used on medium/heavy duty trucks and heavy equipment. Topics include general electrical system diagnosis, battery diagnosis and repair, starting system diagnosis and repair, charging system diagnosis and repair, lighting system diagnosis and repair, gauges and warning devices, and an introduction and familiarization with electrical and electronic systems.

DIET 1020 – Preventive Maintenance
5 Credits 8 Contact Hours
Prerequisites: DIET 1010

Introduces preventive maintenance procedures pertaining to medium/heavy duty trucks and heavy equipment. Topics include engine systems, cab and hood, heating, ventilation and air conditioning (HVAC), electrical and electronics, frame, and chassis.

DIET 1030 - Diesel Engines
6 Credits 13 Contact Hours
Prerequisites: DIET 1010

Introduces diesel engines used in medium/heavy duty trucks and heavy equipment. Topics include general engine diagnosis, cylinder head and valve train, engine block, engine lubrication system, engine cooling, air induction, exhaust, fuel supply systems, electronic fuel management, and engine brakes. Using and interpreting test and measuring equipment is highly emphasized.

DIET 1040 - Diesel Truck and Heavy Equipment HVAC Systems
3 Credits 6 Contact Hours
Prerequisites: DIET 1010

Introduces systems used in medium/heavy duty trucks and heavy equipment. Classroom instruction on HVAC theory and operation along with local, state, and federal regulations are strongly emphasized. Topics include HVAC safety, HVAC system theory and operation, A/C system component diagnosis and repair, HVAC system diagnosis and repair, HVAC operating systems and related controls, and refrigeration recovery, recycling, and handling procedures.

DIET 2001 - Heavy Equipment Hydraulics
6 Credits 11 Contact Hours
Prerequisites: DIET 1010

Introduces the student to basic hydraulic fundamentals, components, system servicing, symbols and schematics. The student will learn component operation and service techniques for maintaining a hydraulic system. The student will also learn to identify the ISO symbols used on hydraulic schematics and to trace the hydraulic schematics. Topics include general system operation; basic hydraulic principles; hydraulic system components; hydraulic control valves; load sensing pressure control systems; pilot operated hydraulic system operation; and hydraulic actuators.

DIET 2011 - Off Road Drivelines
6 Credits 11 Contact Hours
Prerequisites: DIET 1010

Introduces power trains used on heavy equipment such as bulldozers, excavators, wheel loaders, back-hoe loaders and skidders. Classroom and lab instruction on components and systems with use and interpreting testing and diagnosing equipment are highly emphasized. Topics include power train theory and principles, clutches, manual transmissions, drive shafts, differentials, final drives, special drives, final drive failure analysis, torque converters, hydraulically shifted transmissions, electronic transmissions, hydrostatic transmissions, and transmission failure analysis.

ECCE – Early Childhood Care and Education

ECCE 1101 - Introduction to Early Childhood Care and Education 3 Credits 3 Contact Hours

Introduces concepts relating the responsibilities and procedures involved in a variety of early childhood care situations. Topics include historical perspectives; professionalism; guidance; developmentally appropriate practices; learning environment (including all children); cultural diversity; and licensing, accreditation, and credentialing.

ECCE 1103 - Child Growth and Development 3 Credits 3 Contact Hours

Introduces the student to the physical, social, emotional, and cognitive development of the young child (prenatal through 12 years of age). The course provides for competency development in observing, recording, and interpreting growth and development stages in the young child; advancing physical and intellectual competence; supporting social and emotional development; and examining relationships between child development and positive guidance. Topics include developmental characteristics, prenatal through age 12, developmental guidance applications, observing and recording techniques, ages and stages of development, and introduction to children with special needs.

ECCE 1105 - Health, Safety and Nutrition 3 Credits 4 Contact Hours

Introduces the theory, practices, and requirements for establishing and maintaining a safe, healthy learning environment. Topics include CPR and first aid, health issues, safety issues, child abuse and neglect, and nutritional needs of children.

ECCE 1112 - Curriculum and Assessment 3 Credits 4 Contact Hours Corequisites: ECCE 1103

Provides the student with an understanding of developmentally effective approaches to teaching, learning, observing, documenting and assessment strategies that promote positive development for young children. The course will enable the student to establish a learning environment appropriate for young children and to identify the goals, benefits, and uses of assessment in the development of curriculum for young children. Topics include observing, documenting, and assessing; learning environments; development of curriculum plans and materials; curriculum approaches; and instructional media.

ECCE 1113 - Creative Activities for Children 3 Credits 4 Contact Hours

Introduces the concepts related to creativity in art, music, movement and creative drama, and facilitating children's creative expression across the curriculum. Topics include concepts of creativity and expression; theories of young children's creative development; facilitation of children's creative expression, media, methods and materials across the curriculum; appreciation of children's art processes and products; appreciation of children's creativity in music, movement and dance; appreciation of children's creative expression in play and creative drama; and art and music appreciation.

ECCE 1121 - Early Childhood Care and Education Practicum 3 Credits 7 Contact Hours Prerequisites: ECCE 1105 or approved CPR certification (see advisor)

Provides the student with the opportunity to gain a supervised experience in a practicum placement site allowing demonstration of techniques obtained from course work. Practicum topics include promoting child development and learning; building family and community relationships; observing, documenting, and assessing to support young children and families; teaching and

learning; becoming a professional; and guidance techniques and classroom management.

ECCE 2115 - Language and Literacy 3 Credits 4 Contact Hours Prerequisites: ECCE 1103

Develops knowledge, skills, and abilities in supporting young children's literacy acquisition and development, birth through age twelve. Topics include developmental continuum of reading and writing, literacy acquisition birth to five years of age, literacy acquisition in kindergarten, literacy acquisition in early grades, and literacy acquisition in children who are culturally and linguistically diverse.

ECCE 2116 - Math and Science 3 Credits 4 Contact Hours Prerequisites: ECCE 1103

Presents the process of introducing math and science concepts to young children. Includes planning and implementation of developmentally appropriate activities and development of math and science materials, media and methods. Topics include inquiry approach to learning; cognitive stages and developmental processes in developing math and science concepts with children birth to five; cognitive stages and developmental processes in developing math and science concepts with children in kindergarten and primary grades; planning math and science activities; and development of math and science materials, media and methods.

ECCE 2201 - Exceptionalities 3 Credits 3 Contact Hours Prerequisites: ECCE 1103

Provides for the development of knowledge and skills that will enable the student to understand individuals with special needs and appropriately guide their development. Special emphasis is placed on acquainting the student with programs and community resources that serve families with children with special needs. Topics include inclusion/least restrictive environment (LRE), physical and motor impairments, gifted/talented, intellectual and cognitive disabilities, emotional and behavioral disorders, communication disorders in speech and language, autism spectrum disorders, visual impairments, deaf and hard of hearing, health impairments, multiple disabilities, and community resources.

ECCE 2202 - Social Issues and Family Involvement 3 Credits 3 Contact Hours

Enables the student to value the complex characteristics of children's families and communities and to develop culturally responsive practices which will support family partnerships. Students use their understanding to build reciprocal relationships which promote children's development and learning. Students are introduced to local programs and agencies that offer services to children and families within the community. Topics include professional responsibilities, family/social issues, community resources, family education and support, teacher-family communication, community partnerships, social diversity and anti-bias concerns, successful transitions, and school-family activities.

ECCE 2203 - Guidance and Classroom Management 3 Credits 3 Contact Hours Prerequisites: ECCE 1103

Examines effective guidance practices in group settings based upon the application of theoretical models of child development and of developmentally appropriate practices. Focus will be given to individual, family, and cultural diversity. Topics will include developmentally appropriate child guidance (birth through 12); effective classroom management, including preventive and interventive techniques; understanding challenging behaviors; and implementing guidance plans.

ECCE 2240 - Early Childhood Care and Education Internship
12 Credits 36 Contact Hours
Prerequisites: ECCE 1101; ECCE 1103; ECCE 1105 or approved CPR certification (see advisor)
Provides the student with the opportunity to gain a supervised experience in an actual or simulated work site allowing demonstration of techniques obtained from course work. Practicum topics include promoting child development and learning; building family and community relationships; observing, documenting, and assessing to support young children and families; teaching and learning; becoming a professional; and guidance techniques and classroom management.

ECCE 2310 - Paraprofessional Methods and Materials
3 Credits 3 Contact Hours
Prerequisites: ECCE 1103
Develops the instructional skills to enable the student to work as a paraprofessional in a program for kindergarten through elementary age children. Topics include assessment and curriculum, instructional techniques, and methods for instruction in a learning environment.

ECCE 2312 - Paraprofessional Roles and Practices
3 Credits 3 Contact Hours
Prerequisites: Regular Status; ECCE 1103
Develops skills to enable the student to work as a paraprofessional in a program for kindergarten through elementary aged children. Topics include professional qualifications, professional and ethical conduct, professionalism and employment, and paraprofessional roles and responsibilities.

ECCE 2320 - Program Administration and Facility Management
3 Credits 3 Contact Hours
Provides training in planning, implementation, and maintenance of an effective early childhood program and facility. Topics include organization, mission, philosophy, goals of a program; types of programs; laws, rules, regulations, accreditation, and program evaluation; needs assessment; administrative roles and board of directors; anti-bias program development; child development and developmentally appropriate practices; marketing, public and community relations, grouping, enrollment and retention; working with families; professionalism and work ethics; space management; money management; and program, equipment, and supplies management.

ECCE 2322 - Personnel Management
3 Credits 3 Contact Hours
Provides training in early childhood personnel management. Topics include staff records; communication; personnel policies; managing payroll; recruitment, interviewing, selection, hiring, motivating, and firing; staff retention; staff scheduling; staff development; staff supervision; conflict resolution; staff evaluations; ethical responsibilities to employees; and time and stress management.

ECCE 2330 - Infant/Toddler Development
3 Credits 3 Contact Hours
Introduces the three developmentally meaningful age periods during infancy. Provides knowledge, grounded in brain and attachment research, about how children learn and the skills and attitudes necessary to support optimum social/emotional, cognitive, and physical development for children from birth to three. Principles of brain development and language and communication will be explored in depth. Special emphasis is placed on experiential learning to show caregivers practical ways of meeting the fundamental needs of all infants in group care settings and of helping them learn the lessons that every infant comes into the world eager to learn. The needs of infants and toddlers with established disabilities as well as those at risk for developmental problems will be examined from the perspective of early intervention and inclusion.

ECCE 2332 - Infant/Toddler Group Care and Curriculum
3 Credits 3 Contact Hours
Provides the knowledge, skills and attitudes necessary to meet the fundamental needs of children from birth to three in group care settings. Establishes a foundation for a responsive, relationship-based curriculum for children birth to three who are in group care settings. Introduces the philosophy behind primary care, continuity of care, and respectful care. Explores ways of creating environments for infant/ toddler group care which foster optimum social/emotional, physical and cognitive development, promote cultural sensitivity and encourage positive parent caregiver relations.

ECET – Electrical and Computer Engineering Technology

ECET 1101 – Circuit Analysis I
4 Credits 6 Contact Hours
Prerequisites: MATH 1111 with a minimum grade of C; ENGT 1000
Emphasizes the knowledge and ability to analyze basic DC circuits and introductory concepts of AC circuits. Topics include international units, basic electrical laws, series and parallel circuits, network analysis concepts, network theorems concepts, DC instruments, grounding techniques, magnetism, inductance/capacitance, transient analysis, and introduction to dependent sources and 2-port parameters. Laboratory work parallels class work.

ECET 1110 – Digital Systems I
4 Credits 6 Contact Hours
Prerequisites: ENGT 1000
Study of digital circuit fundamentals with an emphasis on digital electronics and techniques, simplification of logic circuits, sequential and combinational logic circuits, programmable logic devices, flip-flops and registers, binary number system, and arithmetic and logic operations. Laboratory work parallels class work using trainers, DesignWorks and Altera simulation software and system.

ECET 2101 – Circuit Analysis II
4 Credits 6 Contact Hours
Prerequisites: MATH 1111 with a minimum grade of C; ECET 1101
Continues study of AC circuit analysis, which emphasizes complex networks. Topics include analysis of complex networks, networks with multiple sources, AC network theorems, resonance, transformers, three-phase systems, filters and bode plots, non-sinusoidal waveforms, and pulse response of RLC circuits. Laboratory work parallels class work.

ECET 2120 – Electronic Circuits I
4 Credits 6 Contact Hours
Introduces the conduction process in semiconductor materials and devices. Topics include semiconductor physics; diodes; basic diode circuits and applications; biasing, stability and graphical analysis of bipolar junction transistors and field effect transistors; introduction to silicon controlled rectifiers; device curve characteristics; and related devices with selected applications. Laboratory work includes circuit construction, use of appropriate instruments, troubleshooting and circuit simulation using P-SPICE.

ECON – Economics

ECON 1101 - Principles of Economics
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides a description and analysis of economic operations in contemporary society. Emphasis is placed on developing an understanding of economic concepts and policies as they apply to everyday life. Topics include basic economic principles; economic forces and indicators; capital and labor; price, competition, and monopoly; money and banking; government expenditures, federal and local; fluctuations in production, employment, and income; and United States economy in perspective

ECON 2105 - Macroeconomics
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides a description and analysis of macroeconomic principles and policies. Topics include basic economic principles, macroeconomic concepts, equilibrium in the goods and money markets, macroeconomic equilibrium and the impact of fiscal and monetary policies.

ECON 2106 – Microeconomics
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides an analysis of the ways in which consumers and business firms interact in a market economy. Topics include basic economic principles, consumer choice, behavior of profit maximizing firms, modeling of perfect competition, monopoly, oligopoly and monopolistic competition.

ELCR – Electronics

ELCR 1005 - Soldering Technology
1 Credits 2 Contact Hours

Develops the ability to solder and desolder connectors, components, and printed circuit boards using industry standards. Topics include safety practices, soldering, desoldering, anti-static grounding, and surface mount techniques.

ELCR 1010 - Direct Current Circuits
6 Credits 7 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or diploma program admission-level math competency

Provides instruction in the theory and practical application of simple and complex direct current circuitry. Topics include laboratory safety practices and procedures, electrical laws and principles, DC test equipment basic series, parallel and combination circuits, complex series and parallel circuits, DC theorems, and applied algebraic concepts.

ELCR 1020 - Alternating Current Circuits
7 Credits 9 Contact Hours
Prerequisites: ELCR 1010

Introduces the theory and application of varying sine wave voltages and current, and continues the development of AC concepts with emphasis on constructing, verifying, and troubleshooting reactive circuits using RLC theory and practical application. Topics include AC wave generation, frequency and phase relationship, impedance, admittance, and conductance power factors, reactive components simple RLC circuits, AC circuit resonance, passive filters, and non-sinusoidal wave forms.

ELCR 1030 - Solid State Devices
5 Credits 6 Contact Hours
Prerequisites: ELCR 1020

Provides instruction in the theory and application of solid state devices in the electronics industry. Emphasis is placed on the physical characteristics and uses of solid state devices. Topics include PN diodes, power supplies, voltage regulation, bipolar junction theory and application, field effect transistors, and special applications.

ELCR 1040 - Digital and Microprocessor Fundamentals
5 Credits 7 Contact Hours
Prerequisites: ELCR 1020

Covers digital electronics and microprocessor fundamentals. Digital fundamentals will introduce basic topics such as binary topics such as binary arithmetic, logic gates and truth tables, Boolean algebra and minimization techniques, logic families, and digital test equipment. Upon completion of the foundational digital requirements, a more advanced study of digital devices and circuits will include such topics as flip-flops, counters, multiplexers and de-multiplexers, encoding and decoding, displays, and analog to digital and digital to analog conversions. Students will also explore the basic architecture and hardware concepts of the microprocessor.

ELCR 1060 - Linear Integrated Circuits
3 Credits 4 Contact Hours
Prerequisites: ELCR 1020

Provides in-depth instruction on the characteristics and applications of linear integrated circuits. Topics include operational amplifiers, timers, and three-terminal voltage regulators.

ELCR 1280 – Introduction to Embedded Systems
3 Credits 4 Contact Hours

Provides introduction coverage of embedded systems. An embedded system can be defined as a control system or computer system designed to perform a specific task. Emphasis is placed on the physical characteristics and uses of embedded systems. Topics include basic microcontroller, introduction to embedded system software, programming tools, sensors, actuators, basic control system, and embedded systems applications.

ELCR 2110 - Process Control
3 Credits 5 Contact Hours
Prerequisites: ELCR 1020

Introduces industrial process control applications with an emphasis on sensors and signal conditioning. Topics include symbology and drawing standards, control techniques, sensors and signal conditioning, and ISA and other relevant standards.

ELCR 2120 - Motor Controls
3 Credits 5 Contact Hours
Prerequisites: ELCR 1020

Introduces the application of motor controls in the industrial environment. Topics include AC/DC motors, AC/DC drives, MCC and contractors, NEC and NEMA standards, ladder diagrams, and power sources.

