EXPLANATION OF COURSE DESCRIPTIONS

Course descriptions in this catalog are current at the time of printing. New catalogs are printed every two years. Most recent course changes are published in individual program brochures. Course descriptions for degree programs, diploma programs, and technical certificates taught at Wiregrass Georgia Technical College are listed on the following pages. Courses are arranged alphabetically. A three-letter prefix and course number precedes each course title. Lecture hours per week, lab hours per week and total credit hours are shown below the course titles. Prerequisites and/or corequisites are also listed for the courses. A prerequisite must be taken before entering the course. A co-requisite may be taken concurrently while taking the course.

ACC 1101 - PRINCIPLES OF ACCOUNTING I
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the basic 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 and accounting for a personal service business, the accounting cycle and accounting for a merchandising enterprise, and cash control. Laboratory work demonstrates theory presented in class.

ACC 1102 - PRINCIPLES OF ACCOUNTING II
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): ACC 1101
Corequisite(s):
Applies the basic principles of accounting to specific account classifications and subsidiary record accounting. Topics include: receivables, inventory, plant assets, payroll, payables, partnerships, and sales tax returns. Laboratory work demonstrates theory presented in class.

ACC 1103 - PRINCIPLES OF ACCOUNTING III
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): ACC 1102
Corequisite(s):
Emphasizes a fundamental understanding of corporate and cost accounting. Topics include: accounting for a corporation, statement of cash flows, cost accounting, budgeting and long term liabilities. Laboratory work demonstrates theory presented in class.

ACC 1104 - COMPUTERIZED ACCOUNTING
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): ACC 1102, SCT 100
Corequisite(s):
Emphasizes operation of computerized accounting systems from manual input forms. Topics include: equipment use, general ledger, accounts receivable and payable, payroll, cash management, and financial reports. Laboratory work includes theoretical and technical application.

ACC 1105 - DATABASE APPLICATIONS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
Emphasizes use of database management software packages to access, manipulation, and updating; sort, index, and query functions; database program-related applications; and database management applications. Laboratory work includes theoretical and technical application.

ACC 1106 - SPREADSHEET APPLICATIONS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
Provides instruction in the use of electronic spreadsheet software packages for program-related spreadsheet applications. Students become proficient in creation, modification, and combination of spreadsheet. Topics include: spreadsheet creation, data entry, data entry modification, computation using functions, and program-related spreadsheet applications.

ACC 1151 - INDIVIDUAL TAX ACCOUNTING
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
Provides instruction for preparation of both state and federal income tax. Topics include: taxable income, income adjustments, schedules, standard deductions, itemized deductions, exemptions, tax credits, and tax calculations.

ACC 1152 - PAYROLL ACCOUNTING
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): ACC 1101
Corequisite(s):
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.

ACC 2105 – DATABASE APPLICATIONS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
Emphasizes use of database management software packages to access, manipulate, and create file data. Topics include: database concepts structuring databases, entering data, organizing data, and managing databases.

ACC 2154 – PERSONAL FINANCE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
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.

ACC 2158 – MANAGERIAL ACCOUNTING
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Emphasizes the interpretation of data by management in planning and controlling business activities. Topics include: budgeting, capital investment decisions, price level and foreign exchange, analysis of financial statements, and internal reporting.

ACC 2160 – ADVANCED SPREADSHEET
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): ACC 1106
Corequisite(s):
Provide the fundamental, intermediate and advanced Microsoft Excel competencies to provide user with the skills necessary to obtain the expert user certification. Topics include spread sheet creation, financial statements, forecast, amortization schedules, workgroup editing and advanced features such as macros, using charts, importing and exporting data, HTML creation, formulas, Web queries, built-in function, templates, and trends and relationships.

ACC 2164 – BOOKKEEPER CERTIFICATION REVIEW
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): ACC 1106
Corequisite(s):
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.

ACC 2167 – ACCOUNTING INTERNSHIP I
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces the application and reinforcement of accounting and employability principles in an actual job setting. Acquaints the student with realistic work situations and provides insights into accounting applications on the job. Topics include: appropriate work habits, acceptable job performance, application of accounting knowledge and skills, interpersonal relations, and development of productivity. The half-time accounting internship is implemented through the use of written individualized training plans, written performance evaluation, and weekly documentation or seminars and/or other projects as required by the instructor.

ACC 2168 – ACCOUNTING INTERNSHIP II
Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12
Prerequisite(s):
Corequisite(s):
Provides in-depth application and reinforcement of accounting and employability principles in an actual job setting. Allows the student to become involved in intensive on-the-job accounting applications that require full-time concentration, practice, and follow through. Topics include: appropriate work habits, acceptable job performance, application of accounting knowledge and skills, interpersonal relations, and progressive productivity. The full-time accounting internship is implemented through the use of written individualized training plans, written performance evaluation, weekly documentation or seminars and/or other projects as required by the instructor.

ACC 2207 – PRINCIPLES OF FRAUD EXAMINATION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
Students will learn the basic principles and theories of occupational fraud. The student will learn how opportunity, pressure, and rationalization link together to create the necessary elements present when fraudulent acts are committed. Fraudulent behavior can be prevented and/or detected through a variety of ways that the student will learn. There will be videos and short case studies, made available by the Association of Certified Fraud Examiners (ACFE). Topics covered include: fraud warning signals, identifying ways that firms can implement preventative measures,
understanding schemes, identifying ways that firms can detect fraudulent activities.

**ACR 1000 - SAFETY**
Weekly Hours: Class - 1; Lab - 0; Credit Hours: 1
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides instruction in procedures and practices necessary for safe operation of automotive collision repair facilities. Topics include: work facility safety, work facility cleanliness, safety devices, hybrid vehicle wiring, supplemental restraint systems, grade D air systems, fire prevention and safety, and environmental safety.

**ACR 1010 - AUTOMOBILE COMPONENTS IDENTIFICATION**
Weekly Hours: Class - 3; Lab - 1; Credit Hours: 3
Prerequisite(s)/Corequisite(s): Provisional Admission, ACR 1000
Corequisite(s):
Introduces the structural configuration and identification of the structural members of various automotive unibodies and frames. Topics include: unibody construction, frame types, stub frame types, body panels, and mechanical components.

**ACR 1020 - EQUIPMENT AND HAND TOOLS IDENTIFICATION**
Weekly Hours: Class - 1; Lab - 1; Credit Hours: 1
Prerequisite(s)/Corequisite(s): Provisional Admission, ACR 1000
Corequisite(s):
Introduces equipment and hand tools used in automotive collision repair. Topics include: safety procedures, hand tools identification, power hand tools identification, air supply systems, and hydraulic systems.

**ACR 1040 - MECHANICAL AND ELECTRICAL SYSTEMS**
Weekly Hours: Class - 1; Lab - 3; Credit Hours: 2
Prerequisite(s): Program Admission, ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Introduces various mechanical and electrical systems requiring repair of damages incurred through automobile collisions. Topics include: engine accessory systems, emission control systems, air conditioning systems, braking systems, steering column damage, engine removal and replacement sequence, lighting systems, engine wiring, power accessories systems, and restraint systems.

**ACR 1050 - BODY FIBERGLASS, PLASTIC, AND RUBBER REPAIR TECHNIQUES**
Weekly Hours: Class - 1; Lab - 7; Credit Hours: 3
Prerequisite(s): Program Admission, ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Provides instruction in non-metallic auto body repair techniques. Topics include: cracked or splintered area repair, bonding agent usage, fiberglass, partial header panel and plastic body parts removal and replacement procedure, plastics identification, and Sheet Molded Compound (SMC) repairs.

**ACR 1060 - WELDING AND CUTTING**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Introduces welding and cutting procedures used in auto collision repair. Emphasis will be placed on MIG welding techniques. Topics include: MIG welding, aluminum welding and repair, metal cutting techniques, resistance welding, unibody welding techniques, weld removal techniques, plasma arc cutting, plug welding, butt welding, lap welding, and safety procedures.

**ACR 1070 - TRIM, ACCESSORIES, AND GLASS**
Weekly Hours: Class - 1; Lab - 3; Credit Hours: 2
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Provides instruction in removal and replacement methods of a variety of non-structural cosmetic and safety features of the automobile. Topics include: interior and exterior trim, mirrors, weather stripping, stationary and non-stationary glass, interior components, fasteners, and safety procedures.

**ACR 1090 - DAMAGE IDENTIFICATION AND ASSESSMENT**
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010
Corequisite(s):
Introduces procedures and resources used in the identification and assessment of automotive collisions damages. Topics include: assessment plan determination, damage analysis, collision estimation, service manual use, and computerized estimation.

**ACR 1100 - MINOR COLLISION REPAIR**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 2
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Introduces the materials and operations required to repair minor collision damage. Topics include: pick, file, and finish procedures; body repair materials identification; body fillers
usage; disc grinder procedures; safety procedures, and stud welders.

**ACR 1200 - CONVENTIONAL FRAME REPAIR**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): ACR 1000, ACR 1010 and ACR 1020
Corequisite(s):
Emphasizes the diagnosis, straightening, measurement, and alignment of conventional automobile and truck frames. Topics include: alignment measurement systems; damage diagnosis; equipment types and usage; frame straightening, repair, and alignment; safety precautions, and computerized damage diagnosis.

**ACR 1210 - UNIBODY IDENTIFICATION AND DAMAGE ANALYSIS**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 2
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Provides instruction in the identification and analysis of various forms of unibody damage. Topics include: collapse or buckle damage identification, sag damage identification, sideways damage identification, twist damage identification, secondary damage identification, and lift equipment usage and safety.

**ACR 124 - UNIBODY WELDING TECHNIQUES**
Weekly Hours: Class - 0; Lab - 5; Credit Hours: 2
Prerequisites (s): ACR 2240
Corequisite(s):
Provides instruction in specific welding applications in automotive collision repair. Topics include: MIG welder panel welding, plug weld collision repair, butt weld collision repair, lap weld collision repair, safety procedures, resistance welding, aluminum MIG welding, and aluminum TIG welding.

**ACR 1270 - UNIBODY SUSPENSION AND STEERING SYSTEMS**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 2
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, and ACR 1020
Corequisite(s):
Provides instruction in unibody suspension and steering system damage analysis and repair. Topics include: parallelogram suspension parts removal and replacement, rack and pinion steering system removal and replacement, damage analysis, quick check system damage determination, front end suspension equipment usage, and safety procedures.

**ACR 1280 - BOLT-ON BODY PANEL REMOVAL AND REPLACEMENT**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Provides instruction in the removal and replacement of bolt-on automobile body panels. Topics include: hood, deck panels, and header panels removal and replacement; fender removal and installation/coining; door removal and installation; headlamp and filler panels removal and replacement; grill removal and replacement; and headlamp adjustment.

**ACR 1290 - MAJOR COLLISION REPAIR INTERNSHIP/PRACTICUM**
Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3
Prerequisite(s): Completion of all required courses in the Major Collision Repair specialization
Corequisite(s):
Provides occupation-based learning opportunities for students pursuing the Major Collision Repair specialization. Qualified professional technicians will mentor students as they experience working in the Automotive Collision Repair profession in an industry standard commercial repair facility or industry standard simulated on-campus facility. Topics include: conventional frame repair, unibody damage identification and analysis, unibody measuring and fixturing systems, unibody straightening systems and techniques, unibody welding techniques, unibody structural panel repair and replacement, conventional body structural panel repair, unibody suspension and steering systems, and bolt-on body panel removal and replacement.

**ACR 1300 - SANDING, PRIMING, AND PAINT PREPARATION**
Weekly Hours: Class - 3; Lab - 4; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020
Corequisite(s):
Introduces the materials and procedures involved in preparing automobile bodies for refinishing. Topics include: feather edging; masking procedures; safety procedures; surface preparation; corrosion preventative application; primers, sealers, and primer surfacer applications; and spray gun operation and maintenance.

**ACR 1320 - SPECIAL REFINISHING APPLICATION**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020, and ACR 1300
Corequisite(s):
Provides instruction in the equipment, material, and techniques used in the application of special paints. Emphasis will be placed on automotive refinishing procedures. Topics include: safety; paint identification; base metals preparation and priming; equipment use and maintenance; color application; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and fiberglass, plastics, and rubber refinishing.