ELCR 2130 - Programmable Controllers
3 Credits 5 Contact Hours
Prerequisites: ELCR 1020

Provides the basic skills and techniques used in industrial application of programmable controls. Topics include controller hardware, programming, PC applications, and troubleshooting.

ELCR 2140 - Mechanical Devices
2 Credits 3 Contact Hours
Prerequisites: Regular Status

Develops knowledge and skills necessary to transmit mechanical power using common industrial linkage types. Emphasis is placed on use of mechanical devices in combination with electronic controls. Topics include linkages, motion analysis, gear drives, and preventative maintenance.

ELCR 2150 - Fluid Power
2 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides an overview of fluid power operation as applied to industrial electronics. Emphasis is placed on the interfacing of electronic and fluidic systems. Topics include safety, fluid dynamics, hydraulics, pneumatics, air logic, and electrical interfacing.

ELCR 2160 - Advanced Microprocessors and Robotics
3 Credits 4 Contact Hours
Prerequisites: ELCR 1040

Continues an earlier study of microprocessor fundamentals and introduces robotic theory and application. Topics include the microprocessor instruction set, programming and debugging applications and troubleshooting, microprocessor applications for embedded systems, basic DSP concepts, robotic terminology and languages, and robotic programming.

ELCR 2590 - Fiber Optic Systems
3 Credits 4 Contact Hours

Introduces the fundamentals of fiber optics and explores the applications of fiber optic transmission systems. Laboratory exercises give students hands-on experience with fiber optic devices and test equipment. Topics include fundamentals of fiber optics, types of optical fibers, fiber materials and manufacture,

cabling, light sources/transmitters/receivers, connectors, splicing, test measurement, and fiber optic system design.

ELCR 2600 - Telecommunication and Data Cabling
3 Credits 4 Contact Hours
Prerequisites: ELCR 1010

Introduces the basic of cable installation from the initial site survey to splicing cable and making connections. Through laboratory activities, students perform the basic tasks of a cable installer. Topics include basic standards and practices, cable rating and performance, cable installation and management, testing and troubleshooting, industry standards, pulling cable, and understanding blueprints.

ELCR 2660 - Security System Installation and Testing
4 Credits 6 Contact Hours

Provides a working knowledge of basic security system applications and theory. Students will be able to identify system components and their uses and apply that knowledge to system design. The course utilizes hands-on training in system installation, programming, testing, and troubleshooting to assess the preparedness of the student in the security system installation and service industry.

ELTR – Electrical Technology

ELTR 1020 - Electrical Systems Basics I
3 Credits 4 Contact Hours

Introduces the theory and application of varying sine wave voltages and current. Topics include magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers.

ELTR 1060 - Electrical Prints, Schematics, and Symbols
2 Credits 3 Contact Hours

Introduces electrical symbols and their use in construction blueprints, electrical schematics, and diagrams. Topics include electrical symbols, component identification, print reading and scales and measurement.

ELTR 1080 - Commercial Wiring I
5 Credits 6 Contact Hours

Introduces commercial wiring practices and procedures. Topics include industrial safety procedures, the National Electrical Code, principles of grounding and bonding, commercial services, three-phase power systems, and electric motor fundamentals.

ELTR 1090 - Commercial Wiring II
3 Credits 5 Contact Hours

Continues the study in commercial wiring practices and procedures. Topics include conduit installation and system design concepts.

ELTR 1180 - Electrical Controls
4 Credits 6 Contact Hours

Introduces line and low voltage switching circuits, manual and automatic controls and devices, and circuits. Emphasis will be placed on switching circuits, manual and automatic controls and devices, line and low voltage switching circuits, and operation, application and ladder diagrams. Topics include ladder and wire diagrams, switching circuits, manual controls and devices, automatic controls and devices, and application and operation of controllers and controls, and variable speed controls.

ELTR 1205 - Residential Wiring I
3 Credits 4 Contact Hours

Introduces residential wiring practices and procedures. Topics include print reading, National Electrical Code, wiring materials and methods, and control of luminaries and receptacle installation.

ELTR 1210 - Residential Wiring II
3 Credits 4 Contact Hours

Provides additional instruction on wiring practices in accordance with National Electrical Code. Topics include single and multi-family load calculations, single and multi-family service installations, sub-panels and feeders, and specialty circuits.

ELTR 1220 - Industrial PLCs
4 Credits 6 Contact Hours

Introduces operational theory, systems terminology, PLC installations, and programming procedures for programmable logic controls. Emphasis is placed on PLC programming, connections, installations, and start-up procedures. Topics include PLC hardware and software, PLC functions and terminology, introductory numbering systems, PLC installation and setup, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

ELTR 1250 - Diagnostic Troubleshooting
2 Credits 5 Contact Hours

Introduces diagnostic techniques related to electrical malfunctions. Special attention is given to use of safety precautions during troubleshooting. Topics include problem diagnosis, advanced schematics, and sequential troubleshooting procedures.

ELTR 1270 - NEC Industrial Wiring Applications
4 Credits 6 Contact Hours

Provides instruction in industrial wiring applications of the National Electrical Code. Topics include rigid/IMC conduit installation, busways installation, cable tray/wireway installation, and equipment installation (600 volts or less).

ELTR 1520 - Grounding and Bonding
2 Credits 4 Contact Hours

Presents the theory and practical applications for grounding and bonding systems. Emphasis will be placed on the use of the requirements of the National Electrical Code. Topics include branch circuit grounding, equipment grounding/ bonding, and earth connections.

ELTR 1525 - Photovoltaic Systems
5 Credits 7 Contact Hours

Introduces techniques and method on how to install residential and commercial photovoltaic systems.

ELTR 1530 - Conduit Sizing
2 Credits 4 Contact Hours
Prerequisites: Regular Status

Provides practice in calculating conduit size. Emphasis is placed on use of the requirement of the National Electrical Code. Topics include National Electrical Code, conduits types/trade sizes, and percent of fill.

ELTR 1540 - Wire Pulling and Codes
3 Credits 6 Contact Hours

Instructs students in the installation of cabling systems. Emphasis will be on the types of cabling technologies that address voice, video, and data communications and the applicable codes.

EMPL – Employability Skills

EMPL 1000 - Interpersonal Relations and Professional Development
2 Credits 2 Contact Hours

Emphasizes human relations and professional development in today's rapidly changing world that prepares students for living and working in a complex society. Topics include human relations skills, job acquisition skills and communication, job retention skills, job advancement skills, and professional image skills.

EMSP – Emergency Medical Services

EMSP 1010 - Emergency Medical Responder
4 Credits 6 Contact Hours
Prerequisites: Regular Status

Prepares students to provide initial stabilizing care to the sick or injured prior to the arrival of Emergency Medical Services Professionals (EMS), and to assist EMS personnel in transporting patients for definitive care at an appropriate hospital/facility. Major areas of instruction include medical terminology and anatomy & physiology; responder safety; incident command; bloodborne pathogen training; basic physical assessment; and treatment of trauma and medical emergencies; cardiopulmonary resuscitation and the use of Automatic External Defibrillators. The course is a blend of lecture, hands on lab/learning, and practical scenario based learning/testing. The course will include Healthcare Provider CPR/AED Certification from a Nationally Recognized Body (American Heart Association, Red Cross, etc). If this course is also approved by the Georgia State Office of Emergency Medical Services and Trauma (SOEMST), successful completion will allow the student to be eligible to take the National Registry of Emergency Medical Technicians (NREMT) Emergency Medical Responder (EMR) certification. Topics include preparatory; anatomy and physiology; medical terminology; pathophysiology; life span development; public health; pharmacology; airway; management; respiration and artificial ventilation; assessment; medicine; shock and resuscitation; trauma; special patient populations; EMS operations; and integration of patient assessment and management.

EMSP 1110 - Introduction to the EMT Profession
3 Credits 4 Contact Hours
Prerequisite: Regular Status

Serves as the introductory course to the Emergency Medical Services (EMS) profession. It orients the student to the prehospital care environment, issues related to the provision of patient care in both in-hospital and out-of-hospital circumstances. It further provides foundational information upon which subsequent curriculum content is based so that successful completion of this content increases the potential for success in subsequent courses and should allow students to apply the fundamental knowledge, skills, and attitudes gained in order to effectively communicate and function safely, ethically and professionally within the emergency medical services environment. Topics include anatomy and physiology, medical terminology, pathophysiology, CPR for HCP, EMS systems, research, workforce safety and wellness, documentation, EMS system communication, therapeutic communication, medical/legal and ethics, public health, principles of safely operating a ground ambulance, incident management, multiple casualty incidents, air medical, vehicle extrication, hazmat, MCI due to terrorism/disaster, and life span development.

EMSP 1120 - EMT Assessment/Airway Management and Pharmacology
3 Credits 4 Contact Hours

Prepares students for initial scene management and assessment of patients as well as management of the airway. Introduction to pharmacology is also covered. Includes application of scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management. Topics include scene size-up; primary assessment; history taking; secondary assessment; monitoring devices; reassessment; airway management; respiration; artificial ventilation; principles of pharmacology; medication administration; and emergency medications.

EMSP 1130 - Medical Emergencies for the EMT
3 Credits 4 Contact Hours

Integrates pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan of cases involving non-traumatic medical emergencies. Topics include medical overview; neurology; abdominal and gastrointestinal disorders; immunology; infectious disease; endocrine disorders; psychiatric; cardiovascular; toxicology; respiratory; hematology; genitourinary/renal; non-traumatic musculoskeletal disorders; diseases of the eyes, ears, nose, and throat; and medical assessments.

EMSP 1140 - Special Patient Populations
3 Credits 4 Contact Hours

Provides a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs. Topics include obstetrics, gynecology, neonatal care, pediatrics, geriatrics, patients with special challenges, and special patient populations - assessments.

EMSP 1150 - Shock and Trauma for the EMT
3 Credits 4 Contact Hours

Prepares the EMT student to apply pre-hospital emergency care to patients who have sustained injuries resulting from various mechanisms of injury, including abdominal and genitourinary trauma; orthopedic trauma; soft tissue trauma; head, facial, neck, and spine trauma and nervous system trauma. Special considerations in trauma related injuries will be presented including the physiology of shock as well as multi-system trauma and environmental emergencies. Topics include shock and resuscitation; trauma overview; bleeding; chest trauma; abdominal and genitourinary trauma; orthopedic trauma; soft tissue trauma; head, facial, neck, and spine trauma; nervous system trauma; special considerations in trauma; environmental emergencies; and multi-system trauma.

EMSP 1160 - Clinical and Practical Applications for the EMT
1 Credits 3 Contact Hours

Provides supervised clinical experience in various clinical settings as well as opportunities to demonstrate critical thinking skills and assessment based management techniques through competency based evaluations relevant to the practice of an EMT. Topics include clinicals and assessment based management.

EMSP 1510 - Advanced Concepts for the AEMT
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Serves as the introductory course to the advanced level practice of the Advanced Emergency Medical Technician (AEMT). It expands on the information attained at the EMT level. Topics include EMS systems; documentation; EMS system communication; therapeutic communication; principles of pharmacology; medication administration; emergency medications; airway management; respiration; artificial ventilation; primary assessment; and secondary assessment.

EMSP 1520 - Advanced Patient Care for the AEMT
3 Credits 4 Contact Hours

Provides opportunities to apply fundamental knowledge of basic and selected advanced emergency care and transportation based on assessment findings for the following: an acutely ill patient; a patient in shock, respiratory failure or arrest, cardiac failure or arrest, and post resuscitation management; and an acutely injured patient. In addition, it provides a fundamental knowledge of growth, development, and aging and assessment findings to provide basic and selected advanced emergency care and transportation for a patient with special needs. Topics include geriatrics; patients with special challenges; medical overview;

neurology; immunology; infectious disease; endocrine disorders; cardiovascular; toxicology; respiratory; hematology; genitourinary/renal; shock and resuscitation; chest trauma; abdominal and genitourinary trauma; orthopedic trauma; head, facial, neck, and spine trauma; nervous system trauma; and integration of medical/trauma assessments.

EMSP 1530 - Clinical Applications for the AEMT
1 Credits 2 Contact Hours

Provides supervised clinical experience in various clinical settings.

EMSP 1540 - Clinical and Practical Applications for the AEMT
3 Credits 6 Contact Hours

Provides supervised clinical experience in various clinical settings as well as opportunities to demonstrate critical thinking skills and assessment based management techniques through competency based evaluations relevant to the practice of an AEMT. Topics include clinicals and assessment based management.

ENGL – English

ENGL 0090 – Learning Support English
3 Credits 3 Contact Hours

Uses a modular approach to emphasize the rules of grammar, punctuation, capitalization, subject/verb agreement, correct verb forms, spelling, writing, and revising skills for basic paragraph development. Students progress at their own pace to master each module.

ENGL 0998 –Integrated Reading and Writing
3 Credits 5 Contact Hours

Uses a modular approach to develop proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing process; critical thinking strategies; and recognition and composition of well-developed, coherent, and unified texts. Students progress at their own pace to master each module.

ENGL 1010 - Fundamentals of English I
3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or diploma program admission level writing AND reading competency

Emphasizes the development and improvement of written and oral communication abilities. Topics include analysis of writing, applied grammar and writing skills, editing and proofreading skills, research skills, and oral communication skills.

ENGL 1101 - Composition and Rhetoric
3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Explores the analysis of literature and articles about issues in the humanities and in society. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a review of standard grammatical and stylistic usage in proofreading and editing. An introduction to library resources lays the foundation for research. Topics include writing analysis and practice, revision, and research. Students write a research paper using library resources and using a formatting and documentation style appropriate to the purpose and audience.

ENGL 1102 - Literature and Composition
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C
Emphasizes the student's ability to read literature analytically and meaningfully and to communicate clearly. Students analyze the form and content of literature in historical and philosophical contexts. Topics include reading and analysis of fiction, poetry, and drama; research; and writing about literature.

ENGL 1105 - Technical Communications
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C
Emphasizes practical knowledge of technical communications techniques, procedures, and reporting formats used in industry and business. Topics include reference use and research, device and process description, formal technical report writing, business correspondence, and technical report presentation.

ENGL 2110 - World Literature
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C
Explores the history of the human experience through literature and writing across the cultures of the world. Surveys of important works across multiple genres of fiction and non-fiction as a reflection of cultural values. Explores themes from the ancient through modern era.

ENGL 2130 - American Literature
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 and ENGL 1102 with a minimum grade of C
Emphasizes American literature as a reflection of culture and ideas. A survey of important works in American literature. Includes a variety of literary genres: short stories, poetry, drama, nonfiction, and novels. Topics include literature and culture, essential themes and ideas, literature and history, and research skills.

ENGL 2310 - English Literature from the Beginnings to 1700
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 and ENGL 1102 with a minimum grade of C
Presents a survey of important works in early English literature. Course content includes a variety of literary genres: poetry, drama, fiction and nonfiction. Writers typically include the Beowulf poet, Gawain poet, Chaucer, Spenser, Sidney, Marlowe, Donne, Jonson, Shakespeare, and Milton. The course emphasizes English literature as a reflection of culture and ideas. Competency areas include literature and culture; essential themes and ideas; literature and history; research and writing skills; and oral communication skills.

ENGT – Engineering Technology

ENGT 1000 - Introduction to Engineering Technology
3 Credits 5 Contact Hours

Provides a study of engineering technology as a career field and describes the knowledge and skills required for academic and occupational success. Topics include engineering technology career, measurement and standards, mathematical operators, engineering tools, and engineering concepts. Labs reinforce mathematical, mechanical, and electrical concepts through practical exercises, such as measurement and calculation of density of objects, relative humidity; use of digital multi-meter; building circuits; use of precision instruments; and team exercises.

ESTH – Esthetician

ESTH 1000 - Introduction to Esthetics
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Introduces the fundamental theory and practices of the Professional Esthetician. Emphasis will be placed on professional practices and safety. Topics include state and local laws, rules and regulations, professional image, history of the skin, care and use of cosmetics, bacteriology, sterilization and sanitation, chemistry for estheticians, ingredients and product analysis, and hazardous duty standards act.

ESTH 1010 - Anatomy and Physiology of the Skin
3 Credits 3 Contact Hours
Prerequisites: ESTH 1000

Introduces anatomy and physiology; disorders of the skin and nutrition and health of the skin. Topics include cells/tissues/organs, skeletal system, muscular system, nervous system, circulatory system, endocrine system, excretory system, respiration system, digestive system, structure of the skin, disorders of the skin, and nutrition and health of the skin.

ESTH 1020 - Skin Care Procedures
4 Credits 8 Contact Hours

Introduces the theory, procedures, and products used in the care and treatment of the skin. Topics include client consultation and preparation, cleansing the skin, techniques for professional massage, facial treatments and body treatments, aromatherapy, body wraps, reflexology, and airborne and blood borne pathogens and OSHA updates.