**ACR 150 - ADVANCED UNIBODY REPAIRS**
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite(s): Corequisite(s): Provides advanced instruction in the repair and replacement of parts and structural panels in the unibody vehicle. Emphasis is placed on skill development through laboratory practice. Topics include: primary structure, rocker panel, center post, and panel removal and replacement.

**ACR 2240 - UNIBODY MEASURING AND FIXTURING AND STRAIGHTENING SYSTEMS**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020 and ACR 1210
Corequisite(s): Provides instruction in a variety of alignment measuring, fixturing, and straightening systems. Topics include: universal mechanical measuring system/ equipment types and usage, universal laser measuring system/safety procedures, dedicated fixture system/ primary/ rough and secondary damage pull, upper body panel/single pull correction, English/metric tape alignment measurement/ multiple pull correction, and impact or pull stress relief.

**ACR 2250 - UNIBODY STRUCTURAL PANEL REPAIR AND REPLACEMENT**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020, ACR 1060 and ACR 1210
Corequisite(s): Provides instruction in attachment methods, proper repair and replacement of structural panels, dimensional control, areas of high stress concentration, sectional principles, and crush zones. Selection and preparation of recycled parts will be emphasized. Topics include: primary structure, rear cross member, apron and rails, trans X member, rocker, w/s posts, hinge pillar, center pillar, floor pan, spot weld removal, panel sectional cuts, and damaged panel removal and replacement.

**ACR 2260 - CONVENTIONAL BODY STRUCTURAL PANEL REPAIR**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, and ACR 1020
Corequisite(s): Introduces conventional body structural panel repair. A variety of removal and replacement techniques are emphasized. Topics include: partial or complete quarter panel removal and replacement, rocker panel removal and replacement, and center pillar post removal and replacement.

**ACR 2270 - INTRODUCTION TO THE ADVANCED SHEET METAL REPAIR INDUSTRY**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s): This class teaches the proper terminology, sheet metal selection, and tools used by the Advanced Sheet Metal Repair Industry. Topics included are: advanced sheet metal repair terminology, sheet metal selection, and tools of the advanced sheet metal industry.

**ACR 2272 - BENDS, CURVES AND WELD-ON PANELS**
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 3
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s): Provides instruction to identify and demonstrate the procedures to fabricate simple and compound bends and curves, the tools used to create them, and the proper procedures to install weld-on panels.

**ACR 2274 - BODY CONSTRUCTION**
Weekly Hours: Class - 1; Lab - 11; Credit Hours: 5
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s): Provides instruction in identifying and performing techniques required for the construction of major body panels. The student’s performance will be assessed by written examination, and lab projects.

**ACR 2276 - CHOPPING TOPS**
Weekly Hours: Class - 2; Lab - 13; Credit Hours: 7
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s): Provides instruction in identifying and performing the techniques required for chopping tops on custom vehicles. Topics include: knowledge of vehicle, preparation of vehicles, chop tops.
ACR 2278 - FUEL TANKS
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s):
Provides instruction in identifying and performing techniques required for the construction of fuel tanks. Topics include: pattern and fabrication of a fuel tank.

ACR 2280 - FRENCHING
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s):
Provides instruction in identifying and demonstrating the proper procedure for Frenching sheet metal body panels. Topics include: French in a pair of tail lights and license plate.

ACR 2282 - SECTIONING, PANCAKING AND CHANNELING
Weekly Hours: Class - 1; Lab - 11; Credit Hours: 5
Prerequisite(s): ACR 1000, ACR 1020, ACR 1050, ACR 1060, ACR 122, ACR 124
Corequisite(s):
This course provides training for students to identify and perform the techniques required for sectioning and channeling custom vehicles. The student will be assessed by written examination and lab projects.

ACR 2340 - URETHANE ENAMELS REFINISHING APPLICATION
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1010, ACR 1020, and ACR 1300
Corequisite(s):
Provides instruction in the equipment, material, and techniques used in the application of urethane enamels paint. Emphasis will be placed on automotive refinishing procedures. Topics include: safety; paint identification; base metals preparation and priming; equipment use and maintenance; base coat/clear coat application; color application of solid and metallic finishes; original finish sealing; panel and spot repair and blending; thinners, reducers, and additives; and tri-coat finishing.

ACR 2350 - TINT AND MATCH COLORS
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1020 and ACR 1300
Corequisite(s):
Introduces methods and techniques used in the process of color matching and production. Topics include: tinting methods, gun techniques, variables adjustments, color flip-flop determination and correction, and reduction procedures.

ACR 2360 - DETAILING
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 2
Prerequisite(s)/Corequisite(s): ACR 1000, ACR 1020
Corequisite(s):
Introduces the methods and techniques used in detailing a refinished automotive surface. Topics include: finish analysis, color sanding, polishes and glazes, cleaning vehicle, and decal and stripes.

ACR 2370 - PAINT AND REFINISHING INTERNSHIP
Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3
Prerequisite(s): Completion of all required courses in Paint and Refinish specialization
Corequisite(s):
Provides occupation-based learning opportunities for students pursuing the Paint and Refinishing specialization. Students will be mentored by qualified professional technicians as they experience working in the Automotive Collision Repair profession in an industry standard commercial repair facility or industry standard simulated on-campus facility. Topics include: sanding, priming, and paint preparation; special refinishing applications; urethane enamels; tint and match colors; detailing; and employability skills.

ACT 100 - REFRIGERATION FUNDAMENTALS
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces basic concepts and theories of refrigeration. Topics include: the laws of thermodynamics, pressure and temperature relationships, heat transfer, the refrigeration cycle, and safety.

ACT 101 - PRINCIPLES AND PRACTICES OF REFRIGERATION
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s)/Corequisite(s): ACT 100
Corequisite(s):
Introduces the use of refrigeration tools, materials, and procedures needed to install, repair, and service refrigeration systems. Topics include: refrigeration tools; piping practices; service valves; leak testing; refrigerant recovery, recycling, and reclamation; evacuation; charging; and safety.

ACT 102 - REFRIGERATION SYSTEMS COMPONENTS
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s)/Corequisite(s): ACT 100, ACT 101
Corequisite(s):
Provides the student with the skills and knowledge to install, test, and service major components of a refrigeration system. Topics include: compressors, condensers, evaporators, metering devices, service procedures, refrigeration systems, and safety.

**ACT 103 - ELECTRICAL FUNDAMENTALS**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduction to fundamental electrical concepts and theories as applied to the air conditioning industry. Topics include: AC and DC theory, electric meters, electric diagrams, distribution systems, electrical panels, voltage circuits, code requirements, and safety.

**ACT 104 - ELECTRIC MOTORS**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 103
Corequisite(s):
Continues the development of 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.

**ACT 105 - ELECTRICAL COMPONENTS**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ACT 103
Corequisite(s):
Provides instruction in identifying, installing, and testing commonly used electrical components in an air conditioning system. Topics include: pressure switches, overload devices, transformers, magnetic starters, other commonly used controls, diagnostic techniques, installation procedures, and safety.

**ACT 106 - ELECTRIC CONTROL SYSTEMS AND INSTALLATION**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 105
Corequisite(s):
Provides instruction on wiring various types of air conditioning systems. Topics include: servicing procedures, solid state controls, system wiring, control circuits, and safety.

**ACT 107 - AIR CONDITIONING PRINCIPLES**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s)/Corequisite(s): ACT 102, ACT 106, MAT 1012
Corequisite(s):
Introduces fundamental theory and techniques needed to identify major components and functions of air conditioning systems. Instruction is given on types of air conditioning systems and use of instrumentation. Topics include: types of AC systems, heat-load calculation, properties of air, psychometrics, duct design, air filtration, and safety principles.

**ACT 108 - AIR CONDITIONING SYSTEMS AND INSTALLATION**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s)/Corequisite(s): ACT 107
Corequisite(s):
Provides instruction on the installation and service of residential air conditioning systems. Topics include: installation procedures, service, split-systems, add-on-systems, packaged systems, and safety.

**ACT 109 - TROUBLESHOOTING AIR CONDITIONING SYSTEMS**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s)/Corequisite(s): ACT 108, ENG 1010
Corequisite(s):
Provides instruction on troubleshooting and repair of major components of a residential air conditioning system. Topics include: troubleshooting techniques, electrical controls, air flow, refrigeration cycle, and safety.

**ACT 110 - GAS HEATING SYSTEMS**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): ACT 102, ACT 106, MAT 1012
Corequisite(s):
Introduces principles of combustion and service requirements for gas heating systems. Topics include: service procedures, electrical controls, piping, gas valves, venting, code requirements, principles of combustion, and safety.

**ACT 111 - HEAT PUMPS AND RELATED SYSTEMS**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s)/Corequisite(s): ACT 102 ACT 106
Corequisite(s):
Provides instruction on the principles, application, and operation of a residential heat pump system. Topics include: installation procedures, servicing procedures, electrical components, geothermal ground source energy supplies, dual fuel, troubleshooting, valves, and safety.

**ACT 200 - DESIGN AND APPLICATION OF LIGHT COMMERCIAL AIR CONDITIONING**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 109, ACT 111
Corequisite(s):
Continues in-depth instruction on components and functions of air conditioning systems with emphasis on design and application of light commercial air conditioning systems. Topics include: refrigeration piping, hydronic piping, pump sizing, commercial load design, air flow, codes, and safety.

**ACT 201 - LIGHT COMMERCIAL AIR CONDITIONING CONTROL SYSTEMS**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 200
Corequisite(s):
Emphasizes the study of complex control systems on light commercial air conditioning systems. Topics include: pneumatic controls, electronic controls, electrical controls, mechanical controls, and safety.

**ACT 202 - LIGHT COMMERCIAL AIR CONDITIONING SYSTEMS OPERATION**

Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s)/Corequisite(s): ACT 200
Corequisite(s):
Provides in-depth study of the operation of light commercial air conditioning systems. Topics include: boiler operations, refrigeration components, energy management, codes, and safety.

**ACT 203 - LIGHT COMMERCIAL AIR CONDITIONING INTERNSHIP/PRACITCUM**

Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12
Prerequisite(s)/Corequisite(s): All non-elective courses
Corequisite(s):
Provides students with occupation-based instruction that applies learned skills to actual work experiences. Topics include: application of commercial refrigeration knowledge and skills, appropriate employability skills, problem solving, adaptability to job equipment and technology, progressive productivity, and acceptable job performance. The Light Commercial Air Conditioning Internship/Practicum is implemented through student internship in an approved occupational setting or through student work in an occupational practicum. Written individualized training plans, written performance evaluations, and required integrative experiences are used to implement this course.

**ACT 204 - RESIDENTIAL SYSTEMS DESIGNS**

Weekly Hours: Class - 4; Lab - 9; Credit Hours: 8
Prerequisite(s)/Corequisite(s): ACT 111
Corequisite(s):
Provides an increased level of concepts and theory beyond ACT 102. Students are introduced to more design theory in commercial refrigeration. Topics include: refrigeration heat calculation, equipment selection, refrigeration piping, codes, and safety.

**ACT 205 - GEORGIA STATE AND LOCAL RESIDENTIAL AIR CONDITIONING CODES**

Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 203
Corequisite(s):
Provides advanced level residential air conditioning code concepts and theories. Topics include: local residential air conditioning codes, state residential air conditioning codes, gas piping, refrigeration piping, and safety.

**ACT 206 - AIR DISTRIBUTION SYSTEMS FOR RESIDENTIAL AIR CONDITIONING**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s):
Corequisite(s):
Provides students with occupation-based instruction that applies learned skills to actual work experiences. Topics include: test and balance techniques and fan laws. Topics include: test and balance techniques, fan laws, and safety.

**ACT 207 - LIGHT RESIDENTIAL AIR CONDITIONING INTERNSHIP/PRACITCUM**

Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12
Prerequisite(s):
Corequisite(s):
Provides students with occupation-based instruction that applies learned skills to actual work experiences. Topics include: application of residential refrigeration knowledge and skills, appropriate employability skills, problem solving, adaptability to job equipment and technology, progressive productivity, and acceptable job performance. The Residential Air Conditioning Internship/Practicum is implemented through student internship in an approved occupational setting or through student work in an occupational practicum. Written individualized training plans, written performance evaluations, and required integrative experiences are used to implement this course.

**ACT 208 - COMMERCIAL REFRIGERATION DESIGN**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 109, ACT 111
Corequisite(s):
Provides an increased level of concepts and theory beyond ACT 102. Students are introduced to more design theory in commercial refrigeration. Topics include: refrigeration heat calculation, equipment selection, refrigeration piping, codes, and safety.