ESTH 1030 – Electricity and Facial Treatments with Machines
5 Credits 9 Contact Hours

Provides instruction on and application of techniques and theory in the treatment of the skin. Topics include skin analysis equipment, basic skin care products, basic electricity, men's skin care products, post consultation and home care, mechanical versus chemical exfoliations, microdermabrasion, and advanced product types and features.

ESTH 1040 - Advanced Skin Care
3 Credits 7 Contact Hours

Provides instruction on and application of techniques and theory in the treatment of the skin. Topics include intrinsic aging, analysis of sensitive skin, treatment for hyperpigmentation, causes of acne, methods of holistic therapy, joining a medical team, and preoperative and postoperative care.

ESTH 1050 - Color Theory and Makeup
4 Credits 9 Contact Hours

Provides instruction on and application of techniques and theory in the treatment of the skin. Topics include morphology of hair, hair removal, sanitation, eyebrow shaping, waxing, ingrown hair service, color theory, face proportions and shape, choosing and using makeup products, makeup tools, basic makeup application, camouflage therapy, and medical application.

ESTH 1060 - Esthetics Practicum I
4 Credits 12 Contact Hours
Prerequisites: ESTH 1000; ESTH 1010; ESTH 1020; ESTH 1030; ESTH 1040; ESTH 1050

Provides laboratory experience necessary for the development of skill levels to be a competent esthetician. The allocation of time to the various phases of esthetics is prescribed by the state board of cosmetology. This course includes a portion of the hours for licensure. Topics include body treatments, aromatherapy, reflexology, facials, and hair removal.

ESTH 1070 - Esthetics Practicum II
4 Credits 12 Contact Hours

Provides experience for professional development and completion of requirements for state licensure. Emphasis will be placed on the display of conduct and positive attitudes. The requirements for this course will be met in a laboratory setting. Topics include body treatments, aromatherapy, reflexology, facials, and hair removal.

FRSC – Fire Science

FRSC 1100 - Introduction to the Fire Service
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides a survey of the philosophy and history of Fire Protection, loss of property and life by fire, review of municipal fire defenses and the organization and function of the federal, state, country, city and private fire protection. Includes introduction to: fire technology education and the firefighter selection process; fire protection career opportunities; public fire protection; chemistry and physics of fire; public and private support organizations; fire department resources; fire department administration; support functions; training; fire prevention; codes and ordinances; fire protection systems and equipment; emergency incident management; and emergency operations.

FRSC 1110 - Fire Administration – Supervision and Leadership
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides the necessary knowledge and skills for an emergency responder to become a successful fire officer. The student will learn how to become a responsible leader and supervisor to a crew of firefighters, how to manage a budget for the fire station, understand standard operating procedures, and be able to manage an incident. Also, an understanding of basic fire prevention methods, fire and building codes, and records systems will be covered throughout the course.

Upon completion of this course the student emergency responder candidate/recruit will have the basic skills and knowledge to be able to qualify for a certificate of completion or seek certification through the appropriate governing agency for the following:

1. NFA Leadership I
2. NFA Leadership II
3. NFA Leadership III

This course meets the requirements NFPA 1021 Standard for Fire Officer Professional Qualifications and all other state, local, and provincial occupational health and safety regulatory requirements.

FRSC 1121 - Firefighting Strategy and Tactics
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Presents the principles of applying fire department resources to mitigate a fire or related emergency. General topics include principles of firefighting, size up, engine company operations, hose line selection and placement, water supply, standpipe and sprinkler operations, ladder company operations, forcible entry, ventilation and search and rescue. Specific-fires reviewed will include private dwellings, multiple dwellings, commercial buildings, high-rise structures, buildings under construction, structural collapse, flammable liquid and gas fires and waterfront fires.

FRSC 1132 - Fire Service Instructor
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Students will learn to analyze jobs and information, then prepare and present related training. Emphasis is placed on planning, organizing, presenting, and testing, using methodologies appropriate to the subject. Topics include orientation to emergency services instruction, communication, planning and analysis, objectives, learning, assessment, methods of instruction,

instructor materials, media, training related group dynamics, classroom management, the legal environment, and NPQ Fire Instructor I. Students will have numerous hands-on opportunities to apply what they learn. Successful completers of FRSC 1132 are qualified to test for the National Professional Qualification (NPQ) Fire Instructor I Exam.

FRSC 1141 - Hazardous Materials Operations
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Provides emergency responder personnel with the information to respond safely, limit possible exposure to all personnel, and to provide information to the proper authorities as being a primary goal while reacting in the defensive mode of operation. The first responder operations level responsibilities are recognition and identification of a hazardous material scene, the gathering of information, the notification of the proper authorities, the isolation of the area by setting perimeters/ zones, possible evacuation, protection by initiating the incident management system, emergency decontamination, and performing defensive actions only. Even though the first responder is a member of an emergency response service, they are not trained in specialized protective clothing or specialized control equipment. Thus, the first responder is not a member of a hazardous materials response team. This course meets the requirements of NFPA 472 - Professional Competence of First Responders to HazMat Incidents at the Operations Level. This course also meets the requirements of OSHA 29 CFR 1910.120, EPA, USDOT, and all other appropriate state, local and provincial occupational health and safety regulatory requirements. Also required as prerequisite: NPQ FF I and NPQ Hazardous Materials Awareness Level

FRSC 1151 - Fire Prevention and Inspection
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Emphasizes the shared responsibility of all fire service personnel to prevent fires and fire losses by survey of fire prevention activities, conducting basic fire prevention inspections, practicing life safety codes, review of local and state laws regarding fire inspection, and review of applicable codes and standards. Topics include code administration, inspection, use and occupancy, building limitations and types of construction, fire resistive construction elements, installation of fire protection systems, mean of egress, interior finish requirements, general fire safety provisions, maintenance of fire protection systems, means of egress maintenance for occupancies, hazardous materials, flammable liquids and aerosols, detonation and deflagration hazards, hazardous assembly occupancies, other storage and processing occupancies, compressed gases and cryogenic liquids, pesticides and other health hazards, and using referenced standards. Successful completion of FRSC 1151 qualifies individuals to test for the National Professional Qualification (NPQ) Inspector Level-I examination

FRSC 1161 - Fire Service Safety and Loss Control
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides the necessary knowledge and skills for the emergency responder to understand occupational safety and health and be able to develop safety programs. The course starts with an introduction to occupational safety and health and covers the history, national agencies that produce injury and fatality reports, and efforts that have been made to address safety and health problems in emergency service occupations. The course will review safety related regulations and standards and discuss how to implement them through risk management processes. There will be lectures and discussions on pre-incident safety, safety at fire emergencies, safety at medical and rescue emergencies, safety at specialized incidents, and post-incident safety management. Personnel roles and responsibilities will be covered, so that knowledge can be gained on the relationship to the overall safety and health program by the different responding and administrative personnel at emergency scenes. Lectures and discussions on how to develop, manage, and evaluate safety programs will be covered to provide general knowledge and basic skills on occupational health and safety programs. Finally, information management and various other special topics will be covered to gain knowledge on the legal, ethical, and financial considerations that programs need to be aware of and how to collect the data and report it.

FRSC 2100 - Fire Administration Management
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Provides the necessary knowledge and skills for the emergency responder to become a diverse leader and manager in their department. The course starts with the history of the fire service, which focuses on the historical events that have forged the fire service today. Discussions on preparing for the future are designed to provide information to develop a game plan for personal success. Leadership and Management principles will be taught to blend the academics of leadership and management research into what occurs in the fire service organization on a daily basis. Leadership styles will be discussed to help understand how to lead and manage and, as important, why it is done. The course will take an insightful look into how people handle change personally and organizationally. Discussions on ethics will be focused on the elements critical to ethical leadership and management practices. The course will explore the elements of team building and provide a depth of understanding how to blend various styles and personalities to get the most from people. Discussions on managing emergency services will target budgeting and personnel management the support elements that are so vital to every organization. Quality of the fire service will also be looked at for methods of quality improvement and their applications to improve the services delivered to citizens every day. An in-depth overview of the changes in disaster planning and response since 9-11, and includes ways to help with community evaluation and preparedness processes. Finally, shaping the future will explore the possibilities of what may occur in the fire service and how you can play an important role in helping to shape the fire service of the future.

FRSC 2110 - Fire Service Hydraulics
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Begins with the history and theories of the use of water for fire extinguishment then moves to practical application of the principles of hydraulics in water systems and on the fire ground. Topics include water at rest and in motion, velocity and discharge, water distribution systems, fire service pumps, friction loss, engine and nozzle pressures, fire streams, standpipe systems, automatic sprinkler systems, firefighting foams, and the clip board friction loss system.

FRSC 2120 - Fire Protection Systems
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Reviews fire detection and protection systems: automatic sprinkler systems, portable fire extinguishers, restaurant/kitchen systems, special hazard systems, detection systems, and control systems. The applicable laws, codes and standards will be introduced along with regulatory and support agencies. Specific topics include introduction to fire protection systems, water supply systems for fire protection systems, water-based suppression systems, non-water-based suppression systems, fire alarm systems, smoke management systems, and portable fire extinguishers.

FRSC 2130 - Fire Service Building Construction
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Presents building construction features from the perspective of the fire service with emphasis placed on the use of building construction information to prevent and reduce fire fighter and civilian deaths and injuries. Topics include principles of building construction, building construction classification, building construction hazards and tactical considerations, structural loads and stresses, structural building components and functions, fire resistance and flame spread, building codes, structural failure and firefighter safety, and firefighter safety in structural and wildland firefighting.

FRSC 2141 - Incident Command
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Illustrates the responsibilities to use, deploy, implement, and/or function within an Incident Command System (ICS) as well as functioning within multi-jurisdictions incident under the Incident Management System (IMS). The course emphasizes the need for incident management systems, an overview of the structure and expandable nature of ICS, an understanding of the command skills needed by departmental officers to use ICS guidelines effectively, and scenario practice on how to apply ICS and IMS. The National Incident Management System (NIMS) will illustrate and provide the consistent nationwide template to enable all government, private-sectors, and non-governmental organizations to work together during virtual all domestic incidents. These course competencies will cover those objectives entailed in NIMS 100, 200, 700, and 800.

FRSC 2170 - Fire and Arson Investigation
4 Credits 5 Contact Hours
Prerequisites: Regular Status

Presents an introduction to fire investigation. Emphasis is placed upon: fire behavior, combustion properties of various materials sources of ignition, and investigative techniques for structures, grassland, wildland, automobiles, vehicles, ships, and other types of fire investigation, causes of electrical fires, chemical fires, explosive evaluations, laboratory operation. Techniques used in fire deaths and injuries, arson as a crime, other techniques, State and Federal laws, and future trends in fire investigative technology.

HIMT – Health Information Management Technology

HIMT 1100 – Introduction to Health Information Technology
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Focuses on orienting the student to health information management. Topics include introducing students to the structure of healthcare in the United States and its providers, and the structure and function of the American Health Information Management Association (AHIMA).

HIMT 1150 – Computer Applications in Healthcare
3 Credits 5 Contact Hours

Provides students with computer and software skills used in medical offices. Topics include hardware and software components of computers for medical record applications; database software and information management; specialized information management systems in healthcare; methods of controlling confidentiality and patient rights; accuracy and security of health information data in computer systems as well as future directions of information technology in healthcare.

HIMT 1200 - Legal Aspects of Healthcare
3 Credits 4 Contact Hours
Prerequisites: Regular Status

Focuses on the study of legal principles applicable to health information, patient care and health records. Topics include working of the American Legal System, courts and legal procedures, principles of liability, patient record requirements, and access to health information, confidentiality and informed consent, the judicial process of health information, specialized patient records, risk management and quality assurance, HIV information, and the electronic health record.

HIMT 1250 - Health Record Content and Structure
2 Credits 3 Contact Hours

Provides a study of content, storage, retrieval, control, retention, and maintenance of health information. Topics include health data structure, content and standards, healthcare information requirements and standards.

HIMT 1350 - Pharmacotherapy
2 Credits 2 Contact Hours
Prerequisites: ALHS 1090

Introduces drug therapy with emphasis on safety, classification of drugs, their action, side effects, and/or adverse reactions. Also introduces the basic concept used in the administration of drugs. Topics include introduction to pharmacology, sources and forms of drugs, drug classification, and drug effects on the body systems.

HIMT 1400 - Coding and Classification – ICD Basic
4 Credits 6 Contact Hours
Prerequisites: BIOL 2114 with a minimum grade of C; BIOL 2114L with a minimum grade of C; ALHS 1090; HIMT 1350

Provides the student an introduction to medical coding and classification of diseases, injuries, encounters, and procedures using standard applications of Medical Coding Guidelines to support reimbursement of healthcare services.

HIMT 1410 - Coding and Classification – ICD Advanced
3 Credits 4 Contact Hours
Prerequisites: HIMT 1400

Provides the student with case studies for in-depth review of inpatient and outpatient record formats as found in current healthcare settings. Advanced coding skills and use of industry applications to apply coding and billing standards will be the focus to develop auditing and compliance strategies in the work setting.

HIMT 2150 - Healthcare Statistics
3 Credits 5 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or degree program admission level math competency
Analyzes the study of methods and formulas used in computing and preparing statistical reports for health care services and vital records. It also focuses on the study of methods and techniques used in presenting statistical data.

HIMT 2200 - Performance Improvement
3 Credits 4 Contact Hours

Introduces the students to the peer review and the role health information plays in evaluating patient care. This course investigates the components of performance improvement programs in health care facilities, including quality assessment, utilization management, risk management, and critical clinical pathways. State and local standards are included as well as review of the federal government's role in health care accreditation requirements of various agencies.

HIMT 2300 - Healthcare Management
3 Credits 3 Contact Hours

Engages students in the functions of a merger, planning, organizing, decision making, staffing, leading or directing, communication and motivating. Further study will include principles of authority/responsibility, delegation and effective communication, organization charts, job descriptions, policies and procedures, employee motivation, discipline and performance evaluations.

HIMT 2400 – Coding and Classification System CPT/HCPCS
3 Credits 5 Contact Hours

Provides an introduction to, and application of, codes using CPT/HCPCS system. Codes will be applied to workbook exercises, case studies, and actual outpatient charts. Codes will be assigned manually as well as by an encoder.

HIMT 2410 - Revenue Cycle Management
3 Credits 4 Contact Hours
Prerequisites: HIMT 1400

Focuses on how the revenue cycle is impacted by various departments within the facility such as patient access/registration, case management/quality review, health information management, and patient accounting. Subjects include insurance plans, medical necessity, claims processing, accounts receivable, chargemaster, DRGs, APCs edits, auditing and review. ICD and CPT coding as they relate to the billing function will be reviewed. The importance of revenue cycle management for fiscal stability is emphasized.

HIMT 2460 - Health Information Technology Practicum
3 Credits 9 Contact Hours
Prerequisites: HIMT 1200; HIMT 1250

Allows students to perform advanced functions of a health information management (HIM) department. Students will work in realistic work environments in either a traditional, non-traditional, or lab setting. Activities will include application of all HIMT coursework. The student will also learn professional skills to prepare them for employment in the HIM Career field.

HIST – History

HIST 1111 - World History I

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Emphasizes the study of intellectual, cultural, scientific, political, and social contributions of the civilizations of the world and the evolution of these civilizations during the period from the prehistoric era to early modern times. Topics include the Prehistoric Era the Ancient Near East, Ancient India, Ancient China, Ancient Rome, Ancient Africa, Islam, the Americas, Japan, Ancient Greece, the Middle Ages, and the Renaissance.

HIST 1112 - World History II

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Emphasizes the study of the intellectual, cultural, scientific, political, and social contributions of the civilizations of the world and the evolution of these civilizations during the period from early modern times to the present. Topics include transitions to the Modern World, scientific revolution and the Enlightenment, political modernization, economic modernization, imperialism, and the Twentieth Century.

HIST 2111 - U.S. History I

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Emphasizes the study of U. S. History to 1877 to include the post-Civil War period. The course focuses on the period from the Age of Discovery through the Civil War to include geographical, intellectual, political, economic, and cultural development of the American people. It includes the history of Georgia and its constitutional development. Topics include colonization and expansion; the Revolutionary Era; the New Nation; nationalism, sectionalism, and reform; the Era of Expansion; and crisis, Civil War, and reconstruction.

HIST 2112 - U.S. History II

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Emphasizes the study of the social, cultural, and political history of the United States from 1865 to the beginning of the twenty-first century and will equip the student to better understand the problems and challenges of the contemporary world in relation to events and trends in modern American history. The course also provides an overview of the history of Georgia and the development of its constitution. Topics include the Reconstruction Period; the great West, the new South, and the rise of the debtor; the Gilded Age; the progressive movement; the emergence of the U. S. in world affairs; the Roaring Twenties; the Great Depression; World War II; the Cold War and the 1950s; the 1960s and 1970s; and America since 1980.