**ACT 209 - COMMERCIAL REFRIGERATION APPLICATION**

Weekly Hours: Class - 4; Lab - 8; Credit Hours: 8
Prerequisite(s)/Corequisite(s): ACT 206
Corequisite(s):
Introduces the application of fundamental theories and concepts of refrigeration. Emphasis will be placed on equipment application and installation procedures. Topics include: equipment application, installation procedures, cycle controls, energy management, and safety.

ACT 210 - TROUBLESHOOTING AND SERVICING COMMERCIAL REFRIGERATION
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ACT 206, ACT 207
Corequisite(s):
Continues to provide experience in maintenance techniques in servicing light commercial refrigeration systems. Topics include: system clearing, troubleshooting procedures, replacement of components, and safety.

AHS 1010 - INTRODUCTION TO ANATOMY AND PHYSIOLOGY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course focus provides a basic study of structure and function of the human body. This course includes an overview of each body system with an emphasis on homeostasis. Medical terminology related to body structure and function is taught as an integral part of the course. Topics include: introduction to medical terms describing the human body and an overview of structure and function of the human body.

AHS 1011 - ANATOMY AND PHYSIOLOGY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s): AHS 109
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.

AHS 1015 - BASIC INORGANIC CHEMISTRY
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): MAT 1012
Corequisite(s):
Introduces chemical concept principles, laws, and techniques applicable to the medical laboratory. Topics include: laboratory safety, fundamental principles of chemistry, weight and measures, solutions, and basic laws of chemistry.

AHS 102 - DRUG CALCULATION AND ADMINISTRATION
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): MAT 1012
Corequisite(s):
Uses basic mathematical concepts and includes basic drug administration. Emphasizes critical thinking skills. Topics include: systems of measurement, calculating drug problems, resource materials usage, basic pharmacology, administering medications in a simulated clinical environment, principles of IV therapy techniques, and client education.

AHS 103 - NUTRITION AND DIET THERAPY
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):
A study of the nutritional needs of the individual. Topics include: nutrients, standard and modified diets, nutrition throughout the lifespan, and client education.

AHS 104 - INTRODUCTION TO HEALTH CARE
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
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. Topics include: basic life support/CPR, basic emergency care/first aid and triage, vital signs, infection control, and blood/air-borne pathogens.

AHS 109 - MEDICAL TERMINOLOGY FOR ALLIED HEALTH SCIENCES
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the elements of medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include: word origins (roots, prefixes, and suffixes), word building, abbreviations and symbols, terminology related to the human anatomy, and terminology specific to the student’s field of study.

AHS 1126 - HEALTH SCIENCE PHYSICS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1100, MAT 1101, MAT 1111, or MAT 1113
Corequisite(s):
This course introduces the student to the basic laws of physics, with specific applications for health science students. Topics include: Basic Newtonian mechanics, static
and dynamic fluid concepts, heat and temperature, medical imaging techniques that utilize electromagnetic radiation and sound, basic principles of waves, light, and sound, basic principles of electricity and magnetism, and electrical safety.

**AHS 1127 - HEALTH SCIENCES CHEMISTRY**

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): Program Admission level math achievement
Corequisite(s):
Provides an introduction to basic chemical principles and concepts which explain the behavior of matter. Topics include: measurement and units, atomic structure, chemical bonding, physical states of matter, nomenclature, stoichiometry, organic and biochemistry.

**ART 1101 - ART APPRECIATION**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ENG 1101 with a grade of “C” or better.
Corequisite(s):
Explores the analysis of well-known works of visual arts, their composition, and the relationship to their periods through writing. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a brief review of standard grammatical and stylistic usage in proofreading and editing. An introduction to locating, acquiring, and documenting information resources lays the foundation for research to include: the re-creative critical process, the themes of art, the formal elements of design, and the placing of art in the historical context, writing analysis, practice, revision, and research about a work of visual arts. Topics include: historical and cultural development represented in visual arts; contributions in visual arts; and communications skills.

**AUT 120 - INTRODUCTION TO AUTOMOTIVE TECHNOLOGY**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces basic concepts and practices necessary for safe and effective automotive shop operation. Topics include: safety procedures; legal/ethical responsibilities; measurement; machining; hand tools; and shop organization, management, and work flow systems.

**AUT 122 - ELECTRICAL AND ELECTRONIC SYSTEMS**

Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): AUT 120
Corequisite(s):
Introduces automotive electricity. Topics include: general electrical system diagnosis; lighting system diagnosis and repair; gauges, warning devices, and driver information system diagnosis and repair; horn and wiper/washer diagnosis and repair; accessories diagnosis and repair.

**AUT 124 - BATTERY, STARTING AND CHARGING SYSTEMS**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 122
Corequisite(s):
Introduces automotive electricity. Topics include: general electrical system diagnosis and repair; lighting system diagnosis and repair; horn and wiper/washer diagnosis and repair; accessories diagnosis and repair.

**AUT 126 - ENGINE PRINCIPLES OF OPERATION AND REPAIR**

Weekly Hours: Class - 3; Lab - 9; Credit Hours: 6
Prerequisite(s)/Corequisite(s): AUT 120
Corequisite(s):
Introduces automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques. Topics include: general diagnosis; removal and reinstallation; cylinder heads and valve trains diagnosis and repair; engine blocks assembly diagnosis and repair; lubrication and cooling systems diagnosis and repair.

**AUT 128 - FUEL, IGNITION, AND EMISSION SYSTEMS**

Weekly Hours: Class - 5; Lab - 6; Credit Hours: 7
Prerequisite(s): AUT 122, 124, and 126
Corequisite(s):
Introduces fuel, ignition, and exhaust systems theory, diagnosis, repair, and service for vehicles with carburetion and fuel injection systems. Topics include: general engine diagnosis; ignition system diagnosis and repair; fuel, air induction, and exhaust systems diagnosis and repair; positive crankcase ventilation; exhaust gas recirculation; engine related service.

**AUT 130 - AUTOMOTIVE BRAKE SYSTEMS**

Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 122
Corequisite(s):
Introduces Brake systems theory and its application to automotive systems. Topics include: hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; miscellaneous (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair.
**AUT 132 - SUSPENSION AND STEERING SYSTEMS**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s): AUT 122
Corequisite(s):
Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include: steering systems diagnosis and repair; suspension systems diagnosis and repair; wheel alignment diagnosis, adjustment and repair; wheel and tire diagnosis and repair.

**AUT 134 - DRIVELINES**
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 4
Prerequisite(s): AUT 122
Corequisite(s):
Introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive driveline 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.

**AUT 138 - MANUAL TRANSMISSION/TRANSAXLE**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 122
Corequisite(s):
Introduces basics of front and rear-wheel drive. Clutch operation, diagnosis and service is included. Electronic controls related to transmission/transaxle operation are discussed. Topics include: clutch diagnosis and repair; transmission/transaxle diagnosis and repair.

**AUT 140 - ELECTRONIC ENGINE CONTROL SYSTEMS**
Weekly Hours: Class - 6; Lab - 3; Credit Hours: 7
Prerequisite(s): AUT 101
Corequisite(s):
Introduces concept of electronic engine control. Topics include: computerized engine controls diagnosis and repair; intake air temperature controls; early fuel evaporation (intake manifold temperature) controls; evaporative emissions controls.

**AUT 142 - CLIMATE CONTROL SYSTEMS**
Weekly Hours: Class - 5; Lab - 3; Credit Hours: 6
Prerequisite(s): AUT 122
Corequisite(s):
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.

**AUT 144 - INTRODUCTION TO AUTOMATIC TRANSMISSIONS**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 122
Corequisite(s):
Introduces students to basic transmission/transaxle theory, inspection, and service procedures. Focuses on minor in-car adjustments, replacements, and repair. Topics include: general transmission and transaxle diagnosis; transmission and transaxle maintenance and adjustment; in-vehicle transmission and transaxle repair.

**AUT 210 - AUTOMATIC TRANSMISSION REPAIR**
Weekly Hours: Class - 5; Lab - 6; Credit Hours: 7
Prerequisite(s): AUT 144
Corequisite(s):
Introduces automatic transmission hydraulic/mechanical operations, transmission repair, and automatic transmission hydraulic/mechanical diagnosis. Topics include: removal, disassembly, and reinstallation; oil pump and converter; gear train, shafts, bushings and case; friction and reaction units.

**AUT 212 - ADVANCED ELECTRONIC TRANSMISSION DIAGNOSIS**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s)/Corequisite(s): AUT 210
Corequisite(s):
Introduces automatic transmission hydraulic/mechanical, and electronic diagnosis and repair. Topics include: electronically controlled automatic transmission, automatic transmission electrical and electronic problem diagnosis and repair.

**AUT 214 - ADVANCED ELECTRONIC CONTROLLED BRAKE SYSTEM DIAGNOSIS**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 130
Corequisite(s):
Introduces anti-lock Brake system (ABS) to include ABS components and ABS operation, testing, and diagnosis. Topics include: general Brake and anti-lock Brake systems diagnosis and testing, light truck rear anti-lock Brake system, four-wheel anti-lock Brake system locations, components, and operation.

**AUT 216 - ADVANCED ELECTRONIC CONTROLLED SUSPENSION AND STEERING SYSTEMS**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 132
Corequisite(s):
Introduces principles of electronic suspension, electronic steering, and electronic active suspension. Topics include: electronic steering systems diagnosis and adjustment/repair, and diagnosis of electrical and electronic controlled steering and suspension systems.

AUT 218 - ADVANCED ELECTRONIC ENGINE CONTROL SYSTEMS
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AUT 140
Corequisite(s):
Introduces On-Board Diagnostics II (OBD II), California Air Research Board (CARB) requirements and monitoring technology, diagnostic trouble code definitions, and essentials of advanced driveability diagnosis and data interpretation using a scanner. Topics include: OBD II standards; monitoring capabilities; OBD II diagnostics; OBD II terms.

AUT 220 - AUTOMOTIVE TECHNOLOGY INTERNSHIP
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6
Prerequisite(s)/Corequisite(s): AUT 128
Corequisite(s):
Provides student work experience in the occupational environment. Topics include: application of automotive technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.

BAF 100 - INTRODUCTION TO BANKING AND FINANCE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the student to the history, documents, and operational functions of the banking industry. Topics include: history, documents, operations, specialized services and electronic banking.

BAF 114 - BANK BUSINESS AND INFORMATION SYSTEMS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): MAT 1011 (diploma); MAT 1100 (degree)
Corequisite(s):
Emphasizes basic calculator, teller terminal, proof machine, and financial computer use. Topics include: introduction to types of equipment, calculators, teller machines, proof machines, and financial computers.

BAF 115 - FINANCIAL MANAGEMENT AND COUNSELING
Weekly Hours: Class - 4; Lab - 1; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
Provides knowledge and applications in the management of personal and consumer finance. Topics include: record keeping, budgeting, credit principles, investment principles, and forecasting.

BAF 132 - BANKING AND FINANCE O.B.I. I
Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5
Prerequisite(s): BAF 100, ENG 1010, Program Admission
Corequisite(s):
Introduces the application and reinforcement of banking and finance and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into banking and finance applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of banking and finance techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

BAF 133 - BANKING AND FINANCE O.B.I. II
Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5
Prerequisite(s): BAF 132
Corequisite(s):
Focuses on the application and reinforcement of banking and finance and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into banking and finance applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of banking and finance techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.
evaluation, required weekly seminar, and required practicum or on-the-job training.

**BAF 200 - FINANCE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ACC 1101
Corequisite(s):
Provides knowledge and application of the concepts of free and mutual markets, capitalism, wealth creation from technology innovation, risk concepts, accounting and economic balance sheets, income statements, sources and uses statement, trend analysis and market value, simple and compound interest, the time value of money, present value, future value, and net present value, internal rate of return, capital budgeting decisions, e-technology application/financial value, stockholder equity, book value, dividend policy, debt and equity, corporate growth, global finance, annuities, capital structure, financial leverage, and risk.

**BAF 205 - REAL ESTATE FINANCE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Emphasizes the real estate industry including the mortgage industry, economic concepts behind real estate, real estate law concepts, amortization, maturity mismatch, flexible loan insurance, regulations, loan origination, loan processing, real estate appraisals, disclosure, title insurance, foreclosure, mortgage backed securities, technology application in real estate, R.E.I.T.s, interest rate analysis, collateralized securities, qualifying ratios, pass-throughs, market feasibility, zoning, environmental impact, options, capitalization rates, and land use.

**BAF 210 - CONTEMPORARY BANK MANAGEMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): BAF 100
Corequisite(s):
Provides knowledge and application of the principles of bank management, bank services, bank technology, currency acts and regulations, bank holding companies, correspondent banking, affiliated banks, bank stock valuation, asset-liability management and risk, returns and margins, bank liquidity, composition of deposits and loans, customer service, bank leadership, global bank management, interest sensitive gap management, bank balance sheets, income statement, and sources and uses statement, portfolio immunization, the Federal Reserve Bank, pricing of deposits and loans, deposit services, proper bank behavior, bank lending policies, and management of the bank's equity capital position.

**BAF 215 - WEB-BASED BANKING AND FINANCE**
Weekly Hours: Class - 2; Lab - 7; Credit Hours: 5
Prerequisite(s): BAF 100, SCT 100
Corequisite(s):
Introduces the student to the origins of virtual banking, the new Web-O-Nomics (a concentration economy), converging technologies, digital value chains, and hands-on Web Bank and Financial Services account set-up. Topics include: amorphing of Financial Services, student Web site assignments/navigation, networking, icons, gateways, I.S.P.N.s, Internet bandwidth consideration, R.A.M., R.O.M., and N.V.I memories, making recurring Web payments, Web new account set-up, Web brokering, Web bank regulations, bank security, technology resources, data warehouses, digital currency, rich information exchange, b-web partnering, universal standards, TCP/IP protocol, H.T.M.L. and Java network significance, performance and fidelity, S.S.L. encrypting, adding new functionality to financial services, accounting software review, and multiple case studies.

**BFM 103 – FUNDAMENTALS OF STRUCTURAL MAINTENANCE**
Weekly Hours: Class – 2; Lab – 8; Credit Hours: 6
Prerequisite: MAT 1012
Corequisite(s): None
Provides introductory skills in basic building repair and maintenance. Topics include: carpentry and cabinet repairs, tile and floor repairs, paints and finishes, lab and shop safety, building codes, handicap accessibility, conduit installation, and waterproofing.

**BFM 105 – FUNDAMENTALS OF PLUMBING**
Weekly Hours: Class – 2; Lab – 4; Credit Hours: 3
Prerequisite: MAT 1012
Corequisite(s): None
Provides introductory skills in basic plumbing. Topics include: basic pipe sizing, fitting identification and terminology, pipe joining, valve identification, plumbing repairs, and lab and shop safety.

**BIO 1111 - BIOLOGY I**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Provides an introduction to basic biological concepts. Topics include: classification of plants and animals, cell theory, cell structure, plant and animal tissues and organs, nutritional requirements of plants and animals, energy metabolism, and use of basic biology laboratory techniques and equipment.

**BIO 1112 - BIOLOGY II**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): BIO 1111
Corequisite(s):
This a second part of a ten hour sequence. This course provides an introduction to basic evolutionary concepts. Also, the course emphasizes animal and plant diversity, structure and function including reproduction and development. As well as, 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. Laboratory experience supports classroom learning.

**BIO 2113 - ANATOMY AND PHYSIOLOGY I**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): ENG 1101  
Corequisite(s):  
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, the integumentary system, the skeletal system, the muscular system, the respiratory system, the digestive system, and the urinary system. Laboratory experience supports classroom learning.

**BIO 2114 - ANATOMY AND PHYSIOLOGY II**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): BIO 2113  
Corequisite(s):  
Continues the study of the anatomy and physiology of the human body. Topics include: the endocrine system; cardiovascular system; the blood and lymphatic system; immune system; respiratory system; digestive system; and reproductive system. Laboratory experience supports classroom learning.

**BIO 2117 - INTRODUCTORY MICROBIOLOGY**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): BIO 2111 or BIO 2113  
Corequisite(s):  
Provides students with a foundation in basic microbiology with emphasis on infectious diseases. Topics include: microbial diversity; microbial cell biology; microbial genetics; interactions and impact of microorganisms and humans; microorganisms and human disease; and laboratory skills.

**BUS 1100 - INTRODUCTION TO KEYBOARDING**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3  
Prerequisite(s):  
Corequisite(s):  
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 25 GWAM (gross words a minute) on 3-minute timings with no more than 3 errors.

**BUS 1120 - BUSINESS DOCUMENT PROOFREADING AND EDITING**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3  
Prerequisite(s): BUS 1130, ENG 1010 or ENG 1101  
Corequisite(s):  
Emphasizes proper proofreading and editing as applied to business documents. Topics include: applying proofreading techniques and proofreader’s marks with business documents; proper content, clarity, and conciseness in business documents; and business document formatting.

**BUS 1130 - DOCUMENT PROCESSING**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6  
Prerequisite(s): Ability to key at least 25 wpm or BUS 1100  
Corequisite(s): SCT 100  
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.

**BUS 1140 - WORD PROCESSING**
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5  
Prerequisite(s): SCT 100  
Corequisite(s):  
Emphasizes an intensive use of word processing software to create and revise business documents. Topics include: equipment and supplies maintenance and usage, work area management, word processing software, and productivity.

**BUS 1150 - DATABASE APPLICATIONS**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3  
Prerequisite(s): SCT 100  
Corequisite(s):  
Emphasizes use of database management software packages to access, manipulate, and create file data. Topics include: data entry, data access, data manipulation, database creation, and file documentation.

**BUS 1160 - DESKTOP PUBLISHING**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3  
Prerequisite(s): SCT 100  
Corequisite(s):  
Emphasizes intensive use of desktop publishing (DTP) software to create publications such as letterheads, resumes,
fliers, posters, brochures, reports, newsletters, and business cards. Topics include: DTP concepts, operation of DTP software, publication page layout, basic graphic design, and practical applications.

**BUS 1170 - ELECTRONIC COMMUNICATION APPLICATIONS**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): SCT 100
Corequisite(s):
Provides an overview of electronic communications as used in an office setting. Topics include: email fundamentals and management, using the Internet, system user security, and wireless/mobile computing and emerging technologies.

**BUS 1200 - MACHINE TRANSCRIPTION**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): BUS 1130, ENG 1010, SCT 100
Corequisite(s):
Emphasizes transcribing mailable documents from dictation using a word processor software. Topics include: equipment and supplies maintenance and usage, work area management, transcription techniques, productivity and accuracy, proofreading, and language arts skills.

**BUS 1240 - OFFICE PROCEDURES**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): SCT 100
Corequisite(s):
Emphasizes essential skills required for the business office. Topics include: office protocol, time management, telecommunications and telephone techniques, office equipment, office mail, references, records management, and travel and meeting arrangements.

**BUS 1300 - INTRODUCTION TO BUSINESS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Introduces organization and management concepts of the business world. Topics include business organization, enterprise management, marketing management and financial management.

**BUS 2100 - ADVANCED WORD PROCESSING**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): BUS 1140
Corequisite(s):
Provides instruction in advanced word processing. Topics include: advanced word processing concepts and applications, and proofreading.

**BUS 2120 - SPREADSHEET APPLICATIONS**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
Provides instruction in the use of electronic spreadsheet software in business applications. Students become proficient in creating and modifying spreadsheets in a business environment and in printing files that meet business standards. Topics include: spreadsheet creation, data entry, entry modification, computation using functions, charts and graphs, and printing.

**BUS 2130 - ADVANCED SPREADSHEET APPLICATIONS**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): BUS 2120
Corequisite(s):
Provides a study of the advanced features of creating and modifying electronic spreadsheets. Topics include integration with other applications, using templates, printing workbooks, working with named ranges, working with toolbars, using macros, auditing a worksheet, formatting data, using analysis tools, and collaborating with workgroups.

**BUS 2150 - PRESENTATION APPLICATIONS**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
This course provides a study of creating, modifying and delivering presentations. Topics include: creating a presentation, formatting content, collaborating with others, managing a presentation, creating output and delivering a presentation.

**BUS 2200 - OFFICE ACCOUNTING**

Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces fundamental concepts of accounting. Topics include: accounting equation, debits, credits, journalizing, posting and proving ledger, accounts receivable, accounts payable, and payroll. Both manual and computerized concepts are taught.

**BUS 2210 - APPLIED OFFICE PROCEDURES**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): BUS 1130, BUS 1240, BUS 1140, BUS 2120,
Corequisite(s): BUS 2200 or ACC 1101, BUS 1120, BUS 1170
This course focuses on applying knowledge and skills learned in all 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.

**BUS 2240 - BUSINESS ADMINISTRATIVE ASSISTANT INTERNSHIP I**
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6  
Prerequisite(s): Successful completion of all required coursework  
Corequisite(s):  
Provides student work experience in a professional environment. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business and Office Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 2250 - BUSINESS ADMINISTRATIVE ASSISTANT INTERNSHIP II**
Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12  
Must be in last quarter of program. With advisor approval, may take concurrently with last quarter courses.  
Corequisite(s):  
Provides student work experience in an off-campus business office. Topics include: application of classroom knowledge and skills, work environment functions, and listening/following directions. Students will be under the supervision of the Business Office Technology program faculty and/or persons designated to coordinate work experience arrangements.

**BUS 2300 - MEDICAL TERMINOLOGY**
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3  
Prerequisite(s): Program Admission  
Corequisite(s):  
Introduces the basic spelling and pronunciation of medical terms, and the use of these terms as they relate to anatomy, treatment, surgery, and drugs. Topics include: word analysis, word elements, spelling, pronunciation, and semantics.

**BUS 2310 - ANATOMY AND TERMINOLOGY FOR THE MEDICAL ADMINISTRATIVE ASSISTANT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
Introduces the structure and function of the human body including medical terminology. Topics include: body structures, body functions, and medical terminology.

**BUS 2320 - MEDICAL DOCUMENT PROCESSING/TRANSCRIPTION**
Weekly Hours: Class - 1; Lab - 9; Credit Hours: 5  
Prerequisite(s): BUS 1130, ENG 1010, BUS 2300 or AHS109, AHS 1010 or AHS101 or BUS2310  
Corequisite(s):  
Provides experience in medical machine transcription working with the most frequently used medical reports. Topics include: equipment and supplies maintenance and usage, work area management, spelling, definitions, punctuation, processing/transcription speed and accuracy, resource utilization, and pronunciation.

**BUS 2330 - ADVANCED MEDICAL DOCUMENT PROCESSING/TRANSCRIPTION**
Weekly Hours: Class - 1; Lab - 9; Credit Hours: 5  
Prerequisite(s): BUS 2320  
Corequisite(s):  
Continues the development of speed and accuracy in the transcription of medical reports with emphasis on a variety of medical specialization. Topics include: equipment and supplies maintenance and usage, work area management, spelling, definitions, punctuation, processing/transcription speed and accuracy, resource utilization, pronunciation, and medical transcription work ethics.

**BUS 2340 - MEDICAL ADMINISTRATIVE PROCEDURES**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5  
Prerequisite(s): BUS 1130, BUS 2310 or AHS 1010 or AHS 101, BUS 2300 or AHS 109, SCT 100  
Corequisite(s):  
Emphasizes essential skills required for the medical office. Introduces the knowledge and skills of procedures for billing purposes. Introduces the basic concept of medical administrative assisting and its relationship to the other health fields. Emphasizes medical ethics, legal aspects of medicine, and the medical 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 medical administrative assisting, medical law, ethics, patient relations/human relations, physician-patient-assistant relationship, medical office in litigation, medical records management, scheduling appointments, pegboard or computerized accounting, health insurance, transcription of medical documents, and billing/collection.

**BUS 2370 - MEDICAL OFFICE BILLING/CODING/INSURANCE**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5  
Prerequisite(s): BUS 1130, BUS 2300 or AHS 109, BUS 2310 or AHS 101
Corequisite(s):
Provides an introduction to medical coding skills and applications of international coding standards for billing of health care services. Provides the knowledge and skills to apply coding of procedures for billing purposes. Provides an introduction to medical coding as it relates to health insurance. Topics include: International classification of diseases, code book formats: guidelines and conventions; coding techniques; formats of the ICD-9 and CPT manuals; health insurance; billing and collections.