HRMT – Hotel, Restaurant, and Tourism

HRMT 1100 - Introduction to Hotel, Restaurant, and Tourism Management

3 Credits 3 Contact Hours

Provides the student with an overview of occupations in the hospitality industry. Emphasizes the various segments of each occupation and the interrelated responsibilities for customer service which exist across the hospitality industry. Topics include development of the hospitality industry, food and beverage services, hotel services, meeting and convention services,

management's role in the hospitality industry, and hospitality industry trends

HRMT 1160 - Food and Beverage Management

6 Credits 3 Contact Hours

Provides students with a study of food and beverage operations and management. Emphasis is placed on the successful operation of a food and beverage establishment. Topics include restaurants, owners, locations, and concepts; business plans, financing, and legal and tax matters; menus, kitchens, and purchasing; restaurant operations and management.

HRMT 1201 – Hospitality Marketing

3 Credits 3 Contact Hours

Introduces students to marketing techniques associated with hotel/restaurant/tourism fields with emphasis on identifying and satisfying needs of customers. Topics include marketing introduction, research and analysis, marketing strategies, marketing plans, social media marketing, branding, positioning, sales and advertising. Because of the constant change in marketing strategies in the hospitality industry, this course will also focus on new marketing techniques that are being used in the hospitality industry.

HUMN – Humanities

HUMN 1101 - Introduction to Humanities

3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C

Explores the philosophic and artistic heritage of humanity expressed through a historical perspective on visual arts, music, and literature in the early, middle and modern periods. The humanities provide insight into people and society in both the Western and non-Western world. Topics include historical and cultural developments, contributions of the humanities, and research.

IDFC – Industrial Fundamentals

IDFC 1000 - Principles of Electricity I

4 Credits 5 Contact Hours

Provides an in-depth study of the health and safety practices required for maintenance of industrial, commercial, and home electrically operated equipment. Topics include introduction to OSHA regulations; safety tools, equipment, and procedures; and first aid and cardiopulmonary resuscitation.

IDFC 1005 - Principles of Electricity II

5 Credits 6 Contact Hours

Introduces the theory and application of varying sine wave voltages and current and solid state devices. Topics include magnetism, AC wave generation, AC test equipment, inductance, capacitance, basic transformers, an introduction to semiconductor fundamentals, diode applications, basic transistor fundamentals, basic amplifiers, and semiconductor switching devices.

IDFC 1007 - Industrial Safety Procedures

2 Credits 3 Contact Hours

Provides an in-depth study of the health and safety practices required for maintenance of industrial, commercial, and home electrically operated equipment. Topics include introduction to OSHA regulations; safety tools, equipment, and procedures; and first aid and cardiopulmonary resuscitation.

IDFC 1011 - Direct Current I

3 Credits 4 Contact Hours

Introduces direct current (DC) concepts and applications. Topics include electrical principles and laws; DC test equipment; series, parallel, and simple combination circuits; and laboratory procedures and safety practices.

IDFC 1012 - Alternating Current I
3 Credits 4 Contact Hours

Introduces the theory and application of varying sine wave voltages and current. Topics include magnetism, AC wave generation, AC test equipment, inductance, capacitance, and basic transformers.

IDSY – Industrial Systems Technology

IDSY 1005 - Introduction to Mechatronics
4 Credits 7 Contact Hours

Provides an introduction to the field of mechatronics and automation technology. Topics include automation technology as a part of engineering sciences, fundamentals of electrical engineering, sensors, fundamentals of pneumatics, electrical drives, applications of relays in electropneumatics, and programmable logic controllers

IDSY 1020 – Print Reading and Problem Solving
3 Credits 5 Contact Hours
Prerequisites: Regular Status

Introduces practical problem solving techniques as practiced in an industrial setting. Topics include analytical problem solving, troubleshooting techniques, reading blueprints and technical diagrams, schematics and symbols, specification and tolerances. The course emphasizes how the machine or mechanical system works, reading and engineering specifications, and applying a systematic approach to solving the problem.

IDSY 1101 - DC Circuit Analysis
3 Credits 4 Contact Hours

Introduces direct current (DC) concepts and applications. Topics include electrical principles and laws; batteries; DC test equipment; Series, parallel, and simple combination circuits; and laboratory procedures and safety practices.

IDSY 1105 - AC Circuit Analysis
3 Credits 4 Contact Hours

Introduces alternating current concepts, theory, and application of varying sine wave voltages and current, and the physical characteristics and applications of solid state devices. Topics include electrical laws and principles, magnetism, inductance and capacitance.

IDSY 1110 - Industrial Motor Controls I
4 Credits 7 Contact Hours

Introduces the fundamental concepts, principles, and devices involved in industrial motor controls, theories and applications of single and three-phase motors, wiring motor control circuits, and magnetic starters and braking. Topics include, but are not limited to, motor theory and operating principles, control devices, symbols and schematic diagrams, NEMA standards, Article 430 NEC and preventative maintenance and troubleshooting.

IDSY 1120 - Basic Industrial PLCs
4 Credits 8 Contact Hours

Introduces the operational theory, systems terminology, PLC installation, and programming procedures for Programmable Logic Controllers. Emphasis is placed on PLC programming, connections, installation, and start-up procedures. Other topics include timers and counters, relay logic instructions, and hardware and software applications.

IDSY 1130 - Industrial Wiring
4 Credits 7 Contact Hours

Teaches the fundamental concepts of industrial wiring with an emphasis on installation procedures. Topics include grounding, raceways, three-phase systems, transformers (three-phase and single-phase), wire sizing, overcurrent protection, NEC

requirements, industrial lighting systems, and switches, receptacles, and cord connectors.

IDSY 1150 - DC and AC Motors
3 Credits 4 Contact Hours

Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include motor theory and operating principles, motor terminology, motor identification, NEMA standards, AC motors, DC motors, scheduled preventive maintenance, and troubleshooting and failure analysis.

IDSY 1160 - Mechanical Laws and Principles
4 Credits 6 Contact Hours

Introduces the student to fundamental laws and principles of mechanics. Topics include mechanical principles of simple machines; force, torque, velocity, acceleration, and inertia; rotational motion; work power, and energy, matter; gases; fluid power; and heat. The course emphasizes understanding terminology and using related problem solving skills in everyday physical applications of mechanical technology. Competencies are reinforced and practical hands on lab exercises.

IDSY 1170 - Industrial Mechanics
4 Credits 8 Contact Hours

Introduces and emphasizes the basic skill necessary for mechanical maintenance personnel. Instruction is also provided in the basic physics concepts applicable to the mechanics of industrial production equipment, and the application of mechanical principles with additional emphasis on power transmission and specific mechanical components.

IDSY 1190 - Fluid Power Systems
4 Credits 7 Contact Hours

Provides instruction in the fundamentals of safely operating hydraulic, pneumatic, and pump and piping systems. Theory and practical application concepts are discussed. Topics include hydraulic system principles and components, pneumatic system principles and components, and the installation, maintenance, and troubleshooting of pump and piping systems.

IDSY 1195 – Pumps and Piping Systems
3 Credits 5 Contact Hours

Provides instruction in the fundamentals concepts of industrial pumps and piping systems. Topics include pump identification, pump operation, installation, maintenance and troubleshooting, piping systems and installation of piping systems.

IDSY 1210 - Industrial Motor Controls II
4 Credits 7 Contact Hours

Introduces the theory and practical application for two-wire control circuits, advanced motor controls, and variable speed motor controls. Emphasis is placed on circuit sequencing, switching, and installation, maintenance, and troubleshooting techniques.

IDSY 1220 - Intermediate Industrial PLCs
4 Credits 8 Contact Hours

Provides for hands on development of operational skills in the maintenance and troubleshooting of industrial control systems and automated equipment. Topics include data manipulation, math instructions, introduction to HMI, analog control, and troubleshooting discrete IO devices.

IDSY 1230 - Industrial Instrumentation
4 Credits 8 Contact Hours
Provides instruction in the principles and practices of instrumentation for industrial process control systems with an emphasis on industrial maintenance techniques for production equipment. Topics include instrument tags; process documentation; basic control theory; sensing pressure, flow, level, and temperature; instrument calibration; and loop tuning.

IDSY 1240 - Maintenance for Reliability
4 Credits 6 Contact Hours

Applies advanced instrumentation in conjunction with principles of mechanical physics, vibration and particulate analysis, thermography, and advanced reliability concepts relative to precision/predictive maintenance of industrial equipment.

IDSY 1260 - Machine Tool for Industrial Repairs
4 Credits 7 Contact Hours

Provides industrial mechanics the basic machine shop skills to perform common mechanical repairs such as: repair of scored pump shafts, motor shafts, conveyor shafts or valve stems; repair or fabrication of support brackets; fabrication of simple shaped (cylindrical or rectangular) parts; making or repairing keysets and keys.

IDSY 2830 - Networking Industrial Equipment
4 Credits 7 Contact Hours

Provides communication and networking skills needed for cabling and connection to PLC/HMI Devices.

MAST – Medical Assisting

MAST 1010 - Legal and Ethical Concerns in Medical Office
2 Credits 2 Contact Hours
Prerequisites: Regular Status

Introduces the basic concept of medical assisting and its relationship to the other health fields. Emphasizes medical ethics, legal aspects of medicine, and the medical assistant's role as an agent of the physician. Provides the student with knowledge of medical jurisprudence and the essentials of professional behavior. Topics include introduction to medical assisting; introduction to medical law; physician/patient/assistant relationship; medical office in litigation; as well as ethics, bioethical issues and HIPAA.

MAST 1030 - Pharmacology in the Medical Office
4 Credits 4 Contact Hours
Prerequisites: MATH 1012 with a minimum grade of C

Introduces medication therapy with emphasis on safety; classification of medications; their actions; side effects; medication and food interactions and adverse reactions. Also introduces basic methods of arithmetic used in the administration of medications. Topics include introductory pharmacology; dosage calculation; sources and forms of medications; medication classification; and medication effects on the body systems.

MAST 1060 - Medical Office Procedures
4 Credits 5 Contact Hours

Emphasizes essential skills required for the medical practice. Topics include office protocol, time management, appointment scheduling, medical office equipment, medical references, mail services, medical records, and professional communication.

MAST 1080 - Medical Assisting Skills I
4 Credits 9 Contact Hours
Prerequisites: ALHS 1011; ALHS 1090

Introduces the skills necessary for assisting the physician with a complete history and physical in all types of medical practices. The course includes skills necessary for sterilizing instruments and equipment and setting up sterile trays. The student also explores the theory and practice of electrocardiography. Topics include infection control and related OSHA guidelines; prepare patients/assist physician with age and gender-specific examinations and diagnostic procedures; vital signs/mensuration; medical office surgical procedures and electrocardiography.

MAST 1090 - Medical Assisting Skills II
4 Credits 9 Contact Hours
Prerequisites: ALHS 1011; ALHS 1090

Further student knowledge of the more complex activities in a physician's office. Topics include collection/examination of specimens and CLIA regulations/risk management; urinalysis; venipuncture; hematology and chemistry evaluations; advanced reagent testing (Strep Test, HcG etc); administration of medications; medical office emergency procedures and emergency preparedness; respiratory evaluations; principles of IV administration; rehabilitative therapy procedures; principles of radiology safety and maintenance of medication and immunization records.

MAST 1100 - Medical Insurance Management
2 Credits 4 Contact Hours
Prerequisites: ALHS 1011; ALHS 1090; COMP 1000; ENGL 1010 with a minimum grade of C

Emphasizes essential skills required for the medical practice. Topics include managed care, reimbursement, and coding.

MAST 1110 - Administrative Practice Management
3 Credits 6 Contact Hours
Prerequisites: ALHS 1011; ALHS 1090; COMP 1000; ENGL 1010

Emphasizes essential skills required for the medical practice in the areas of computers and medical transcription. Topics include medical transcription/electronic health records; application of computer skills; integration of medical terminology; accounting procedures; and application of software.

MAST 1120 - Human Diseases
3 Credits 3 Contact Hours
Prerequisites: Regular Status; ALHS 1011; ALHS 1090

Provides fundamental information concerning common diseases and disorders of each body system. For each system, the disease or disorder is highlighted including: description, etiology, signs and symptoms, diagnostic procedures, treatment, management, prognosis, and prevention. Topics include introduction to disease and diseases of body systems.

MAST 1170 - Medical Assisting Externship
6 Credits 18 Contact Hours

Provides students with an opportunity for in-depth application and reinforcement of principles and techniques in a medical office job setting. This clinical practicum allows the student to become involved in a work setting at a professional level of technical application and requires concentration, practice, and follow-through. Topics include application of classroom knowledge and skills and functioning in the work environment.

MAST 1180 - Medical Assisting Seminar
3 Credits 3 Contact Hours
Focuses on job preparation and maintenance skills and review for the certification examination. Topics include letters of application, resumes, completing a job application, job interviews, follow-up letter/call, letters of resignation and review of program competencies for employment and certification.

MAST 1510 - Medical Billing and Coding I
2 Credits 3 Contact Hours
Prerequisites: ALHS 1011; ALHS 1090;
ENGL 1010 with a minimum grade of C
Provides an introduction to medical billing and coding skills with applications of international coding standards for billing of health care services. Topics include International Classification of Diseases, code book formats, guidelines and conventions, and coding techniques.

MAST 1520 - Medical Billing and Coding II
3 Credits 5 Contact Hours
Prerequisites: MAST 1510
Continues MAST 1510 Medical Billing and Coding I. Topics include medical records coding techniques; coding linkage and compliance; third-party reimbursement issues; and ethics in coding, including fraud and abuse.

MAST 1530 – Medical Procedural Coding
2 Credits 3 Contact Hours
Prerequisites: MAST 1510
Provides the knowledge and skills to apply the coding of procedures for billing purposes using the Physicians Current Procedural Terminology (CPT) manual. Topics include format of CPT manual, CPT manual coding guidelines, and coding using the CPT manual.

MATH – Mathematics

MATH 0090 - QEP Summit Math
3 Credits 6 Contact Hours
Uses the modular approach to emphasize in-depth arithmetic skills and basic/intermediate algebra skills. Topics include number theory, whole numbers, fractions, decimals, percents, ratio/proportion, measurement, geometry, application problems, introduction to real numbers, algebraic expressions, solving linear equations, graphs of linear equations, polynomial operations, polynomial factoring, inequalities, rational expressions/equations, slope, systems of equations, radical expressions/equations, quadratic equations, and applications involving previously listed topics.

MATH 0999 – Support for College Algebra
1 Credits 2 Contact Hours
Corequisites: MATH 1111
This course is to be taken concurrently with MATH 1111. Background topics which are necessary for a student to successfully complete MATH 1111 will be covered, with an emphasis on fractions, exponents, fundamental concepts of algebra, equations, and functions.

MATH 1011 - Business Math
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or diploma program admission level algebra competency
Emphasizes mathematical concepts found in business situations. Topics include basic mathematical skills, mathematical skills in business-related problem solving, mathematical information for documents, graphs, and mathematical problems.

MATH 1012 - Foundations of Mathematics
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or diploma program admission level math competency
Emphasizes the application of basic mathematical skills used in the solution of occupational and technical problems. Topics include fractions, decimals, percents, ratios and proportions, measurement and conversion, formula manipulation, technical applications, and basic statistics.

MATH 1013 – Algebraic Concepts
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or diploma program admission level math competency
Emphasizes concepts and operations which are applied to the study of algebra. Topics include basic mathematical concepts, basic algebraic concepts, and intermediate algebraic concepts.

MATH 1015 – Geometry and Trigonometry
3 Credits 3 Contact Hours
Prerequisites: MATH 1013 with a minimum grade of C
Emphasizes basic geometric and trigonometric concepts. Topics include measurement conversion, geometric terminology and measurements, and trigonometric terminology and functions.

MATH 1101 - Mathematical Modeling
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or degree program admission level math competency
Emphasizes functions using real-world applications as models. Topics include fundamental concepts of algebra; functions and graphs; linear, quadratic, polynomial, exponential, and logarithmic functions and models; systems of equations; and optional topics in algebra. *This course does not fulfill the math requirement for some Health Sciences programs. Consult an advisor and the specific program information pages of this catalog for required course(s).*

MATH 1103 – Quantitative Skills and Reasoning
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or degree program admission level math competency
Focuses on quantitative skills and reasoning in the context of experiences that students will be likely to encounter. The course emphasizes processing information in context from a variety of representations, understanding of both the information and the processing, and understanding which conclusions can be reasonably determined. Students will use appropriate technology to enhance mathematical thinking and understanding. Topics covered in this course include: sets and set operations, logic, basic probability, data analysis, linear models, quadratic models, exponential and logarithmic models, geometry, and financial management. *This course does not fulfill the math requirement for some Health Sciences programs. Consult an advisor and the specific program information pages of this catalog for required course(s). Students wishing to transfer to a four-year institution should note that this course is to be used in lieu of MATH 1100 and 1101 for non-science, non-math, and non-engineering majors and will be articulated to USG institutions in Area A for appropriate majors. Science, math, and engineering majors must take MATH 1111 or higher.*

MATH 1111 - College Algebra
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or degree program admission level algebra competency
Emphasizes techniques of problem solving using algebraic concepts. Topics include fundamental concepts of algebra, exponential and logarithmic functions, equations and inequalities, functions and graphs, and systems of equations; optional topics include sequences, series, and probability or analytic geometry.