CHM 1111 - CHEMISTRY I
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s): MAT 1101 or MAT 1111
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; stoichiometry and gas laws; basic laboratory skills and lab safety procedures.

CHM 1112 - CHEMISTRY II
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): CHM 1111
Corequisite(s):
Continues the exploration of basic chemical principles and concepts. Topics include: equilibrium theory; kinetics; thermodynamics; solution chemistry; acid-base theory; and nuclear chemistry.

CHM 1213 – SURVEY OF INORGANIC CHEMISTRY
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): MAT-1111
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; nuclear chemistry; basic laboratory skills and safety procedures.

CHM 1214 – SURVEY OF ORGANIC CHEMISTRY AND BIOCHEMISTRY.
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): CHM-1112 or CHM-1213
Provides 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 an introduction to organic chemistry and 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. Laboratory experience supports classroom learning.

CIS 103 - OPERATING SYSTEMS CONCEPTS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): SCT 100
Corequisite(s):
Provides an overview of operating systems functions and commands that are necessary in a computer working environment. Topics include: multiprogramming, single and multi-user systems, resource management, command languages, and operating system utilities, file system utilization and multiple operating systems.

CIS 105 - PROGRAM DESIGN AND DEVELOPMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CIS 106
Corequisite(s):
Provides an emphasis on business problem identification and solution through systems of computer programs using such tools as structure charts, flowcharts, and pseudocode. Topics include: problem solving process, fundamentals of structured programming, program development building blocks, fundamentals of file and report structure, and business application structure.

CIS 106 - COMPUTER CONCEPTS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): SCT 100
Corequisite(s):
Provides an overview of computers and information processing. Topics include: computer history and terminology, data representation, data storage concepts, fundamentals of information processing, fundamentals of hardware operation, fundamentals of communications and networking, structured programming concepts, program development methodology, system development methodology, and computer number systems.

CIS 1104 - WEB GRAPHICS USING ADOBE PHOTOSHOP
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
This course covers the creation and editing of digital photographs and images using Adobe Photoshop. Topics covered include understand file types, file compression, and download capabilities, creating digital images in different file types, setting and using color codecs, adjusting digital images with lighting, filtering, cropping, and resizing, creating transparent digital images, digital image web page...
positioning techniques, and using other digital image special effects.

**CIS 1106 - INTRODUCTION TO WEB PROGRAMMING USING C# .NET**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 105, CIS 2202
Corequisite(s):
This course provides an introduction to Web Programming using Microsoft C#. Topics include advanced HTML, CSS basics, object oriented language requirements, defining variables, If conditional statements and loops, modularization, accessing and displaying data on the web, understanding the XML data format, and cookies and security.

**CIS 1107 - INTRODUCTION TO WEB PROGRAMMING USING PERL**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 105, CIS 2202
Corequisite(s):
This course provides an introduction to Web Programming using Perl. Topics include advanced HTML, CSS basics, object oriented language requirements, defining variables, If conditional statements and loops, modularization, accessing and displaying data on the web, understanding the XML data format, and cookies and security.

**CIS 1108 - WEB GRAPHICS USING JASC PAINT SHOP**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
This course covers the creation and editing of digital photographs and images using JASC Paint Shop. Topics covered include understand file types, file compression, and download capabilities, creating digital images in different file types, setting and using color codecs, adjusting digital images with lighting, filtering, cropping, and resizing, creating transparent digital images, digital image web page positioning techniques, and using other digital image special effects.

**CIS 1109 - INTRODUCTION TO WEB PROGRAMMING USING VB .NET**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 105, CIS 2202
Corequisite(s):
This course provides an introduction to Web Programming using Microsoft Visual Basic .NET. Topics include advanced HTML, CSS basics, object oriented language requirements, defining variables, If conditional statements and loops, modularization, accessing and displaying data on the web, understanding the XML data format, and cookies and security.

**CIS 1110 - INTRODUCTION TO WEB PROGRAMMING USING PHP**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 105, CIS 2202
Corequisite(s):
This course provides an introduction to Web Programming using PHP. Topics include advanced HTML, CSS basics, object oriented language requirements, defining variables, If conditional statements and loops, modularization, accessing and displaying data on the web, understanding the XML data format, and cookies and security.

**CIS 1111 - INTRODUCTION TO WEB PROGRAMMING USING PYTHON**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 105, CIS 2202
Corequisite(s):
This course provides an introduction to Web Programming using Python. Topics include advanced HTML, CSS basics, object oriented language requirements, defining variables, If conditional statements and loops, modularization, accessing and displaying data on the web, understanding the XML data format, and cookies and security.

**CIS 1115 - INFORMATION SECURITY FUNDAMENTALS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): (CIS 1140 or CIS 2321 and an Operating Systems Class) or advisor approval
Corequisite(s):
This course 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.

**CIS 1116 - SECURITY POLICIES AND PROCEDURES**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): (CIS 1140 or CIS 2321 and an Operating Systems Class) or advisor approval
Corequisite(s):
This course provides knowledge and experience to develop and maintain security policies and procedures. Students will explore the legal and ethical issues in information security and the various security layers: physical security, personnel security, operating systems, network, software, communication and database security. Students will develop an Information Security Policy and an Acceptable Use Policy.
CIS 1117 - IMPLEMENTING OPERATING SYSTEMS SECURITY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1115 and (CIS 2153 or CIS 276 or CIS 2556) or advisor approval
Corequisite(s):
This course will provide knowledge and the practical experience necessary to configure the most common server platforms. Lab exercises will provide students with experience of establishing security for the network environment.

CIS 1118 - IMPLEMENTING NETWORK SECURITY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1115 and (CIS 2153 or CIS 276 or CIS 2556) or advisor approval
Corequisite(s):
This course provides knowledge and the practical experience necessary to evaluate, implement and manage secure information transferred over computer networks. Topics include network security, intrusion detection, types of attacks, methods of attacks, security devices, basics of cryptography and organizational security elements. This course prepares students for the CompTIA Security+ exam.

CIS 1119 - IMPLEMENTING INTERNET/ INTRANET FIREWALLS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1115 and (CIS 2153 or CIS 276 or CIS 2556) or advisor approval
Corequisite(s):
Students will learn how to install and configure firewalls that will allow access to key services while maintaining security.

CIS 112 - SYSTEMS ANALYSIS AND DESIGN
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 105, programming language preferred
Corequisite(s):
Provides a review and application of systems life cycle development methodologies implemented by project teams. Topics include: role of systems analysis and design, preliminary investigation, systems analysis phase, systems design phase, systems development phase, implementation and evaluation, and post-implementation systems operation.

CIS 1120 - COMPUTER FORENSICS AND DISASTER RECOVERY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1115 and (CIS 2153 or CIS 276 or CIS 2556) or advisor approval
Corequisite(s):
This course serves as a capstone course for the information security specialist. The course will include implementing a plan to detect intruders, determine the damage caused, and discuss what precautions to use to avoid disasters.

CIS 1121 - VISUAL BASIC.NET I
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105
Corequisite(s): CIS 124 or CIS 2128
Introduces Microsoft Windows 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, validating input with strings and functions, repetition and multiple forms, test files, arrays, lists and common dialog controls.

CIS 1122 - VISUAL BASIC.NET II
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 1121, CIS 124 or CIS 2128
Corequisite(s):
Advanced Visual Basic.NET teaches client-server systems, n-tier development environments, relational databases, use of SQL to access data, the use of ADO.NET objects, methods and properties to access and update relational and XML databases. Advanced features of Visual Basic are explored.

CIS 1123 - WEB GRAPHICS AND ANIMATION USING ADOBE FLASH
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1104 or CIS 1108
Corequisite(s):
This course covers the creation and manipulation of images and animation using Adobe Flash and 3D creation software. Topics covered include 3D Digital Image tools, file types, download and image plug-in requirements, a systematic approach to creating images, creating 3D Objects, selecting and grouping objects, object transformation, object shading, lighting, filtering, and coloring, animation tools, file types, compression techniques, plug-in and download requirements, and creating 2D and 3D animations.

CIS 1124 - WEB GRAPHICS AND ANIMATION USING ADOBE ILLUSTRATOR AND ADOBE LIVEMOTION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1104 or CIS 1108
Corequisite(s):
This course covers the creation and manipulation of images and animation using Adobe Illustrator and Adobe LiveMotion. Topics covered include 3D Digital Image tools, file types, download and 3D image plug-in requirements, a systematic approach to creating images, creating 3D Objects, selecting and grouping objects, object transformation, object shading, lighting, filtering, and coloring, animation tools,
file types, compression techniques, plug-in and download requirements, and creating 2D and 3D animations.

**CIS 1131 - HELP DESK CONCEPTS**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 103, CIS 122, SCT 100
Corequisite(s):
The purpose of the Help Desk Concepts course is to prepare students to work in positions that provide customer and technical support through analysis and problem solving. Students will master the role of a help desk analyst, navigate the help desk environment, and learn crucial problem solving skills. In addition, students will learn to troubleshoot hardware problems, printer problems, OS problems, application problems, and user problems.

**CIS 1140 - NETWORKING FUNDAMENTALS**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 106 or advisor approval
Corequisite(s):
Introduces networking technologies and prepares students to take the CompTIA’s broad-based, vendor independent networking certification exam, Network+. Covers a wide range of material about networking, from careers in networking to 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.

**CIS 1151 - CIS INTERNSHIP**
Weekly Hours: Class - 0; Lab - 12-18; Credit Hours: 4-6
Prerequisite(s): All non-elective courses
Corequisite(s):
This course provides the student with real hands-on experience in the IT industry. Students will be provided the opportunity to gain experience in the area of their concentration. Topics include application of classroom knowledge and skills and practical work experience.

**CIS 122 - MICROCOMPUTER INSTALLATION AND MAINTENANCE**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): SCT 100
Corequisite(s): An Operating System Operating Course Provides an introduction to the fundamentals of installing and maintaining microcomputers. Topics include: identifying components and their functions, safety, installation procedures, troubleshooting techniques, and preventive maintenance.

**CIS 124 - MICROCOMPUTER DATABASE PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisites: CIS 105, CIS 128
Corequisite(s):
Provides a study of database programming using microcomputer database management systems (DBMS) software packages. Topics include: development of systems, structured programming techniques, data editing, and output design.

**CIS 1254 – GAME DESIGN AND DEVELOPMENT**
Weekly Hours: Class – 3; Lab – 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): None
Introduces the concepts of game development. Including history of games (arcade, console and computer), genre of game, user interface of the game, basic storytelling, and level and puzzle design. Development issues including game proposal are also covered.

**CIS 1255 - GAME DEVELOPMENT I**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
Game Development I introduces students to the exciting world of game programming and the elementary mechanics of a programming language. This course is designed with the beginning programmer in mind. Students will learn fundamental data types, variables, standard input/output (I/O), standard programming control statements, and game loop implementation. ANSI standard, portable text based games are the focus for this course.

**CIS 1256 - GAME DEVELOPMENT II**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1255
Corequisite(s):
Game Development II introduces students to the exciting world of graphical game programming. This course is designed with the beginning graphical programmer in mind. The course will utilize a game development library. The students will learn basic graphics programming, keyboard and mouse programming, bitmap and sprite image handling. Standards based, portable graphical games are the focus for this course.

**CIS 1257 - GAME DESIGN**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
The course focuses on both the theory and the practice of game design. Topics covered include game documentation, game genres and storytelling. Students will produce
the concept, setting, story, narration, character and documentation for a simple game.

CIS 1258 - 3-D CREATION FOR GAMES
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1255
Corequisite(s):
This course focuses on the animating and rendering aspect of three-dimensional (3D) computer animation specifically for gaming. Topics include (but are not limited to) character setup, animating, lighting, rendering, and editing of 3D animation.

CIS 1259 - MATHEMATICS FOR GAME DEVELOPERS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
Emphasizes the math skills needed in computer game design. These skills include trigonometric properties, vectors, and motion in one dimension.

CIS 1261 2D COMPUTER ANIMATION
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
This course 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 (but are not limited to) principles and techniques of motion graphics, graphic files types, frame-by-frame animation, tweened animation and if the software used permits, combining a scripting language with animation.

CIS 1263 – GAME PROGRAMMING IN VISUAL BASIC I
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): None
Basic introduction to creating games in Visual Basic. Basic code syntax and concepts will be covered. Iteration, decision, sequence and other basic coding elements along with file access, graphics and simple game creation.

CIS 1264 – GAME PROGRAMMING IN VISUAL BASIC II
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: CIS 1263
Corequisite(s): None
Visual Basic class teaching 2-D game creation based on DirectX technologies, using and building game development tools, and using and building a tile based scrolling game engine. Will learn how to add music to games and learn to utilize input devices. Game development for this class uses a Role Playing Game (RPG) as an example.

CIS 1266 – MULTIPLAYER GAME PROGRAMMING
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): None
Training in multiplayer game development will be covered, including client/server, peer to peer and distributed multiplayer games.

CIS 1267 – GAME PROGRAMMING IN C I
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): None
Introduces C/C++ and the basic syntax of the language. Direct X and Open GL will be covered in developing 3D games.

CIS 1268 – GAME PROGRAMMING IN C II
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: CIS 1267
Corequisite(s): None
Covers Advanced Direct X and Open GL along with advanced C/C++ topics such as pointers, arrays, linked list and database access.

CIS 1269 – GAME TESTING AND DEPLOYMENT
Weekly Hours: Class – 2; Lab – 3; Credit Hours: 3
Prerequisite: CIS 1268
Corequisite: None
Provides an introduction to software development from a game developer standpoint. Topics include development team, project lifecycle and documentation, managing the development process, basics of the gaming business, and breaking into the gaming business.

CIS 127 - COMPREHENSIVE WORD PROCESSING AND PRESENTATION GRAPHICS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): SCT 100
Corequisite(s):
Provides a study of word processing and desktop publishing. Topics include: desktop publishing Concepts, advanced word processing concepts, development of macros, presentation graphics concepts, and troubleshooting applications.

CIS 1274 - 3-D METHODS AND MATERIALS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
This course is an introductory study of three-dimensional (3D) computer animation and graphics introducing principles and techniques of creating 3D computer models and environments through practical hands-on experiences. Topics covered include (but are not limited to) concept art, motion, weight, gravity, interaction between line, space, plan and mass, and investigation of 3D modeling software.

CIS 1281 - DIGITAL ILLUSTRATION FOR WEB
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
This course is an introduction to industry standard software used for creating computer generated artwork and documents, with emphasis on web ready graphics. Students will be introduced to the basic use of drawing and painting tools, illustrating of graphics, and layout design. Software such as Adobe Illustrator or a comparable package is suggested.

CiS 1284 - DIGITAL PUBLISHING AND LAYOUT FOR THE WEB
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
This course focuses on the creation of Web pages from documents created by industry standard desktop publishing or page layout software. Students will have the ability to take documents that were prepared for hard copy publishing such as brochures, flyers or newsletters and convert them to Web ready pages or Web sites. Possible software suggestions for the course include: QuarkXPress, PageMaker, FlashPaper, InDesign or Framemaker.

CiS 141 - CLIENT/SERVER DATABASE MANAGEMENT
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): CIS 143 or CIS 144
Corequisite(s):
Provides a study of networked database management systems. Topics include: client-server architecture, relational model, SQL syntax, data modeling, database creation, data retrieval and data manipulation, installation and administration tools, storage management, user accounts management, remote servers management, and DBMS optimization.

CiS 143 - NETWARE ADMINISTRATION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 140
Corequisite(s):
Provides a study of NOVELL NetWare Administration. Topics include: NetWare file system, NetWare integrity and security, NetWare system and user account automation, NetWare file server, NetWare workstation, NetWare printing, NetWare communications, and network software installation.

CIS 144 - NETWARE INSTALLATION AND CONFIGURATION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): CIS 143
Corequisite(s):
Provides a study of planning, designing, and implementing a NOVELL NetWare network. Topics include: network design, network planning, network implementation, installation of cabling and components, hardware installation, server and client NOS installation, and installation of application software.

CIS 145 - NETWARE DIAGNOSTICS AND TROUBLESHOOTING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): CIS 143, CIS 144
Corequisite(s):
Provides a study in NetWare network diagnostics and troubleshooting. Topics include: NetWare analysis methodology, troubleshooting the network, file server troubleshooting and analysis, troubleshooting the DOS workstation, troubleshooting network printing, protocol analysis, cable troubleshooting, network optimization and disaster recovery, and research tools.

CIS 149 - ADVANCED C++ PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 282
Corequisite(s):
Introduces object oriented programming. Common elements of Windows applications will be discussed and created using a C++ integrated development environment. Topics include: object oriented programming, Windows applications, user interface design, capturing and validating input, event-driven programming design, conditional processing, and incorporating graphics.

CIS 155 - WORKING WITH MICROSOFT WINDOWS SOFTWARE
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): None
Corequisite(s):
Provides the interface concepts of Microsoft Windows® software and the opportunity to develop software application skill in a wide range of business situations. Topics include: getting started with Microsoft Windows®, managing programs and files with Microsoft Windows®, using
Microsoft Windows® “write” and “paintbrush” features, data transfer with Microsoft Windows®, printing with Microsoft Windows®, and customizing with Microsoft Windows®.

CIS 170 - AC/DC FOR PC REPAIR
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): CIS 122
Corequisite(s):
Explore AC/DC concepts, terminology, and basic applications as they apply to the area of PC Repair. Topics include: safety, AC/DC basic concepts and terminology, meters, soldering, soldering tools, ESD, EMI, power supply, surge protection, battery backup, UPS and extinguishers.

CIS 171 - INTERN I
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): SCT 100, CIS 103 or CIS 2554, CIS 261, CIS 122 or the recommendation of a CIS Instructor
Corequisite(s):
This course will give students the opportunity to become well-rounded PC Repair Specialists and to enhance skills learned in the Computer Information Systems programs. Students will also have the opportunity to work on specific activities by participating in ongoing projects. Material and timed tests provided in the course are designed to prepare students for Industry Certification Exams. This course is the first of a series of two.

CIS 172 - INTERN II
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): SCT 100, CIS 103 or CIS 2554, CIS 261, CIS 122, CIS 171 or the recommendation of a CIS Instructor
Corequisite(s):
This course will continue giving students the opportunity to become well-rounded PC Repair Specialists and to master skills learned in the Computer Information Systems programs. Students will continue working on specific activities by participating in ongoing projects, and by working on special network activities and completing advanced PC repair projects. The level of the material and timed tests provided in the course are advanced. The tests are designed to help prepare students to take certifications. This course is the continuation of CIS- Intern I.

CIS 2005 - ADVANCED WEB GRAPHICS USING ADOBE PHOTOSHOP
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1104
Corequisite(s):
This course covers the creation and editing of digital photographs and images using Adobe Photoshop. Topics covered include curves and adjustment layers, retouching techniques, color correction, color balancing, element replacement and restoration, typography and interpolation, and advanced techniques and special effects.

CIS 2102 - ADVANCED WEB GRAPHICS AND MULTIMEDIA USING ADOBE PREMIERE
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1123 or CIS 1124
Corequisite(s):
This course covers advanced web graphics techniques, and multimedia for the web including sound, music, and digital video using Adobe Premiere. Topics covered include digital video editing, basic editing, adding audio, applying video and audio effects, morphing tools, and advanced topics.

CIS 2104 - ADVANCED WEB GRAPHICS AND MULTIMEDIA USING ADOBE DIRECTOR
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2102 or CIS 1123
Corequisite(s):
This course covers advanced web graphics techniques, and multimedia for the web including sound, music, and digital video using Adobe Director. Topics include digital video editing, basic editing, adding audio, applying video and audio effects, morphing tools and advanced topics.

CIS 2105 - ADVANCED WEB GRAPHICS USING ADOBE FLASH
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1123
Corequisite(s):
This course covers additional techniques used in the creation and manipulation of vector images and animation using Adobe Flash. Topics covered include (but not limited to) Advanced Animation Techniques, ActionScript Fundamentals, Advanced ActionScript Techniques, Third Party Languages, Optimizing and Publishing Flash movies.

CIS 2106 - ADVANCED WEB GRAPHICS USING ADOBE C#.NET
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1106
Corequisite(s):
This course provides a look at advanced Web Programming techniques using Microsoft C# .NET. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIS 2107 - ADVANCED WEB GRAPHICS USING ADOBE PERL
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1107
Corequisite(s):
This course provides a look at advanced Web Programming techniques using Perl. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIS 2109 - ADVANCED WEB GRAPHICS USING ADOBE VB.NET
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1109
Corequisite(s):
This course provides a look at advanced Web Programming techniques using Microsoft Visual Basic .NET. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIS 2110 - ADVANCED WEB GRAPHICS USING ADOBE PHP
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1110
Corequisite(s):
This course provides a look at advanced Web Programming techniques using PHP. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIS 2111 - ADVANCED WEB GRAPHICS USING ADOBE PYTHON
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1111
Corequisite(s):
This course provides a look at advanced Web Programming techniques using Python. Topics include class and object creation, advanced data access, communicating with server side programs, security, and advanced topics.

CIS 2128 - INTRODUCTION TO ORACLE DATABASES
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): SCT 100, CIS 105, CIS 106, Programming Language
Corequisite(s):
This course provides an introduction to the ORACLE database management system platform and to Structured Query Language (SQL) and ORACLE PL/SQL.

CIS 2129 - ORACLE DATABASE ADMINISTRATION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 2128
Corequisite(s):
This course enables the database student to work with ORACLE architectural components.

CIS 2130 - ORACLE DATABASE BACKUP AND RECOVERY
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 2129
Corequisite(s):
This course enables the database student to develop the skills necessary to support the backup and recovery needs of ORACLE installations.

CIS 2131 - ORACLE DATABASE PERFORMANCE TUNING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 2130
Corequisite(s):
This course enables the participant to be able to fine tune ORACLE databases.

CIS 2132 - NETWORK ADMINISTRATION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2131
Corequisite(s):
Participants in this course will be able to understand and implement solutions to ORACLE networking issues using the network administration capabilities of ORACLE.

CIS 214 - DATABASE MANAGEMENT
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Advanced language course that requires random file accessing techniques
Corequisite(s):
Provides an overview of the skills and knowledge of database application systems which are used in business, government, and industry. Topics include: models, structures, physical database, logical database, and accessing techniques.

CIS 2149 - IMPLEMENTING MICROSOFT WINDOWS PROFESSIONAL
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS XXXX, an operating system course and CIS 1140 or Advisor Approval
Corequisite(s):
Provides the ability to implement, administrator, and troubleshoot Windows Professional as a desktop operating system in any network environment.

CIS 2150 - IMPLEMENTING MICROSOFT WINDOWS SERVER
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2149
Corequisite(s):
Provides the ability to implement, administrator, and troubleshoot Windows 2000 Server as a member server of a domain in an Active Directory.

**CIS 2153 - IMPLEMENTING MICROSOFT WINDOWS NETWORKING INFRASTRUCTURE**

Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6  
Prerequisite(s): CIS 2150 or CIS 2152  
Corequisite(s):  
Provides students with knowledge and skills necessary for new-to-product support professionals who will be responsible for installing, configuring, managing, and supporting a network infrastructure that uses the Microsoft Windows server family of products.

**CIS 2154 - IMPLEMENTING MICROSOFT WINDOWS NETWORKING DIRECTORY SERVICES**

Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6  
Prerequisite(s): CIS 2153  
Corequisite(s):  
Provides students with knowledge and skills necessary to install, configure, and administer the Microsoft Windows Active Directory™ service. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

**CIS 2160 - INSTALLING, CONFIGURING, AND ADMINISTRATING MICROSOFT EXCHANGE SERVER**

Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6  
Prerequisite(s): CIS 2154  
Corequisite(s):  
Provides students with the knowledge and skills required to install and configure Microsoft Exchange 2000. This course covers the component architecture, installing, and core management functionality of Microsoft Exchange 2000.

**CIS 2161 - STRUCTURED QUERY LANGUAGE (SQL)**

Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7  
Prerequisite(s): SCT 100, CIS 105, CIS 106, and an operating systems course  
Corequisite(s):  
A course designed to allow the student to solve common database retrieval problems through the use of the SQL Language that supports common databases such as SQL/Server, Oracle, DB2, ACCESS and other database systems. Topics include: Understanding database vocabulary, understanding object and relational database concepts, understanding and implementing SQL statements that retrieve, insert, update and delete data in a database, ability to implement aggregate and group SQL functions, create, edit and drop database tables, query data from multiple databases, design queries and sub queries, develop an understanding of union, and join operations, understand how to execute and implement database triggers.