MATH 1112 - College Trigonometry
3 Credits 3 Contact Hours
Prerequisites: MATH 1111 with a minimum grade of C
Emphasizes techniques of problem solving using trigonometric concepts. Topics include trigonometric functions, properties of trigonometric functions, vectors and triangles, inverse of trigonometric functions and graphing of trigonometric functions, and complex numbers.

MATH 1113 - Precalculus
3 Credits 3 Contact Hours
Prerequisites: MATH 1111 with a minimum grade of C or appropriate admission-level college algebra and trigonometry competency
Prepares students for calculus. The topics discussed include an intensive study of polynomial, rational, exponential, logarithmic, and trigonometric functions and their graphs. Applications include simple maximum and minimum problems, exponential growth and decay.

MATH 1127 - Introduction to Statistics
3 Credits 3 Contact Hours
Prerequisites: MATH 0090 with a minimum grade of C or degree program admission level algebra competency
Emphasizes the concepts and methods fundamental to utilizing and interpreting commonly used statistics. Topics include descriptive statistics, basic probability, discrete and continuous distributions, sampling distributions, hypothesis testing, chi square tests, and linear regression. *This course does not fulfill the math requirement for any Health Sciences program. Consult an advisor and the specific program information pages of this catalog for required course(s).*

MATH 1131 - Calculus I
4 Credits 4 Contact Hours
Prerequisites: Regular Status; MATH 1113 with a minimum grade of C or appropriate admission-level college algebra and trigonometry competency
Topics include the study of limits and continuity, derivatives, and integrals of functions of one variable. Applications are incorporated from a variety of disciplines. Algebraic, trigonometric, exponential, and logarithmic functions are studied.

MATH 1132 - Calculus II
4 Credits 4 Contact Hours
Prerequisites: Regular Status; MATH 1131 with a minimum grade of C or appropriate admission-level college algebra and trigonometry competency
Includes the study of techniques of integration, application of the definite integral, an introduction to differential equations, improper integrals, sequences, and series.

MCHT - Machine Tool Technology

MCHT 1011 - Introduction to Machine Tool
4 Credits 6 Contact Hours
Introduces the fundamental concepts and procedures necessary for the safe and efficient use of basic machine tools. Topics include machine shop safety, terminology, use of hand and bench tools, analysis of measurements, part layout, horizontal and

vertical band saw setup and operation, drill press setup and operation, and quality control.

MCHT 1012 - Blueprint for Machine Tool
3 Credits 3 Contact Hours
Introduces the fundamental concepts necessary to develop blueprint reading competencies, interpret drawings, and produce sketches for machine tool applications. Topics include interpretation of blueprints, sketching, sectioning, geometric dimensioning and tolerancing, and assembly drawings.

MCHT 1013 - Machine Tool Math
3 Credits 5 Contact Hours
Prerequisites: MATH 1012 with a minimum grade of C
Develops mathematical competencies as applied to machine tool technology. Emphasis is placed on the use of machining formulas by incorporating algebraic, geometric, and trigonometric functions. Topics include machining algebra and geometry, applied geometry, and applied trigonometry.

MCHT 1020 – Heat Treatment and Surface Grinding
3 Credits 5 Contact Hours
Prerequisites: Regular Status
Provides instruction in the setup, operations, maintenance, and assembly operations of surface grinders. Introduces the properties of various metals, production methods, and identification of ferrous and non-ferrous metals. Topics include heat treatment safety, metallurgy principles, heat treatment of metals, surface grinders, surface grinder maintenance, surface grinder setup, surface grinder operations, and safety.

MCHT 1030 - Applied Measurement
3 Credits 3 Contact Hours
Designed to develop skills necessary for the use and analysis of measurement for Machine Tool Technology and other industrial purposes. Topics include the use of non-precision measuring instruments, use of precision measuring instruments, use of comparison gauges, and analysis of measurements.

MCHT 1119 - Lathe Operations I
3 Credits 7 Contact Hours
Provides opportunities for students to develop skill in the setup and operation of metal cutting lathes. Topics include safety, lathes parts and controls, lathe tooling and tool bit grinding, lathe calculations, lathe setup and operations.

MCHT 1120 - Mill Operations I
3 Credits 7 Contact Hours
Provides instruction in the setup and use of the milling machine. Topics include safety, milling machines, milling machine setup, and milling machine operations.

MCHT 1219 - Lathe Operations II
3 Credits 7 Contact Hours
Provides further instruction for students to develop skill in the use of lathes. Topics include lathes, lathe setup, lathe operations, and safety.

MCHT 1220 - Mill Operations II
3 Credits 7 Contact Hours
Provides further instruction for students to develop skills in the use of milling machines. Topics include safety, advanced milling calculation, advanced milling machine setup and operations.

MEGT – Mechanical Engineering

MEGT 1010 – Manufacturing Processes
3 Credits 4 Contact Hours

Prerequisites: Regular Status; ENGT 1000

Introduces industrial manufacturing processes that employ processes for material shaping, joining, machining and assembly to the student. Topics include casting, shaping and molding of metals, ceramics and polymers; particulate processing of metals and ceramics, metal forming, machining, sheet metal working, joining and assembling, surface treatment, and manufacturing design considerations. Emphasis is provided on raw materials, quality, and costs of finished products. The course includes lab exercises that demonstrate the applications of the topics covered in actual manufacturing processes.

MEGT 1321 – Machining and Welding
2 Credits 4 Contact Hours

Prerequisites: Regular Status

Introduces machining and welding technology. This course will include emphasis of use and operation of selected machinery, various machining operations, selected welding processes and precision measuring instruments to be combined with laboratory projects and safety. Topics include industrial safety and health practices; welding quality; use of cutting and grinding tools; introduction to welding terms and symbols; shielded metal arc welding (SMAW); gas metal arc welding (GMAW); gas tungsten arc welding (GTAW); basic machining operations; and precision measuring instruments.

MEGT 2100 – Manufacturing Quality Control
3 Credits 5 Contact Hours

Prerequisites: ENGT 1000 or MATH 1013 with a minimum grade of C or MATH 1111 with a minimum grade of C

Introduces statistical quality control and quality assurance techniques in manufacturing processes. Topics include: fundamentals of Six Sigma methodology, creating customer focus, statistical control techniques, control charts, process capability, failure modes and effects analysis (FMEA), teams and teamwork, leadership and strategic planning, optimization and reliability studies, lean manufacturing, and inspection tools and practices. The course is an effective training aid for those preparing to take the American Society for Quality (ASQ) Certified Quality Inspector (CQI) examination. Students will perform lab exercises applying quality concepts, tools and techniques to realistic industry examples.

MGMT – Management

MGMT 1100 - Principles of Management
3 Credits 3 Contact Hours

Develops skills and behaviors necessary for successful supervision of people and their job responsibilities. Emphasis will be placed on real life concepts, personal skill development, applied knowledge and managing human resources. Course content is intended to help managers and supervisors deal with a dramatically changing workplace being affected by technology changes, a more competitive and global market place, corporate restructuring and the changing nature of work and the workforce. Topics include understanding the manager's job and work environment; building an effective organizational culture; leading, directing, and the application of authority; planning, decision-making, and problem-solving; human resource management, administrative management, organizing, and controlling.

MGMT 1105 - Organizational Behavior
3 Credits 3 Contact Hours

Provides a general knowledge of the human relations aspects of the senior-subordinate workplace environment. Topics include employee relations principles, problem solving and decision making, leadership techniques to develop employee morale, human values and attitudes, organizational communications, interpersonal communications, and employee conflict.

MGMT 1110 - Employment Rules and Regulations
3 Credits 3 Contact Hours

Develops a working knowledge of the laws of employment necessary for managers. Topics include employment law, the courts, Alternative Dispute Resolution (ADR), discrimination law, selecting applicants under the law, OSHA and safety, affirmative action, at-will doctrine, right to privacy, Fair Labor Standards Act (FLSA), Family Medical Leave Act (FMLA), workers compensation, unemployment compensation, and National Labor Relations Act.

MGMT 1115 - Leadership
3 Credits 3 Contact Hours

Familiarizes the student with the principles and techniques of sound leadership practices. Topics include characteristics of effective leadership styles, history of leadership, leadership models, the relationship of power and leadership, team leadership, the role of leadership in effecting change.

MGMT 1120 - Introduction to Business
3 Credits 3 Contact Hours

Designed to provide the student with an overview of the functions of business in the market system. The student will gain an understanding of the numerous decisions that must be made by managers and owners of businesses. Topics include the market system, the role of supply and demand, financial management, legal issues in business, employee relations, ethics, and marketing.

MGMT 1125 - Business Ethics
3 Credits 3 Contact Hours

Provides students with an overview of business ethics and ethical management practices with emphasis on the process of ethical decision-making and working through contemporary ethical dilemmas faced by business organizations, managers and employees. The course is intended to demonstrate to the students how ethics can be integrated into strategic business decisions and can be applied to their own careers. The course uses a case study approach to encourage the student in developing analytical, problem-solving, critical thinking and decision-making skills. Topics include an overview of business ethics; moral development and moral reasoning; personal values, rights, and responsibilities; frameworks for ethical decision-making in business; justice and economic distribution; corporations and social responsibility; corporate codes of ethics and effective ethics programs; business and society: consumers and the environment; ethical issues in the workplace; business ethics in a global and multicultural environment; business ethics in cyberspace; and business ethics and the rule of law.

MGMT 2115 - Human Resource Management
3 Credits 3 Contact Hours

Designed as an overview of the Human Resource Management (HRM) function and of the manager and supervisors role in managing the career cycle from organizational entry to exit. It acquaints the student with the authority, responsibility, functions, and problems of the human resource manager, with an emphasis on developing familiarity with the real world applications required of employers and managers who increasingly are in partnership with HRM generalists and specialists in their organizations. Topics include strategic human resource management, contemporary issues in HRM: ethics, diversity and globalization; the human resource/supervisor partnership; human resource planning and productivity; job description analysis, development, and design: recruiting, interviewing, and selecting employees; performance management and appraisal systems; employee training and development: disciplinary action and employee rights; employee compensation and benefits; labor relations and employment law; and technology applications in HRM.

MGMT 2120 - Labor Management Relations
3 Credits 3 Contact Hours

Provides a student with an overview of the relationship of rank and file employees to management in business organizations. The nature of the workplace, the economic foundations of work organizations, and the history of the relationship between management and labor is examined. The course acquaints the student with the principles of developing positive relationships between management and labor within the context of the legal environment governing labor relations. Topics include the nature of the American workplace; the economic history of business organizations, the historical roots of labor-management relations; adversarial and cooperative approaches to labor relations; the legal framework of labor relations; employee-employer rights; collective bargaining and union organizing processes; union and nonunion grievance procedures; international labor relations; and the future of labor-management relations in a changing economy. Case studies, readings, and role-plays are used to simulate workplace applications in labor relations.

MGMT 2125 - Performance Management
3 Credits 3 Contact Hours

Develops an understanding of how fostering employer/employee relationships in the work setting improves work performance. Develops legal counseling and disciplinary techniques to use in various workplace situations. Topics include the definitions of coaching, counseling, and discipline; importance of the coaching relationship; implementation of an effective counseling strategy; techniques of effective discipline; and performance evaluation techniques.

MGMT 2130 - Employee Training and Development
3 Credits 3 Contact Hours

Addresses the challenges of improving the performance and career potential of employees, while benefiting the student in their own preparation for success in the workplace. The focus is on both training and career and personal development. Shows the student how to recognize when training and development is needed and how to plan, design, and deliver an effective program of training for employees. Opportunities are provided for the student to develop their own career plans, assess their work-related skills, and practice a variety of skills desired by employers. Topics include developing a philosophy of training; having systems approach to training and development; the context of training; conducting a needs analysis; critical success factors for employees: learning principles; designing and implementing training plans; conducting and evaluating training; human resource development and careers; personal career development planning; and applications in interpersonal relationships and communication.

MGMT 2135 - Management Communication Techniques
3 Credits 3 Contact Hours

Emphasizes developing the full range of communication strategies required to become a successful manager and prepares managers for the skills required to communicate effectively in business today. Topics include organizational/strategic communication, interpersonal communication, presentation techniques, presentation technology & applications, team/group communication, intercultural communication, external stakeholder communication and using spreadsheet applications for business problem solving.

MGMT 2140 - Retail Management
3 Credits 3 Contact Hours

Develops a working knowledge of managing a retail business from a variety of perspectives with an emphasis on store management. The emphasis is on contemporary issues in retailing, particularly the process of supervising customer service and dealing with the changing demographics of retailing. An application focus on the use of information technologies, the internet, and electronic retailing is intended to give the student hands-on experience in retail management. Topics include strategic retail management; store, non-store, and nontraditional retailing; retail human resource management; developing a customer-focused service strategy; managing customer service; retail operations and financial management; merchandise management; buying and inventory management; global, cataloging, and electronic retail management, information technology applications in retailing.

MGMT 2145 - Business Plan Development
3 Credits 3 Contact Hours

Provides students with knowledge and skills necessary for a manager or entrepreneur to develop and implement a business plan. Topics include business/community compatibility, introduction to cash flow and break even analysis, development of product/service idea, determination of market feasibility, determination of financial feasibility, development of marketing strategy, development of operations outline, and application of financial concepts.

MGMT 2160 – Legal and Ethical Environment of Business
3 Credits 3 Contact Hours

Prerequisites: Regular Status

Introduces the legal, regulatory, and ethical environment of business. Explores the interrelatedness and influence of political, social, legal and regulatory, environmental, and technological issues, as well as the impact of demographic diversity on business organizations. Focuses on the role of these issues in business decision-making.

MGMT 2200 - Production/Operations Management
3 Credits 3 Contact Hours

Prerequisites: Regular Status

Provides the student with an intensive study of the overall field of production/operations management. Topics include role of production management/production managers, operational design, capacity planning, aggregate planning, inventory management, project management, and quality control/assurance.

MGMT 2205 - Service Sector Management
3 Credits 3 Contact Hours

Focuses on supervision in the service sector with special emphasis on team building, quality management, and developing a customer focus. The challenge of providing world-class customer service is addressed through sections on principles of service industry supervision, career development, problem solving, stress management, and conflict resolution. Topics include principles of service industry supervision, team building, customer service operations, TQM in a service environment, business software applications, communication in the service sector, introduction to information systems, selling principles and sales management, retail management, and legal issues in the service sector.

MGMT 2210 - Project Management
3 Credits 3 Contact Hours

Provides a basic understanding of project management functions and processes. Topics include team selection and management; project planning, definition and scheduling of tasks; resource negotiation, allocation, and leveling; project control, monitoring, and reporting; computer tools for project planning and scheduling; managing complex relationships between project team and other organizations; critical path methodology; and total quality management.

MGMT 2215 - Team Project
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Utilizes team methodologies to study the field of management. It encourages students to discuss their perception of management practices which have been studied during the management program. Topics include current issues and problems in management and supervision and state-of-the-art management and leadership techniques. Students will be put into teams, will work on team projects to demonstrate their understanding of the competencies of this course, and will do peer evaluation. Potential team projects could include authoring a management book covering the competencies, videos, web sites, bulletin boards, and slide presentations among others.

MKTG – Marketing Management

MKTG 1100 - Principles of Marketing
3 Credits 3 Contact Hours

Emphasizes the trends and the dynamic forces that affect the marketing process and the coordination of the marketing functions. Topics include effective communication in a marketing environment, role of marketing, knowledge of marketing principles, marketing strategy, and marketing career paths.

MKTG 1130 - Business Regulations and Compliance
3 Credits 3 Contact Hours

Introduces the study of contracts and other legal issues and obligations for businesses. Topics include creation and evolution of laws, court decision processes, legal business structures, sales contracts, commercial papers, Uniform Commercial Code, and risk-bearing devices.

MKTG 1160 - Professional Selling
3 Credits 3 Contact Hours

Introduces professional selling skills and processes. Topics include professional selling, product/sales knowledge, customer analysis/relations, selling process, sales presentations, and ethics of selling.

MKTG 1190 - Integrated Marketing Communications
3 Credits 3 Contact Hours

Introduces the fundamental principles and practices associated with promotion and communication. Topics include purposes of promotion and IMC, principles of promotion and Integrated Marketing Communication (IMC), budgeting, regulations and controls, media evaluation and target market selection, integrated marketing plans, trends in promotion, and promotion and communication career paths.

MKTG 1210 - Services Marketing
3 Credits 3 Contact Hours

Introduces the marketing skills required in a service business. Topics include foundation of services marketing, managing service delivery/encounters, services marketing strategy, and aligning strategy service design, and standards.