**CIS 2191 - INTERNET BUSINESS FUNDAMENTALS**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4  
Prerequisite(s): Program Admission  
Corequisite(s):  
Internet Business Fundamentals teaches students how to access the Internet and the World Wide Web using a Web Browser as a general-purpose Internet application. Students will learn to use the Internet for e-mail, the World Wide Web, news-groups, Gopher, Veronica, File Transfer Protocol (FTP) and Telnet. Student will gain experience using and configuring both Netscape Navigator and Microsoft Internet Explorer to access rich multimedia data and objects as well as Java, Shockwave, and Active X content. A variety of Web-based search engines will be used to conduct advanced searches and learn the basics of project leadership, security, and e-business solutions. Students will also learn about business on the Internet, and how business research can help gain market intelligence.

**CIS 2202 - XHTML FUNDAMENTALS**

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
XHTML Fundamentals is designed to teach basic through intermediate concepts in Hypertext Markup Language (HTML) authoring, including forms, complex table design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, design, graphic elements, and client-side image maps. Students will design inter-linking pages that incorporate, in practical applications, a wide range of HTML tags and attributes. Student will allow learn how to use Cascading Style Sheets (CSS), XML, and XHTML. All HTML, CSS, XHTML, and XML development will follow the current standards set by the World Wide Web Consortium (W3C). Topics include introduction to HTML, CSS, XHTML, and XML, creating pages using HTML, CSS, XHTML, and XML, incorporating graphical elements, create hyperlinks, create HTML tables, create HTML forms, and image maps.

**CIS 221 - WORD MICROSOFT OFFICE SPECIALIST CERTIFICATION - WORD**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): CIS 127  
Corequisite(s):  
Provide the fundamental, intermediate and advanced instruction in Microsoft Word competencies to provide user with the skills necessary to obtain the expert user certification. Topics include all skill areas as defined by Microsoft and additional information in workgroup editing
and advanced features such as macros, mailmerge, HTML creation, and tables.

**CIS 2211 - WEB SITE DESIGN TOOLS**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2202 and (CIS 1104 and CIS 1108)
Corequisite(s):
Web Site Design Tools teaches an understanding of how to create and manage impressive using the sizeable amounts of new technology available on the Web. Students will learn to create web sites using various web tools such as FrontPage, NetObjects Fusion, Dynamic HTML, and various multimedia and CSS standards.

**CIS 222 - MICROSOFT OFFICE SPECIALIST CERTIFICATION - EXCEL**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): CIS 128
Corequisite(s):
Provide the fundamental, intermediate and advanced Microsoft Excel competencies to provide user with the skills necessary to obtain the expert user certification. Topics include spreadsheet creation, financial statements, forecast, amortization schedules, workgroup editing and advanced features such as macros, using charts, importing and exporting data, HTML creation, formulas, Web queries, built-in function, templates, and trends and relationships.

**CIS 2221 - WEB GRAPHICS AND MULTIMEDIA**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
Web Graphics and Multimedia teaches the use of powerful tools for modeling scanned images and illustrations into creative artwork. In this course, students will learn techniques for quickly creating attractive textures for backgrounds, compositing images seamlessly, simulating surface reflections and shadows, and creating effects with type. Advanced tools will be used for selecting parts of images, moving, duplicating, and resizing images. Students will utilize painting tools to manipulate images, and will perform adjustments to contrast and color balance.

**CIS 2228 - COMPREHENSIVE SPREADSHEET TECHNIQUES**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): SCT 100
Corequisite(s):
Provides a study of spreadsheets. Topics include: advanced spreadsheet concepts, development of macros, data integration concepts, and troubleshooting spreadsheets.

**CIS 2229 - COMPREHENSIVE DATABASE TECHNIQUES**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): SCT 100
Corequisite(s):
Provides a study of databases. Topics include: advanced database concepts, data integration concepts, development of user interfaces, troubleshooting databases, development of macros, and relational database concepts.

**CIS 223 - MICROSOFT OFFICE SPECIALIST CERTIFICATION - ACCESS**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): CIS 128
Corequisite(s):
Provide the fundamental, intermediate and advanced Microsoft Access competencies to provide user with the skills necessary to obtain the expert user certification. Topics include creating and modifying a database, locating information, macro and module creation and advanced features such as advanced queries, forms, advanced reports, sub-form creating, HTML creation, data integrity, and integration with other applications.

**CIS 2231 - DESIGN METHODOLOGY**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2202 and (CIS 1104 or CIS 1108)
Corequisite(s):
Design Methodology teaches students how to create and manage Web sites using FrontPage, NetObjects Fusion Dynamic HTML, and various multimedia and CSS standards. Students will also implement the latest strategies to develop third generation Web site, evaluate design tools, discuss future technology standards, and explore the incompatibility issues surrounding current browsers. The course focuses on theory, design and Web construction, along with information architecture concepts, Web project management, and scenario development and performance evaluations.

**CIS 224 - MICROSOFT OFFICE SPECIALIST CERTIFICATION - POWERPOINT**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s):
Corequisite(s):
Provides the fundamental, intermediate, and advanced Microsoft PowerPoint competencies to provide the user with the skills necessary to obtain expert user certification. Topics include presentation creation, presentation views, slide shows, templates, animations, HTML creation, navigation, and presentation transition.
CIS 2241 - INTERNET SYSTEM MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CIS 140, CIS 2191
Corequisite(s):
Internet Systems Management provides the student with an understanding of TCP/IP operation, Domain Name System (DNS) name service, Dynamic Host Configuration Protocol (DHCP) automation, File Transfer Protocol (FTP) services, security, and the auditing activities related to Web services and firewalls. Students will also perform an in depth analysis of IP packets on the network.

CIS 225 - MICROSOFT OFFICE SPECIALIST CERTIFICATION - OUTLOOK
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): SCT 100
Corequisite(s):
Provides the fundamental, intermediate, and advanced Microsoft Outlook competencies to provide the user with the skills necessary to obtain expert user certification. Topics include using Outlook 2000 Mail to communicate with others inside and outside your company, to manage your mail, navigating thorough Outlook, using calendar, using task, and using contacts and notes. Integrate Office applications and other applications with Outlook 2000 components.

CIS 226 - ADVANCED MICROSOFT FRONTPAGE
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): CIS 1140
Corequisite(s):
Provide the fundamental, intermediate and advanced Microsoft FrontPage competencies to provide user with the skills necessary to create and maintain Microsoft FrontPage websites. Topics include the web page creation, editing, managing, and publishing, tables, frames, forms, graphics, and Web Site Management.

CIS 2261 - JAVASCRIPT FUNDAMENTALS
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): (CIS 2202 or CIS 2200) and CIS 105
Corequisite(s): CIS 2105
JavaScript Fundamentals teaches developers how to use the features of the JavaScript language and the Netscape Navigator browser. Students learn how to write JavaScript programs that can be plugged into Web pages or customized, and examine advanced issues such as debugging techniques and JavaScript security.

CIS 2271 - FUNDAMENTALS OF CGI PROGRAMMING USING PERL
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): CIS 2202
Corequisite(s):
Fundamentals of CGI Programming using PERL and server-Side Scripting teach students how to use Common Gateway Interface (CGI) PERL programs and scripts on a Web server. Students will learn how to write print-to-screen scripts, customize Web page hit counters, create and use business forms that interface with text files, manipulate data in a database, work with a relations database via Open Database Connectivity ODBC), and explore Web server security issues related to CGI. A survey of other products such as Microsoft Active Server Pages, Netscape LiveWire, and Cold Fusion by Allaire will be discussed. Security issues using server-side scripting will also be studied, and students will learn how to add security elements to their scripts.

CIS 2281 - DATABASE CONNECTIVITY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2202 and CIS 105 and (CIS 2261 or CIS 2211)
Corequisite(s):
Database Connectivity teaches students how to manipulate data in a database, work with relational database via Open Database Connectivity (ODBC) and learn how to work with different database systems. Students will learn to install and configure Cold Fusion, or equivalent software, and use the system to develop forms and applications to interact with file systems, e-mail and database servers.

CIS 2291 - NETWORK SECURITY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1140 or CIS 2321
Corequisite(s):
Network Security introduces students to network security, firewalls, Windows NT network security, UNIX and TCP/IP network security, security auditing, attacks, and threat analysis.

CIS 2321 - INTRODUCTION TO LAN AND WAN
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 106 or advisor approval.
Corequisite(s):
Provides students with classroom and laboratory experience in current and emerging network technology. Topics include safety, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Particular emphasis is given to the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social-studies concepts to solve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all
local, state, and federal safety, building and environmental codes and regulations.

**CIS 2322 - INTRODUCTION TO WANS AND ROUTING**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2321
Corequisite(s):
Provides students with classroom and laboratory experience in current and emerging network technology. Topics include safety, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Particular emphasis is given to the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social-studies concepts to solve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building and environmental codes and regulations. Topics include computer basics, OSI model, Local Area Networks (LANs), Layer 1 - electronics and signals; media, connections, and collisions, Layer 2 - concepts and technologies, basic network design and documentation, structured cabling, Layer 3 - routing and addressing; Protocols, Layer 4 - the transport layer, Layer 5 - the session layer, Layer 6 - the presentation layer, and Layer 7 - the application layer.

**CIS 242 - TCP/IP**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 106, CIS 1140
Corequisite(s):
Provides students with the knowledge and skills required to setup, configure, use, and support Transmission Control Protocol/Internet Protocol (TCP/IP). Topics include: planning a TCP/IP network, Installing and Configuring TCP/IP, using DHCP manager, Windows name resolution techniques, subnetting and supersubnetting, and DNS name resolution.

**CIS 2421 - INTERMEDIATE JAVA PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 252
Corequisite(s):
Programmers familiar with object-oriented concepts will learn how to develop Java[tm] applications. This course is used to teach students the syntax of the Java programming language and object-oriented programming with the Java programming language. The course uses the Java 2 Software Development Kit (SDK).

**CIS 2431 - ADVANCED JAVA PROGRAMMING**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 7
Prerequisite(s): CIS 2421
Corequisite(s):
Advanced Java progress into advanced JAVA programming techniques and program development. Server side programming and client side programs are integrated. Students also learn debugging techniques and security.

**CIS 2441 - ADVANCED PROGRAMMING TOPICS**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): Advanced Programming Language.
Corequisite(s):
Advanced application development techniques utilizing a variety of operating system platforms and environments.

**CIS 2451 - INTRODUCTION TO PHP PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105; CIS 2202
Corequisite(s):
Students will learn how to create dynamic web sites using the PHP programming language. Topics include: introduction to PHP, web server, and database environments; embedding PHP in HTML documents; variables; arithmetic operations; functions; forms; conditional statements; iterative statements; arrays; text files; and creating, populating, retrieving, and updating database tables via PHP applications.

**CIS 2452 - ADVANCED PHP PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 2451
Corequisite(s):
Reinforces and extends the concepts and applications provided in Beginning PHP. Topics include: interactive programming, multidimensional array processing, functions, user defined functions, expressions, and advanced database processing.

**CIS 2453 - INTRODUCTION TO ASP PROGRAMMING**
Weekly Hours: Class - 0; Lab - 0; Credit Hours: 7
Prerequisite(s): CIS 157 or CIS 1121 or CIS 2202 and an operating systems course
Corequisite(s):

**CIS 2454 - COMPREHENSIVE ACTIVE SERVER PAGES (ASP) PROGRAMMING & TECHNOLOGIES**
Weekly Hours: Class - 0; Lab - 0; Credit Hours: 7
Prerequisite(s): CIS 157 or CIS 1121 or CIS 2202 and an operating systems course
Corequisite(s):
CIS 250 - INTRODUCTION TO RPG PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105
Corequisite(s):
Introduces programming business applications using the RPG programming language. Topics include: introduction to RPG programming, input and output processing, arithmetic operations, edit codes/words, selection operations, control breaks, multiple control breaks, do loops, exception output, external files - physical and logical, and sequential file access methods.

CIS 251 - ADVANCED RPG PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 250
Corequisite(s):
Provides an emphasis on designing and writing programs using the RPG programming language. Topics include: table and array processing, data validation, data structures, interprogram communication, random file access methods, file updating, and interactive processing.