MKTG 1270 - Visual Merchandising
3 Credits 3 Contact Hours

Focuses on the components of the visual merchandising of goods and services. Topics include design and color principles, tools and materials of the trade, lighting and signs, installation of displays, store planning, safety, and related areas of visual merchandising and display.

MKTG 1280 - Introduction to Sports and Recreation Management
3 Credits 3 Contact Hours
Prerequisites: Regular Status

Introduces the sociological, philosophical, economic, and historical aspects of the sports and recreation industry. Topics include nature of sports and recreation management, sports management landscape, research and trends, programming in sports and recreation management, employee training, evaluation and relations, fiscal topics in the business of sports and recreation, and careers in sports and recreation management.

MKTG 1370 - Consumer Behavior
3 Credits 3 Contact Hours
Pre-requisites: Regular Status

Analyzes consumer behavior and applicable marketing strategies. Topics include the nature of consumer behavior, influences on consumer behavior, consumer decision-making process, role of research in understanding consumer behavior, and marketing strategies.

MKTG 2000 - Global Marketing
3 Credits 3 Contact Hours
Prerequisites: MKTG 1100

Introduces opportunities and international strategies employed in the global marketplace. Topics include the environment of international marketing, analyzing international marketing opportunities, international market entries, design and international marketing strategy, and paths in international marketing.

MKTG 2010 - Small Business Management
3 Credits 3 Contact Hours

Introduces competencies required in managing a small business. Topics include nature of small business management, business management and organizational change, marketing strategies, employee relations, financial planning, and business assessment and growth.

MKTG 2070 - Buying and Merchandising
3 Credits 3 Contact Hours

Develops buying and merchandising skills required in retail or e-business. Topics include principles of merchandising, inventory control, merchandise plan, assortment planning, buying merchandise, and pricing strategies.

MKTG 2080 - Regulations and Compliance in Sports
3 Credits 3 Contact Hours
Pre-requisites: Regular Status
Introduces the legal principles involved in sports. Topics include nature of sports law, sports law and change, sports law environment, court decision processes, and sports contracts.

MKTG 2090 - Marketing Research
3 Credits 3 Contact Hours
Prerequisites: MKTG 1100
Conveys marketing research methodology. Topics include role of marketing research, marketing research process, ethics in marketing research, research design, collection data analysis, reporting, application of marketing research, and marketing research career paths.

MKTG 2180 - Principles of Sports Marketing
3 Credits 3 Contact Hours
Applies the principles of marketing utilized in the sports industry. Topics include nature of sports marketing, role of sports marketing, marketing principles specific to sports, marketing mix to achieve goals, and electronic landscape and media in sports.

MKTG 2210 - Entrepreneurship
6 Credits 6 Contact Hours
Prerequisites: Regular Status
Provides an overview of the steps in establishing a business. A formal business will be created. Topics include planning, location analysis, financing, developing a business plan, and entrepreneurial ethics and social responsibility.

MKTG 2280 - Sports Management
3 Credits 3 Contact Hours
Pre-requisites: MKTG 1280
Emphasizes leadership and management in the sports marketing industry. Topics include leadership, budgeting, project management, event management, contract negotiation, and international sports marketing.

MKTG 2290 - Marketing Internship/Practicum
3 Credits 9 Contact Hours
Prerequisites: Program advisor approval
Applies and reinforces marketing and employability skills in an actual job placement or practicum experience. Topics include problem solving, adaptability to the job setting, use of proper interpersonal skills, application of marketing skills, and professional development.

MKTG 2300 - Marketing Management
3 Credits 3 Contact Hours
Prerequisites: MKTG 1100
Reiterates the program outcomes for marketing management through the development of a marketing plan. Topics include the marketing framework, the marketing plan, and preparing a marketing plan for a new product.

MKTG 2500 - Exploring Social Media
3 Credits 3 Contact Hours
Pre-requisites: Regular Status; MKTG 1100
Explores the environment and current trends of social media as it relates to marketing functions. Topics include history of the internet and social media, social media dashboards, legal issues of social media, outsourcing vs. in-house administration, and the current social media ecosystem including applications in the following areas: communication, collaboration/authority building, multimedia, reviews and opinions, and entertainment.

MKTG 2550 - Analyzing Social Media
3 Credits 4 Contact Hours
Pre-requisites: MKTG 1100
Analyzes the application of social media to an integrated marketing communication plan. Topics include technical writing for social media, social media auditing, Social Media ROI, trend analysis, social media analytics, and Customer Experience Management (CEM).

MUSC – Music Appreciation

MUSC 1101 - Music Appreciation
3 Credits 3 Contact Hours
Prerequisites: ENGL 1101 with a minimum grade of C
Explores the formal elements of musical composition, musical form and style, and the relationship of music to historical periods. The course includes listening to and analyzing well-known works of music and encourages student interest in musical arts beyond the classroom.

NAST – Nurse Aide

NAST 1100 - Nurse Aide Fundamentals
6 Credits 9 Contact Hours
Prerequisites: Regular Status
Introduces student to the role and responsibilities of the Nurse Aide. Emphasis is placed on understanding and developing critical thinking skills, as well as demonstrating knowledge of the location and function of human body systems and common disease processes; responding to and report changes in a resident's/patient's condition, nutrition, vital signs, nutrition and diet therapy; disease processes, vital signs; observing, reporting and documenting changes in a residents condition; emergency concerns; ethics and legal issues and governmental agencies that influence the care of the elderly in long term care settings; mental health and psychosocial well-being of the elderly; use and care of mechanical devices and equipment; communication and interpersonal skills and skills competency based on federal guidelines. Specific topics include roles and responsibilities of the Nurse Aide; communication and interpersonal skills; topography, structure, and function of the body systems; injury prevention and emergency preparedness; residents rights; basic patient care skills; personal care skills, and restorative care. A student who completes NAST 1100 is eligible to sit for the National Nurse Aide Assessment Program written/oral and skills competency exam and, if successful, may become a Certified Nurse Aide.

PHAR—Pharmacy Assistant

PHAR 1000 - Pharmaceutical Calculations

4 Credits 4 Contact Hours

Prerequisites: MATH 1012 with a minimum grade of C

Develops knowledge and skills in pharmaceutical calculations procedures. Topics include systems of measurement, medication dispensing calculations, pharmacy mathematical procedures, and calculation tools and techniques.

PHAR 1010 - Pharmacy Technology Fundamentals

5 Credits 6 Contact Hours

Provides an overview of the pharmacy technology field and develops the fundamental concepts and principles necessary for successful participation in the pharmacy field. Topics include safety, orientation to the pharmacy technology field, Fundamental principles of chemistry, basic laws of chemistry, ethics and laws, definitions and terms, and reference sources.

PHAR 1020 - Principles of Dispensing Medicines

4 Credits 6 Contact Hours

Prerequisites: PHAR 1000; PHAR 1010

Introduces the student to principles of receiving, storing, and dispensing medications. Topics include purchasing, packaging, and labeling drugs; pharmacy policies and procedures; documentation; inventory and filing systems; compounding; storage and control; pharmacy equipment; and health care organizational structure. This course provides laboratory and clinical practice.

PHAR 1040 - Pharmacology

4 Credits 4 Contact Hours

Prerequisites: Regular Status

Introduces the students to principles and knowledge about all classifications of medication. Topics include disease states and treatment modalities, pharmaceutical side effects and drug interactions, control substances, specific drugs, and drug addiction and abuse.

PHAR 1055 - Pharmacy Assistant Practicum

5 Credits 15 Contact Hours

Prerequisites: ALHS 1011; ALHS 1090; MATH 1012 with a minimum grade of C; PHAR 1000; PHAR 1010; PHAR 1020; PHAR 1040

Orients students to the clinical environment and provides experiences with the basic skills necessary for the pharmacy assistant. Topics include purchasing, packaging and labeling drugs; distribution systems; pharmacy policies and procedures; documentation; inventory and filing systems; compounding; contamination control; storage and control; pharmacy equipment, and health care organizational structures.

PHLT – Phlebotomy

PHLT 1030 - Introduction to Venipuncture

3 Credits 4 Contact Hours

Prerequisites: Regular Status; ALHS 1011; ALHS 1090; ALHS 1040; COMP 1000; ENGL 1010 with a minimum grade of C

Corequisites: PHLT 1050

Provides an introduction to blood collecting techniques and processing specimens. Emphasis is placed on the knowledge and skills needed to collect all types of blood samples from hospitalized patients. Topics include venipuncture procedure, safety and quality assurance; isolation techniques, venipuncture problems, and definitions; lab test profiles and patient care areas; other specimen collections and specimen processing; test combinations, skin punctures and POCT; professional ethics and malpractice; and certification and licensure.

PHLT 1050 - Clinical Practice

5 Credits 15 Contact Hours

Prerequisites: ALHS 1040; COMP 1000; ALHS 1011; ALHS 1090; ENGL 1010 with a minimum grade of C
Corequisites: PHLT 1030

Provides work experiences in a clinical setting. Emphasis is placed on enhancing skills in venipuncture techniques. Topics include introduction to clinical policies and procedures and work ethics; routine collections: adult, pediatric, and newborn; and special procedures.

PHYS – Physics

PHYS 1111 – Introductory Physics I

3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C; MATH 1112 or MATH 1113 with a minimum grade of C
Corequisites: PHYS 111L

The first course of two algebra and trigonometry based courses in the physics sequence. Topics include material from mechanics (kinematics, dynamics, work and energy, momentum and collisions, rotational motion, static equilibrium, elasticity theory, and simple harmonic motion), mechanical waves, theory of heat and heat transfer, and thermodynamics.

PHYS 1111L – Introductory Physics Lab I

1 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C; MATH 1112 or MATH 1113 with a minimum grade of C
Corequisites: PHYS 1111

Selected laboratory exercises paralleling the topics in PHYS 1111. The laboratory exercises for this course include units of measurement, Newton's laws, work energy and power, momentum and collisions, one- and two-dimensional motion, circular motion and law of gravity, rotational dynamics and static equilibrium, elasticity theory, harmonic motion, theory of heat and heat transfer, thermodynamics, wave motion, and sound.

PHYS 1112 – Introductory Physics II

3 Credits 3 Contact Hours

Prerequisites: PHYS 1111 with a minimum grade of C; PHYS 1111L with a minimum grade of C
Corequisites: PHYS 1112L

The second of two algebra and trigonometry based courses in the physics sequence. Topics include material from electricity and magnetism (electric charge, electric forces and fields, electric potential energy, electric potential, capacitance, magnetism, electric current, resistance, basic electric circuits, alternating current circuits, and electromagnetic waves), geometric optics (reflection and refraction), and physical optics (interference and diffraction).

PHYS 1112L – Introductory Physics Lab II

1 Credits 3 Contact Hours

Prerequisites: PHYS 1111 with a minimum grade of C; PHYS 1111L with a minimum grade of C
Corequisites: PHYS 1112

Selected laboratory exercises paralleling the topics in PHYS 1112. The laboratory exercises for this course include material from electricity and magnetism, geometric optics, and physical optics.

PNSG - Practical Nursing

PNSG 2010 - Introduction to Pharmacology and Clinical Calculations 2 Credits 4 Contact Hours

Applies fundamental mathematical concepts and includes basic drug administration. Emphasizes critical thinking skills. Topics include systems of measurement, calculating drug problems, resource materials usage, fundamental pharmacology, administering medications in a simulated clinical environment, principles of IV therapy techniques, and client education.

PNSG 2030 - Nursing Fundamentals 6 Credits 11 Contact Hours

Introduces the nursing process. Topics include nursing as a profession; ethics and law; client care, which is defined as using the nursing process, using critical thinking, and providing client education and includes principles and skills of nursing practice, documentation, and an introduction to physical assessment; customer/client relationships; standard precautions; basic life support; infection control/blood-borne/airborne pathogens; and basic emergency care/first aid and triage.

PNSG 2035 - Nursing Fundamentals Clinical 2 Credits 6 Contact Hours

Introduces nursing practice in the clinical setting. Topics include but are not limited to history taking, physical assessment, nursing process, critical thinking, activities of daily living, documentation, client education, and standard precautions, hygiene and personal care, mobility and biomechanics, fluid and electrolytes, oxygen care, and perioperative care.

PNSG 2210 - Medical-Surgical Nursing I 4 Credits 5 Contact Hours

Focuses on client care, including using the nursing process, performing assessments, using critical thinking, engaging in client education, and displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; immunology; pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to the cardiovascular, respiratory, and hematological, and immunological systems.

PNSG 2220 - Medical-Surgical Nursing II 4 Credits 5 Contact Hours

Focuses on client care including using the nursing process, performing assessments, using critical thinking, engaging in client education, and displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to the endocrine, gastrointestinal, and urinary system.

PNSG 2230 - Medical-Surgical Nursing III 4 Credits 5 Contact Hours

Focuses on client care including using the nursing process, performing assessments, using critical thinking, engaging in client education, and displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; mental health; pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to the neurological, sensory, and musculoskeletal systems.

PNSG 2240 - Medical-Surgical Nursing IV 4 Credits 5 Contact Hours

Focuses on client care including using the nursing process, performing assessments, using critical thinking, engaging in client education, and displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; oncology; as well as pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to the integumentary and reproductive systems.

PNSG 2250 - Maternity Nursing 3 Credits 3 Contact Hours

Focuses on health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, providing client education, displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance and prevention of illness, care of the individual as a whole, pathological and nonpathological concerns in obstetric clients and the newborn; client care, treatments, pharmacology, and diet therapy related to obstetric clients and the newborn; and standard precautions.

PNSG 2255 - Maternity Nursing Clinical 1 Credits 3 Contact Hours

Focuses on clinical health management and maintenance and the prevention of illness, care of the individual as a whole, and deviations from the normal state of health. The definition of client care includes using the nursing process, performing assessments, using critical thinking, providing client education, displaying cultural competence across the life span and with attention to special populations. Topics include health management and maintenance and prevention of illness, care of the individual as a whole, pathological and nonpathological concerns in obstetric clients and the newborn; client care, treatments, pharmacology, and diet therapy related to obstetric clients and the newborn; and standard precautions.

PNSG 2310 - Medical-Surgical Nursing Clinical I 2 Credits 6 Contact Hours

Focuses on clinical client care including using the nursing process, performing assessments, applying critical thinking, engaging in client education and displaying cultural competence across the life span and with attention to special populations. At the completion of the four part sequence of these medical-surgical clinical courses students will have completed a minimum of 412.5 hours of clinical experience including 300 hours of comprehensive medical-surgical, 37.5 hours of maternal, 37.5 pediatric, and 37.5 mental health experiences. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; hygiene and personal care; mobility and biomechanics; fluid and electrolytes; oxygen care; perioperative care; immunology; mental health; and oncology. Also includes pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to cardiovascular, hematological, immunological, respiratory, neurological, sensory, musculoskeletal, endocrine, gastrointestinal, urinary, integumentary, and reproductive systems.

PNSG 2320 - Medical-Surgical Nursing Clinical II
2 Credits 6 Contact Hours

Focuses on clinical client care including using the nursing process, performing assessments, applying critical thinking, engaging in client education, and displaying cultural competence across the life span and with attention to special populations. At the completion of the four part sequence of these medical-surgical clinical courses students will have completed a minimum of 412.5 hours of clinical experience including 300 hours of comprehensive medical-surgical, 37.5 hours of maternal, 37.5 pediatric, and 37.5 mental health experiences. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; hygiene and personal care; mobility and biomechanics; fluid and electrolytes; oxygen care; perioperative care; immunology; mental health; and oncology. Also includes pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to cardiovascular, hematological, immunological, respiratory, neurological, sensory, musculoskeletal, endocrine, gastrointestinal, urinary, integumentary, and reproductive systems.

PNSG 2330 - Medical-Surgical Nursing Clinical III
2 Credits 6 Contact Hours

Focuses on clinical client care including using the nursing process, performing assessments, applying critical thinking, engaging in client education and displaying cultural competence across the life span and with attention to special populations. At the completion of the four part sequence of these medical-surgical clinical courses students will have completed a minimum of 412.5 hours of clinical experience including 300 hours of comprehensive medical-surgical, 37.5 hours of maternal, 37.5 pediatric, and 37.5 mental health experiences. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; hygiene and personal care; mobility and biomechanics; fluid and electrolytes; oxygen care; perioperative care; immunology; mental health; and oncology. Also includes pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to cardiovascular, hematological, immunological, respiratory, neurological, sensory, musculoskeletal, endocrine, gastrointestinal, urinary, integumentary, and reproductive systems.

PNSG 2340 - Medical-Surgical Nursing Clinical IV
2 Credits 6 Contact Hours

Focuses on clinical client care including using the nursing process, performing assessments, applying critical thinking, engaging in client education and displaying cultural competence across the life span and with attention to special populations. At the completion of the four part sequence of these medical-surgical clinical courses students will have completed a minimum of 412.5 hours of clinical experience including 300 hours of comprehensive medical-surgical, 37.5 hours of maternal, 37.5 pediatric, and 37.5 mental health experiences. Topics include health management and maintenance; prevention of illness; care of the individual as a whole; hygiene and personal care; mobility and biomechanics; fluid and electrolytes; oxygen care; perioperative care; immunology; mental health; and oncology. Also includes pathological diseases, disorders, and deviations from the normal state of health, client care, treatment, pharmacology, nutrition, and standard precautions with regard to cardiovascular, hematological, immunological, respiratory, neurological, sensory, musculoskeletal, endocrine, gastrointestinal, urinary, integumentary, and reproductive systems.

PNSG 2410 - Nursing Leadership
1 Credits 1.00 Contact Hours

Builds on the concepts presented in prior nursing courses and develops the skills necessary for successful performance in the job market. Topics include application of the nursing process, supervisory skills, client education methods, group dynamics, and conflict resolution.

PNSG 2415- Nursing Leadership Clinical
2 Credits 6 Contact Hours

Builds on the concepts presented in prior nursing courses and develops the clinical skills necessary for successful performance in the job market, focusing on practical applications. Topics include application of the nursing process, critical thinking, supervisory skills, client education methods, and group dynamics.

POLS – Political Science

POLS 1101 - American Government
3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 and READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Emphasizes study of government and politics in the United States. The focus of the course will provide an overview of the Constitutional foundations of the American political processes with a focus on government institutions and political procedures. The course will examine the constitutional framework, federalism, civil liberties and civil rights, public opinion, the media, interest groups, political parties, and the election process along with the three branches of government. In addition, this course will examine the processes of Georgia state government. Topics include foundations of government, political behavior, and governing institutions.

POLS 2401 - American Government
3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 and READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Introduces students to contemporary issues in global affairs. It assumes no prior knowledge of international relations. The course examines problems facing the global community, as well as the prospects for governments, individuals, and international groups to address those problems. The course has three broad areas: the global political economy; human development, inequality, and rights; and global institutions and security. Key to all these areas is the role of the United States and other regional powers in world affairs.

PSYC – Psychology

PSYC 1010 - Basic Psychology

3 Credits 3 Contact Hours

Presents basic concepts within the field of psychology and their application to everyday human behavior, thinking, and emotion. Emphasis is placed on students understanding basic psychological principles and their application within the context of family, work, and social interactions. Topics include an overview of psychology as a science, the nervous and sensory systems, learning and memory, motivation and emotion, intelligence, lifespan development, personality, psychological disorders and their treatment, stress and health, and social psychology.

PSYC 1101 - Introductory Psychology

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 and READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Introduces the major fields of contemporary psychology. Emphasis is on critical thinking and fundamental principles of psychology as a science. Topics include research design, the organization and operation of the nervous system, sensation and perception, learning and memory, motivation and emotion, thinking and intelligence, lifespan development, personality, psychological disorders and treatment, stress and health, and social psychology.

PSYC 2103 - Human Development

3 Credits 3 Contact Hours

Prerequisites: PSYC 1101 with a minimum grade of C

Emphasizes changes that occur during the human life cycle beginning with conception and continuing through late adulthood and death and emphasizes the scientific basis of our knowledge of human growth and development and the interactive forces of nature and nurture. Topics include but are not limited to theoretical perspectives and research methods, prenatal development and child birth, stages of development from infancy through late adulthood, and death and dying.

RADT – Radiologic Technology

RADT 1010 - Introduction to Radiology

4 Credits 5 Contact Hours

Corequisites: RADT 1030; RADT 1320

Introduces a grouping of fundamental principles, practices, and issues common to many specializations in the health care profession. In addition to the essential skills, students explore various delivery systems and related issues. Provides the student with an overview of radiography and patient care. Students will be oriented to the radiographic profession as a whole. Emphasis will be placed on patient care with consideration of both physical and psychological conditions. Topics include ethics, medical and legal considerations, Right to Know Law, professionalism, basic principles of radiation protection, basic principles of exposure, equipment introduction, health care delivery systems, hospital and departmental organization, hospital and technical college affiliation, medical emergencies, pharmacology/contrast agents, media, OR and mobile procedures patient preparation, death and dying, body mechanics/transportation, basic life support/CPR, and patient care in radiologic sciences.

RADT 1030 - Radiographic Procedures I

3 Credits 5 Contact Hours

Prerequisites: BIOL 2114 with a minimum grade of C;

BIOL 2114L with a minimum grade of C

Corequisites: RADT 1010

Introduces the knowledge required to perform radiologic procedures applicable to the human anatomy. Emphasis will be placed on the production of quality radiographs, and laboratory experience will demonstrate the application of theoretical principles and concepts. Topics include introduction to radiographic procedures; positioning terminology; positioning considerations; procedures, anatomy, and topographical anatomy related to body cavities, bony thorax, upper extremities, shoulder girdle; and lower extremities.

RADT 1060 – Radiographic Procedures II

3 Credits 5 Contact Hours

Prerequisites: RADT 1010; RADT 1030

Corequisites: RADT 1330

Continues to develop the knowledge required to perform radiographic procedures. Topics include anatomy and routine projections of the pelvic girdle; anatomy and routine projections of the spine, gastrointestinal (GI) procedures; genitourinary (GU) procedures; biliary system procedures; and minor procedures.

RADT 1065 Radiologic Science

2 Credits 2 Contact Hours

Designed to establish a basic knowledge of atomic structure and terminology. Other topics include the nature and characteristics of x-radiation; ionizing and non-ionizing radiation; x-ray production; the properties of x-rays and the fundamentals of x-ray photon interaction with matter.

RADT 1075 Radiographic Imaging

4 Credits 5 Contact Hours

Introduces factors that govern and influence the production of the radiographic image using analog and digital radiographic equipment found in diagnostic radiology. Emphasis will be placed on knowledge and techniques required to produce high quality diagnostic radiographic images. Topics include image quality [radiographic density; radiographic contrast; recorded detail; distortion; grids; image receptors and holders (analog and digital)]; processing considerations (analog and digital); image acquisition (analog, digital, and PACS); image analysis; image artifacts (analog and digital). Guidelines for selecting exposure factors and evaluating images within a digital system will assist students to bridge between film-based and digital imaging systems. Factors

that impact image acquisition, display, archiving, and retrieval are discussed. Laboratory experiences will demonstrate applications of theoretical principles and concepts.

RADT 1085 Radiologic Equipment

3 Credits 4 Contact Hours

Establishes a knowledge base in radiographic, fluoroscopic and mobile equipment requirements and design. The content also provides a basic knowledge of Automatic Exposure Control (AEC) devices, beam restriction, filtration, quality control, and quality management principles of analog and digital systems. Laboratory experiences will demonstrate applications of theoretical principles and concepts.

RADT 1200 – Principles of Radiation Biology and Protection

2 Credits 2 Contact Hours

Provides instruction on the principles of cell radiation interaction. Radiation effects on cells and factors affecting cell response are presented. Acute and chronic effects of radiation are discussed. Topics include radiation detection and measurement; patient protection; personnel protection; absorbed dose equivalencies; agencies and regulations; introduction to radiation biology; cell anatomy, radiation/cell interaction; and effects of radiation.

RADT 1320 - Clinical Radiography I

4 Credits 12 Contact Hours

Prerequisites: RADT 1030

Introduces students to the hospital clinical setting and provides an opportunity for students to participate in or observe radiographic procedures. Topics include orientation to hospital areas and procedures; orientation to mobile/surgery; orientation to radiography and fluoroscopy; participation in and/or observation of procedures related to body cavities, the shoulder girdle, and upper extremities. Activities of students are under direct supervision.

RADT 1330 - Clinical Radiography II

7 Credits 21 Contact Hours

Prerequisites: RADT 1010; RADT 1030; RADT 1320

Corequisites: RADT 1060

Continues introductory student learning experiences in the hospital setting. Topics include equipment utilization; exposure techniques; attention to and/or observation of routine projections of the lower extremities, pelvic girdle, and spine; attention to and/or observation of procedures related to the gastrointestinal (GI), genitourinary (GU), and biliary systems; and attention to and/or observation of procedures related to minor radiologic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision.

RADT 2090 - Radiographic Procedures III

2 Credits 4 Contact Hours

Prerequisites: RADT 1060

Corequisites: RADT 1330; RADT 2340

Continues to develop the knowledge required to perform radiographic procedures. Topics include anatomy and routine projections of the cranium; anatomy and routine projections of the facial bones; anatomy and routine projections of the sinuses; sectional anatomy of the head, neck, thorax, and abdomen.

RADT 2201 - Introduction to Computed Tomography
2 Credits 2 Contact Hours
Corequisites: RADT 2220; RADT 2250
Introduces the student to computed tomography and patient care in the CT suite. Topics include the history of computed tomography, patient care and assessment, anatomy, contrast agents, radiation safety and protection, medical ethics and law, cultural diversity, and patient information management.

RADT 2210 – Computed Tomography Physics and Instrumentation
5 Credits 5 Contact Hours
Corequisites: RADT 2230; RADT 2265
Introduces the concepts of basic physics and instrumentation for computed tomography. Topics include computer concepts, system operation and components, image processing and display, instrumentation, single slice and volume scanning, 3-D volume rendering, image quality and artifacts, radiation protection and quality control.

RADT 2220 – Computed Tomography Procedures I
3 Credits 3 Contact Hours
Corequisites: RADT 2201; RADT 2250
Provides knowledge CT procedures of the head, chest, abdomen, and pelvis. Topics include anatomy, pathology, scanning procedures, scanning protocol, contrast administration, and contraindications for computed tomography.

RADT 2230 - Computed Tomography Procedures II
3 Credits 3 Contact Hours
Prerequisites: RADT 2220; RADT 2250
Corequisites: RADT 2210; RADT 2265
Provides knowledge of anatomy, pathology, scanning protocols, contrast administration, and contraindications for computed tomography of the neck, spine, musculoskeletal system, and special procedures. Post-processing and quality assurance criteria are addressed. Topics include anatomy, pathology, scanning protocol, contrast administration and contraindications, post processing and quality assurance,

RADT 2250 - Computed Tomography Clinical I
4 Credits 12 Contact Hours
Corequisites: RADT 2201; RADT 2220
Introduces students to the computed tomography department and provides an opportunity for participation in and observation of CT procedures. Students progress toward completion of clinical competency evaluations. Topics include exam preparation, patient care, equipment utilization, exposure techniques, evaluation of CT procedures, and incorporation of contrast media.

RADT 2260 - Radiologic Technology Review
3 Credits 3 Contact Hours
Prerequisites: RADT 1200; RADT 2090; RADT 2350
Corequisites: RADT 2360
Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for radiographers. Topics include image production and evaluation; radiographic procedures; anatomy, physiology, pathology, and terminology; equipment operation and quality control; radiation protection; and patient care and education.

RADT 2265 - Computed Tomography Clinical II
4 Credits 12 Contact Hours
Prerequisites: RADT 2201; RADT 2220; RADT 2250
Corequisites: RADT 2210; RADT 2230
Provides students with continued computed tomography work experience. Students demonstrate increased proficiency levels in skills introduced in Computed Tomography Procedures and

practiced in the previous clinical course. Students complete clinical competency evaluations. Topics include exam preparation, patient care, equipment utilization, exposure techniques, evaluation of CT procedures, and incorporation of contrast media.

RADT 2340 - Clinical Radiography III
6 Credits 18 Contact Hours
Prerequisites: RADT 1330
Provides students with continued hospital setting work experience. Students continue to develop proficiency in executing procedures introduced in Radiographic Procedures. Topics include patient care; behavioral and social competencies; performance and/or observation of minor special procedures, special equipment use, and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

RADT 2360 - Clinical Radiography IV
9 Credits 27 Contact Hours
Prerequisites: RADT 2340
Corequisites: RADT 2260
Provides students with continued hospital setting work experience. Students demonstrate increased proficiency levels in skills introduced in all of the radiographic procedures courses and practiced in previous clinical radiography courses. Topics include patient care; behavioral and social competency; advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; integration of procedures and/or observation of angiographic, interventional, minor special procedures; integration of procedures and/or observation of special equipment use; integration of procedures and/or observation of routine and special radiographic procedures; and final completion of all required clinical competencies. Execution of radiographic procedures will be conducted under direct and indirect supervision.

RADT 2520 - Mammographic Anatomy, Physics, and Positioning
6 Credits 6 Contact Hours
Corequisites: RADT 2530
The student should have a pre-existing knowledge and skills gained during an entry-level radiography educational experience and reinforced through professional practice. The content in this course is intended to aid technologists in preparing for post primary practice of mammography. The course provides the student with an overview of the following topics: Breast anatomy and mammographic correlation, breast viability and pathology, correlative physical breast assessment, department organization and regulation, equipment, interventional procedures mammography quality management, positioning, sonomammography, and technical applications.

RADT 2530 - Clinical Mammography
6 Credits 18 Contact Hours
Corequisites: RADT 2520

Content and clinical practice experiences should sequentially develop, apply, critically analyze, integrate, synthesize and evaluate concepts and theories used to perform radiologic procedures in mammography. Through structured, sequential, competency-based clinical assignments, students discuss, examine and evaluate concepts of team practice, patient-centered clinical practice and professional development. Clinical practice experience should teach students to provide care and assessment and competently perform radiologic imaging and total quality management. Levels of competency and outcomes measurement ensure the well-being of the patient prior to, and after the radiologic procedure. Topics include mammography clinical practice, patient preparation and education, mammographic procedure, quality control, interventional special procedures, and positioning.

READ – Reading

READ 0090 – Learning Support Reading
3 Credits 5 Contact Hours

Uses a modular approach to emphasize the strengthening of fundamental reading competencies, vocabulary, comprehension skills, critical reading skills, study skills, and content area reading skills. Students progress at their own pace to master each module.

RNSG – Registered Nursing

RNSG 1710 - Introduction to Nursing Practice
7 Credits 14 Contact Hours

Introduces the associate degree nursing student to the client, nursing profession and the health care delivery system. It introduces theoretical and historical content foundational to nursing practice. The nursing process is taught as the framework to organize and deliver nursing care. This course introduces the student to the roles of the professional nurse. Throughout the course, emphasis is placed on developing critical thinking, caring, competence and fundamental nursing skills. Clinical opportunities are provided in the nursing laboratory and acute care settings.

RNSG 1720 - Adult Health I
7 Credits 15 Contact Hours
Prerequisites: RNSG 1710

Reinforces theory and fundamental nursing skills taught in RNSG 1710 and introduces the student to the concepts of adult health nursing. The nursing process is used as a framework to organize content and deliver nursing care. Students use critical thinking as the basis for decisions regarding planning, interventions and evaluation when caring for clients with medical-surgical disorders. Pharmacological principles are integrated throughout the course. Simulated laboratory and clinical settings provide an opportunity to develop competency in nursing skills and caring in nursing practice. Clinical opportunities are provided in a variety of medical-surgical settings.

RNSG 1730 - Adult Health II
6 Credits 12 Contact Hours
Prerequisites: RNSG 1720

Focuses on providing competent care to clients within a variety of outpatient and specialty settings and includes an introduction to concepts and principles of case management, collaboration, and referral among community agencies. Application of the nursing process and critical thinking to concepts of mental health, chronic long-term illness, and the aging process is emphasized. Clinical opportunities are provided in in-patient and outpatient mental health, long-term care, outpatient rehabilitation, as well as but not limited to home health, hospice, and public health settings.

RNSG 2710 - Parent Child Nursing
7 Credits 15 Contact Hours
Prerequisites: PSYC 2103; RNSG 1730

Focuses on the care of children, child-bearing women, and their families. Focus is placed on the nursing process, critical thinking, and caring in relation to concepts of family and child development. Content covers normal conception through adolescence and common, recurring pediatric illnesses. Pharmacological principles are integrated throughout the course. Students continue to focus on roles of the professional nurse as caregiver, manager of care and member of the profession. Clinical opportunities are provided in the community and acute care settings.

RNSG 2720 - Adult Health III
7 Credits 15 Contact Hours
Prerequisites: RNSG 2710

Builds on Adult Health I and II and introduces the student to the concepts of advanced medical-surgical disorders in adult health nursing. In both simulated and clinical laboratory settings, the student applies the nursing process by demonstrating competency, caring, critical thinking and decision-making skills for clients with severe to complex illnesses. Pharmacological principles are taught as they relate to the client. Clinical opportunities are provided in a variety of medical-surgical settings.

RNSG 2730 - Transitions to Professional Nursing
6 Credits 12 Contact Hours
Prerequisites: RNSG 2720

Facilitates a transition into the role of professional nursing. Theoretical content focuses on leadership and management competencies necessary for assuming beginning leadership and/or management positions. Throughout the course, the student will have the opportunity to develop independence in caring for groups of clients. Students will explore current professional nursing issues. Emphasis is placed on professional growth, accountability and responsibility. During the clinical practicum, students are expected to demonstrate competency, caring, critical thinking and decision-making skills, communication, collaboration, and commitment to the profession. The roles of provider of health care, manager of health care, and member of the nursing profession are demonstrated. Clinical opportunities are provided in a variety of acute care settings with an assigned registered nurse preceptor.

SOCI – Sociology

SOCI 1101 - Introduction to Sociology

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Explores the sociological analysis of society, its culture, and structure. Sociology is presented as a science with emphasis placed on its methodology and theoretical foundations. Topics include basic sociological concepts, socialization, social interaction and culture, social groups and institutions, deviance and social control, social stratification, social change, and marriage and family.

SPAN – Spanish

SPAN 1101 – Introduction to Spanish Language and Culture I

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 AND READ 0090 with a minimum grade of C or degree program admission level writing AND reading competency

Introduces the Spanish language and culture. This course stresses the student's ability to acquire a non-native language and to communicate effectively in the target Spanish language. Emphasis is placed on reading, writing, and speaking the language. An overview of Hispanic society is also emphasized, highlighting the differences between American and Hispanic cultures. *Not open to native speakers of Spanish.*

SPAN 1102 - Introduction to Spanish Language and Culture II

3 Credits 3 Contact Hours

Prerequisites: SPAN 1101

Continues the focus of SPAN 1101 and advances the student's acquisition of the target language and understanding of cultural difference between American and Hispanic cultures. Emphasis is placed on improving effective communication skills in the areas of reading, writing, and speaking the Spanish language. *Not open to native speakers of Spanish.*

SPCH – Speech

SPCH 1101 - Public Speaking

3 Credits 3 Contact Hours

Prerequisites: ENGL 0090 with a minimum grade of C or degree program admission level writing competency

Introduces the student to the fundamentals of oral communication. Topics include selection and organization of materials, preparation and delivery of individual and group presentations, analysis of ideas presented by others, and professionalism.

SURG - Surgical Technology

SURG 1010 - Introduction to Surgical Technology 8 Credits 14 Contact Hours

Provides an overview of the surgical technology profession and develops the fundamental concepts and principles necessary to successfully participate on a surgical team. Topics include introduction to preoperative, intraoperative and postoperative principles of surgical technology; assistant circulator role, professionalism as well as health care facility information. (There are surgical procedures that are similar as far as procedural steps, instrumentation, supplies, patient position, etc. This is referred to as the "Co-Related Procedures Concept." The purpose of using the Co-Related Procedures Concept is to provide the instructor additional time to teach surgical procedures as well as avoid repetition.)

SURG 1020 - Principles of Surgical Technology 7 Credits 11 Contact Hours Prerequisites: Regular Status

Provides continued study of surgical team participation by wound management and technological sciences for the operating room. Topics include technological sciences; patient care concepts; preoperative, intraoperative and postoperative surgical technology; and perioperative case management. (There are surgical procedures that are similar as far as procedural steps, instrumentation, supplies, patient position, etc. This is referred to as the "Co-Related Procedures Concept." The purpose of using the Co-Related Procedures Concept is to provide the instructor additional time to teach surgical procedures as well as avoid repetition.)

SURG 1080 - Surgical Microbiology 2 Credits 2 Contact Hours

Introduces the fundamentals of surgical microbiology. Topics include cell structure, introduction to microbiology, microorganisms, process of infection, hypersensitivity, fluid movement concepts, and immunologic defense mechanisms.

SURG 1100 - Surgical Pharmacology 2 Credits 3 Contact Hours

Introduces the concepts of pharmacology and anesthesia. Topics include terminology, medication measurement, medications used in surgery, care and handling of medications and solutions, and anesthesia.

SURG 2030 - Surgical Procedures I 4 Credits 4 Contact Hours Prerequisites: SURG 1010; SURG 1020

Introduces the surgical specialties to include General Surgery, Obstetric and Gynecologic Surgery, Genitourinary Surgery, Otorhinolaryngologic Surgery, and Orthopedic Surgery. Topics for each surgical specialty will include Anatomy and Physiology, Pathophysiology, Diagnostic Interventions, and the Surgical Procedure.

SURG 2040 - Surgical Procedures II 4 Credits 4 Contact Hours Prerequisites: SURG 2030

Introduces the surgical specialties to include oral and maxillofacial surgery, plastic and reconstructive surgery, ophthalmic (eye) surgery, cardiothoracic surgery, peripheral vascular surgery and neurosurgery. Topics for each surgical specialty will include anatomy and physiology, pathophysiology, diagnostic interventions, and the surgical procedure.

SURG 2110 - Surgical Technology Clinical I 3 Credits 9 Contact Hours

Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include, but are not limited to, scrubbing, gowning, gloving, and draping; assistance with patient care; processing of instruments and supplies; maintenance of a sterile field; and environmental sanitation. In addition, introduces the development of surgical team participation through clinical experience. Emphasis is placed on observation and/or participation in routine procedures for core and specialty surgery. Topics include general surgery (to include gastrointestinal), cardiothoracic surgery, otorhinolaryngologic surgery (ENT), ophthalmic surgery (Eye), genitourinary surgery, neurological surgery, obstetrical and gynecological surgery, oral and maxillofacial surgery, orthopedic surgery, peripheral vascular surgery, plastic and reconstructive surgery, and procurement/transplant surgery. The total number of cases the student must complete is 120. Students are required to complete 30 cases in the General Surgery specialty. Twenty of the cases must be in the First Scrub Role. Students are required to complete 90 cases in various surgical specialties. Sixty of the cases must be in the First Scrub Role and evenly distributed between a minimum of 5 surgical specialties. However, 15 is the maximum number of cases that can be counted in any one surgical specialty. Diagnostic endoscopy cases and vaginal delivery cases are not mandatory, but up to 10 diagnostic endoscopic cases and 5 vaginal delivery cases can be counted toward the maximum number of Second Scrub Role cases. Cases that are in the Observation role must be documented but do not count towards the minimum of 120 total cases.

SURG 2120 - Surgical Technology Clinical II 3 Credits 9 Contact Hours

Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include scrubbing, gowning, gloving, and draping; assistance with patient care; processing of instruments and supplies; maintenance of a sterile field; and environmental sanitation. In addition, introduces the development of surgical team participation through clinical experience. Emphasis is placed on observation and/or participation in routine procedures for core and specialty surgery. Topics include: general surgery (to include gastrointestinal), cardiothoracic surgery, otorhinolaryngologic surgery (ENT), ophthalmic surgery (Eye), genitourinary surgery, neurological surgery, obstetrical and gynecological surgery, oral and maxillofacial surgery, orthopedic surgery, peripheral vascular surgery, plastic and reconstructive surgery, and procurement/transplant surgery. The total number of cases the student must complete is 120. Students are required to complete 30 cases in the General Surgery specialty. Twenty of the cases must be in the First Scrub Role. Students are required to complete 90 cases in various surgical specialties. Sixty of the cases must be in the First Scrub Role and evenly distributed between a minimum of 5 surgical specialties. However, 15 is the maximum number of cases that can be counted in any one surgical specialty. Diagnostic endoscopy cases and vaginal delivery cases are not mandatory, but up to 10 diagnostic endoscopic cases and 5 vaginal delivery cases can be counted toward the maximum number of Second Scrub Role cases. Cases that are in the Observation role must be documented but do not count towards the minimum of 120 total cases.

SURG 2130 - Surgical Technology Clinical III
3 Credits 9 Contact Hours

Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include scrubbing, gowning, gloving, and draping; assistance with patient care; processing of instruments and supplies; maintenance of a sterile field; and environmental sanitation. In addition, introduces the development of surgical team participation through clinical experience. Emphasis is placed on observation and/or participation in routine procedures for core and specialty surgery. Topics include general surgery (to include gastrointestinal), cardiothoracic surgery, otorhinolaryngologic surgery (ENT), ophthalmic surgery (Eye), genitourinary surgery, neurological surgery, obstetrical and gynecological surgery, oral and maxillofacial surgery, orthopedic surgery, peripheral vascular surgery, plastic and reconstructive surgery, and procurement/transplant surgery. The total number of cases the student must complete is 120. Students are required to complete 30 cases in the General Surgery specialty. Twenty of the cases must be in the First Scrub Role. Students are required to complete 90 cases in various surgical specialties. Sixty of the cases must be in the First Scrub Role and evenly distributed between a minimum of 5 surgical specialties. However, 15 is the maximum number of cases that can be counted in any one surgical specialty. Diagnostic endoscopy cases and vaginal delivery cases are not mandatory, but up to 10 diagnostic endoscopic cases and 5 vaginal delivery cases can be counted toward the maximum number of Second Scrub Role cases. Cases that are in the Observation role must be documented but do not count towards the minimum of 120 total cases.

SURG 2140 - Surgical Technology Clinical IV
3 Credits 9 Contact Hours

Orients students to the clinical environment and provides experience with basic skills necessary to the surgical technologist. Topics include scrubbing, gowning, gloving, and draping; assistance with patient care; processing of instruments and supplies; maintenance of a sterile field; and environmental sanitation. In addition, introduces the development of surgical team participation through clinical experience. Emphasis is placed on observation/participation in routine procedures and procedures for core and specialty surgery. Topics include general surgery (to include gastrointestinal), cardiothoracic surgery, otorhinolaryngologic surgery (ENT), ophthalmic surgery (Eye), genitourinary surgery, neurological surgery, obstetrical and gynecological surgery, oral and maxillofacial surgery, orthopedic surgery, peripheral vascular surgery, plastic and reconstructive surgery, and procurement/transplant surgery. The total number of cases the student must complete is 120. Students are required to complete 30 cases in the General Surgery specialty. Twenty of the cases must be in the First Scrub Role. Students are required to complete 90 cases in various surgical specialties. Sixty of the cases must be in the First Scrub Role and evenly distributed between a minimum of 5 surgical specialties. However, 15 is the maximum number of cases that can be counted in any one surgical specialty. Diagnostic endoscopy cases and vaginal delivery cases are not mandatory, but up to 10 diagnostic endoscopic cases and 5 vaginal delivery cases can be counted toward the maximum number of Second Scrub Role cases. Cases that are in the Observation role must be documented but do not count towards the minimum of 120 total cases.

SURG 2240 - Seminar in Surgical Technology
2 Credits 2 Contact Hours

Prepares students for entry into careers as surgical technologists and enables them to effectively prepare for the national certification examination. Topics include employability skills and professional preparation.

THEA – Theater Appreciation

THEA 1101 – Theater Appreciation
3 Credits 3 Contact Hours

Prerequisites: ENGL 1101 with a minimum grade of C
Explores history, aesthetics, and craft of the theatrical experience on stage, emphasizing the role of the audience as well as that of the artist. Critical views of theatrical performances are examined alongside scripts. Emphasis is placed on the students' understanding of foundational elements, principles, and theories of dramatic art, including classical and contemporary varieties. The performance component of this course enables students to appreciate the process by which theatre is realized and the creative and cultural significance of theatre as a basic human endeavor.

WELD – Welding

WELD 1000 - Introduction to Welding Technology
4 Credits 6 Contact Hours

Provides an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Topics include industrial safety and health practices, hand tool and power machine use, measurement, oxyacetylene welding, and welding career potentials.

WELD 1010 - Oxyfuel and Plasma Cutting
4 Credits 6 Contact Hours

Prerequisites: WELD 1000
Introduces fundamental principles, safety practices, equipment, and techniques necessary for metal heating, oxyfuel cutting, and plasma cutting. Topics include metal heating and cutting techniques, manual and automatic oxyfuel cutting techniques, oxyfuel pipe cutting, plasma torch and theory, plasma machine set up and operation, and plasma cutting techniques.

WELD 1030 - Blueprint Reading for Welding Technology
4 Credits 6 Contact Hours

Prerequisites: WELD 1000; WELD 1070; WELD 1090
Introduces the knowledge and skills necessary for reading welding and related blueprints and sketches. An emphasis is placed on identifying types of welds, and the associated abbreviations and symbols.

WELD 1040 - Flat Shielded Metal Arc Welding
4 Credits 6 Contact Hours

Prerequisites: WELD 1000 (or as corequisite with WELD 1000)
Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in flat positions. Qualification tests, flat position, are used in the evaluation of student progress toward making industrial welds.

WELD 1050 - Horizontal Shielded Metal Arc Welding
4 Credits 6 Contact Hours

Prerequisites: WELD 1000; WELD 1040
Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the horizontal position. Qualification tests, horizontal position, are used in the evaluation of student progress toward making industrial standard welds. Topics include horizontal SMAW safety and health practices, selection and applications of electrodes, selection and applications for horizontal SMAW, horizontal SMAW joints, and horizontal SMAW to specification.

WELD 1060 - Vertical Shielded Metal Arc Welding
4 Credits 6 Contact Hours
Prerequisites: WELD 1000; WELD 1050

Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the vertical position. Qualification tests, vertical position, are used in the evaluation of student progress toward making industrial standard welds. Topics include vertical SMAW safety and health practices, selection and applications of electrodes for vertical SMAW, vertical SMAW joints, and vertical SMAW to specification.

WELD 1070 - Overhead Shielded Metal Arc Welding
4 Credits 6 Contact Hours
Prerequisites: WELD 1000; WELD 1060

Introduces the major theory, safety practices, and techniques required for shielded metal arc welding (SMAW) in the overhead position. Qualification tests, overhead position, are used in the evaluation of student progress toward making industrial standard welds. Topics include overhead SMAW safety and health practices, selection and applications of electrodes for overhead SMAW, overhead SMAW joints, and overhead SMAW to specification.

WELD 1090 - Gas Metal Arc Welding
4 Credits 6 Contact Hours
Prerequisites: WELD 1000 WELD 1070

Provides knowledge of theory, safety practices, equipment and techniques required for successful gas metal arc welding. Qualification tests, all positions, are used in the evaluation of student progress toward making industrial standard welds. Topics include GMAW safety and health practices; GMAW theory, machines, and set up; transfer modes; wire selection; shielded gas selection; and GMAW joints in all positions.

WELD 1110 - Gas Tungsten Arc Welding
4 Credits 6 Contact Hours
Prerequisites: WELD 1070 WELD 1090

Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful gas tungsten arc welding. Qualification tests, all positions, are used in the evaluating of student progress toward making industrial standard welds. Topics include GTAW safety and health practices; shielding gases; metal cleaning procedures; GTAW machines and set up; selection of filler rods; GTAW weld positions; and production of GTAW beads, bead patterns, and joints.

WELD 1120 - Preparation for Industrial Qualifications
4 Credits 6 Contact Hours
Prerequisites: WELD 1040; WELD 1070; WELD 1090;
WELD 1110

Introduces industrial qualification methods, procedures, and requirements. Students are prepared to meet the qualification criteria of selected national welding codes and standards. Topics include test methods and procedures, national industrial codes and standards, fillet and groove weld specimens, and preparation for qualifications and job entry.

WELD 1150 - Advanced Gas Tungsten Arc Welding
3 Credits 5 Contact Hours
Prerequisites: WELD 1000; WELD 1110

Provides knowledge of theory, safety practices, inert gas, equipment, and techniques required for successful advanced gas tungsten arc welding (GTAW). Qualification tests, all positions, are used in the evaluation of student progress toward making advanced level industrial standard welds. Topics include GTAW safety and health practices; shielding gases; metal cleaning procedures; GTAW machines and equipment set up; selection of filler rods; GTAW weld positions; and advanced production of GTAW beads, bead patterns, and joints.

WELD 1151 - Fabrication Processes
3 Credits 4 Contact Hours
Prerequisites: WELD 1030; WELD 1070; WELD 1150

Presents practices common in the welding and metal fabrication industry. Topics include metal fabrication safety and health practices and metal fabrication procedures.

WELD 1152 - Pipe Welding
4 Credits 7 Contact Hours
Prerequisites: WELD 1000; WELD 1070; WELD 1150

Provides the opportunity to apply skills to pipe welding operations. Topics include pipe welding safety and health practices, pipe welding nomenclature, pipe layout and preparation, pipe joint assembly, horizontal welds on pipe (2G), vertical welds on pipe (5G), and welds on 45 degree angle pipe (6G).

WELD 1153 - Flux Cored Arc Welding
4 Credits 6 Contact Hours
Prerequisites: WELD 1000; WELD 1090

Provides knowledge of theory, safety practices, equipment, and techniques required for successful flux cored arc welding (FCAW). Qualification tests, all positions, are used in the evaluation of student progress toward making industrial standards welds. Topics include FCAW safety and health practices, FCAW theory, machine set up and operation, shielded gas selection, and FCAW joints in all positions.

WELD 1330 - Metal Welding and Cutting Techniques
2 Credits 4 Contact Hours

Provides instruction in the fundamentals of metal welding and cutting techniques. Instruction is provided in safety and health practices, metal fabrication preparation, and metal fabrication procedures.