CIS 2511 - INTRODUCTION TO PYTHON PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105
Corequisite(s):
Provides a study of the Python programming language to solve applications. Topics include: Computing with numbers, Computing with strings, Objects and Graphics, Defining Functions, Decision Functions, Loop Structures and Booleans, Game Simulations and Design, Defining Classes, Data Collections, Object-Oriented Design, Recursion.

CIS 2512 - ADVANCED PYTHON PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 2511
Corequisite(s):
Provides a study of the Python programming language to solve applications. Topics include: Server Side Programming, XML, Search Techniques, CGI, Multithreading, Security, Data Structures, PSP, Regular Expressions and File Processing.

CIS 252 - INTRODUCTION TO JAVA PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105
Corequisite(s):
Course designed to teach the basic concepts and methods of objected-oriented design and Java programming. Use practical problems to illustrate Java application building techniques and concepts. Develop an understanding of Java vocabulary. Create an understanding of where Java fits in the application development landscape. Create an understanding of the Java Development Kit and how to develop, debug, and run Java applications using the JDK and Notepad as an editor. Continue 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.

CIS 255 - INTRODUCTION TO “C” PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): Program Admission
Prerequisite(s)/Corequisite(s): CIS 105
Provides opportunity to gain a working knowledge of “C” programming. Includes creating, editing, executing, and debugging “C” programs of moderate difficulty. Topics include: basic AC@ concepts, simple I/O and expressions, I/O and control statements, and managing data and developing programs.

CIS 2550 - FUNDAMENTALS OF SOLARIS OPERATING ENVIRONMENT FOR SYSTEM ADMINISTRATORS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 1140
Corequisite(s):
Provides a study of the fundamentals of Solaris™ 8 Operating Environment for System Administrators. Covers how to use UNIX® operating system commands and basic Solaris Operating Environment commands. Topics include: fundamental command-line features of the Solaris Operating Environment including file system navigation, file permissions, the vi text editor, command shells, and basic network use.

CIS 2554 - INTRODUCTION TO LINUX/UNIX
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 106 and SCT 100
Corequisite(s):
This course introduces the Linux/UNIX operating system skills necessary to perform entry-level user functions. Topics include: History of Linux/UNIX, 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, Linux/UNIX manual help pages, using the Linux/UNIX 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.
CIS 2555 - LINUX/UNIX ADMINISTRATION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 106, SCT 100, and CIS 2554
Corequisite(s):
Covers Linux/UNIX operating system administration skills necessary to perform administrative functions. Topics include: Installing Linux/UNIX, configuring and building a custom kernel, adding and removing software packages, managing run levels, managing users and groups, implementing security permissions, introduction to shell programming, managing and fixing the file system, managing memory and swap space, managing and scheduling jobs, managing system logs, understanding the boot process, system configuration files, file backup and restore, file compression, fault tolerance, and printing.

CIS 2556 - LINUX/UNIX ADVANCED ADMINISTRATION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 106, SCT 100, CIS 2555
Corequisite(s):
Covers Linux/UNIX operating system advanced administration skills necessary to perform advanced administrative functions. Topics include: understanding Linux/UNIX networking, managing network printing, configuring and troubleshooting TCP/IP on Linux/UNIX, configuring DHCP, DNS, a Web server, an FTP server, an E-mail server, and understanding NIS (yp) and NFS. Also, includes the following: understanding advanced security issues such as firewalls and NAT, using network commands, use of graphical system such as X Windows, sharing files and printers, and advanced shell programming.

CIS 2557 - LINUX/UNIX SHELL SCRIPT PROGRAMMING
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2556
Corequisite(s):
Course covers Linux/UNIX shell programming techniques necessary for Linux/UNIX System Administrators to understand and create shell script programs in a Linux/UNIX environment. Topics include: Shell variables, running shell script program, conditional processing, looping structures, arithmetic operators, logical operators such as AND, OR, and NOT, positional parameters and process variables, redirection, piping and standard error, use of backslash, quotes and back quotes.

CIS 256 - ADVANCED “C” PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 255
Corequisite(s):
Covers theory and practice in developing advanced skills in “C” programming. Topics include: pointers, function, arrays; file input/output; BIOS and system service level operations; and program design and development.

CIS 2570 - ADVANCED VISUAL BASIC PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 105, CIS 157, CIS 2202
Corequisite(s):
Advanced Visual BASIC teaches developers random file access, database programming techniques, and programming form the Web in client-server environment. Emphasis is placed on Active-X Data Objects (ADO), incorporating SQL into programs, Open Database Connectivity (ODBC), Remote Data Objects (RDO), creating Web based database applications, and security considerations.

CIS 2721 - CHECKPOINT FIREWALL ADMINISTRATION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS xxxx an operating system
Corequisite(s):
In this course, students cover the purpose of firewalls, the different firewall architectures and the various components of VPN/FireWall as well as how to install and configure VPN/FireWall to protect an organization’s resources with a single comprehensive Security Policy. Hands on labs help students build the skills necessary to manage and maintain the Security Policy using tools provided by VPN/FireWall.

CIS 276 - ADVANCED ROUTERS AND SWITCHES
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): CIS 2322
Corequisite(s):
Introduces LAN design, LAN switching and switch segmentation, advanced routing, and multiple protocols. Topics include: a review of semesters I and II, local area network (LAN) switching, virtual local area networks (VLANs), local area network (LAN) design, interior gateway routing protocols (IGRP), access control lists, and Novell IPX.
CIS 280 - SYSTEMS APPLICATIONS PROJECT
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): 2 Advanced Programming Languages, CIS112, CIS214, ACC101, An operating systems course, and Network Fundamentals.
Corequisite(s):
capstone course providing a realistic business experience for students working in a team to develop a complete systems project in a ten-week period. Topics include: Project Management, Systems Design and Development, Interactive Screen/Menu Development, File Maintenance Programming, Program Design, Systems Documentation, User Documentation, Presentation, and Demonstration.

CIS 2801 - INTERACTIVE VIDEO PRODUCTIONS I
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
This course will be the first of three courses designed to train individuals in the skills needed to package information content ready for an interactive video delivery system.

CIS 2802 - INTERACTIVE VIDEO PRODUCTIONS II
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s): CIS 2801
Corequisite(s):
This course will be the second of three courses designed to train individuals in the skills needed to package information content ready for an interactive video delivery system.

CIS 2803 - INTERACTIVE VIDEO PRODUCTIONS III
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 5
Prerequisite(s): CIS 2802
Corequisite(s):
This course will be the third of three courses designed to train individuals in the skills needed to package information content ready for an interactive video delivery system.

CIS 282 - INTRODUCTION TO C++ PROGRAMMING
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 256
Corequisite(s):
Develops skills for the programmer to write programs using the language of C++. Emphasis is placed on utilizing the added feature of C++, which will be added to the skills mastered in Programming with C. Topics include functions, objects, classes, inheritance, overloading, polymorphism, streams, and containers.

CIS 286 - A+ PREPARATION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): CIS 122
Corequisite(s):
Provides the student with the fundamentals of configuring, installing, diagnosing, repairing, upgrading, and maintaining computers and their peripherals. To fundamentally prepare the student for the A+ certification examination. Topics include: A+ Core Module, A+ DOS/Windows Operating Systems, PC hardware and configuration, Peripherals, Preventive Maintenance, Customer Interaction, Virus protection, Safety and Electrostatic Discharge, and Networks.

CLT 101 - INTRODUCTION TO CLINICAL LABORATORY TECHNOLOGY
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Program Admission
Corequisite(s):
Introduces students to the terms, concepts, procedures, and equipment used in a professional medical laboratory. Topics include: professional ethics and regulatory agencies; basic laboratory safety, equipment, and techniques; phlebotomy/ specimen processing; quality control concepts; process improvement; documentation; and point of care testing. Practical experience in phlebotomy will be provided in the institution laboratory and/or the clinical setting.

CLT 103 - URINALYSIS/BODY FLUIDS
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): BIO 2113, BIO 2114, AHS 104, MLT 101
Corequisite(s):
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: theory of urinalysis; physical, chemical, and microscopic urinalysis; urinalysis and disease state correlation; special urinalysis and related testing; body fluids tests; and safety and quality control.

CLT 104 - HEMATOLOGY/COAGULATION
Weekly Hours: Class - 5; Lab - 7; Credit Hours: 8
Prerequisite(s): BIO 2113, BIO 2114, AHS 104, MAT 1012, MLT 101
Corequisite(s):
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 tests, 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.
CLT 105 - SEROLOGY/IMMUNOLOGY
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): BIO 2113, BIO 2114, AHS 104, MAT 1111, MLT 101
Corequisite(s):
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, common serological techniques, safety and quality control, and process improvement.

CLT 106 - IMMUNOHEMATOLOGY
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): MLT 105
Corequisite(s):
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, pre-transfusion testing, management of disease states and transfusion reactions, safety, documentation/quality control, and process improvement.

CLT 107 - CLINICAL CHEMISTRY
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): BIO 2113, BIO 2114, AHS 104, CHM 1111, CHM 1112, MAT 1111, MLT 101
Corequisite(s):
Develops concepts and techniques of clinical chemistry applicable to medical laboratory technology. Topics include: carbohydrates, electrolytes and acid-base balance, nitrogenous compounds, 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.

CLT 108 - MICROBIOLOGY
Weekly Hours: Class - 6; Lab - 6; Credit Hours: 8
Prerequisite(s): BIO 2113, BIO 2114, AHS 104, CHM 1111, CHM 1112, MAT 1111, MLT 101
Corequisite(s):
Introduces fundamental microbiology and parasitology theory and techniques applicable to disease state identification. Topics include: microbiology fundamentals; basic techniques; clinical microbiology; anti-microbial sensitivity; safety and quality control; parasitology; mycology, mycobacteriology, and virology; correlation of disease states; and process improvement.

CLT 109 - CLINICAL PHLEBOTOMY, URINALYSIS, AND SEROLOGY PRACTICUM
Weekly Hours: Class - 0; Lab - 12; Credit Hours: 4
Prerequisite(s)/Corequisite(s): MLT 101, MLT 103, MLT 105
Corequisite(s):
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: basic and specialized 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.

CLT 110 - CLINICAL IMMUNOHEMATOLOGY PRACTICUM
Weekly Hours: Class - 0; Lab - 20; Credit Hours: 6
Prerequisite(s): MLT 106
Corequisite(s):
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.

CLT 111 - CLINICAL HEMATOLOGY/COAGULATION PRACTICUM
Weekly Hours: Class - 0; Lab - 20; Credit Hours: 6
Prerequisite(s): MLT 104
Corequisite(s):
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.

**CLT 112 - CLINICAL MICROBIOLOGY PRACTICUM**

Weekly Hours: Class - 0; Lab - 20; Credit Hours: 6
Prerequisite(s): MLT 108
Corequisite(s):
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; special areas; 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.

**CLT 113 - CLINICAL CHEMISTRY PRACTICUM**

Weekly Hours: Class - 0; Lab - 20; Credit Hours: 6
Prerequisite(s): MLT 107
Corequisite(s):
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-hemistry; 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.

**CLT 118 - MLT LICENSURE I**

Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1
Prerequisite(s): MLT 101 - MLT 108
Corequisite(s):
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 processing; Infection control; Quality control; Computers in the lab; Urinalysis/Body Fluids - theory, tests, correlation; Hematology - RE system, blood count, differential, correlation of test results to disease, instrumentation, coagulation, fibrinolysis, critical levels and blood cell dycrasias; Immunology/Serology - immune system, antigen-antibody reactions, diseases of immune system, serological techniques, genetic theory, correlation of results to disease.

**CLT 119 - MLT LICENSURE II**

Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1
Prerequisite(s): MLT 101 - MLT 108
Corequisite(s): MLT 109 - MLT 113
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: Immunohematology - Donor unit collection and storage; Pretransfusion testing; Transfusion reactions, and management of diseases; Clinical chemistry - Carbohydrates, Electrolytes, Acid-base balance, Nitrogenous compounds, Enzymes, Endocrinology, Liver functions, Lipids, Toxicology and drug monitoring; Microbiology - Fundamentals and basic techniques, identification of bacteria, anti-microbial sensitivity, disease correlation to organisms, parasitology, mycology, mycobacteriology, and virology.

**CNA 100 - PATIENT CARE FUNDAMENTALS**

Weekly Hours: Class - 5; Lab - 6; Credit Hours: 8
Prerequisite(s): None
Corequisite(s):
Introduces student to the occupation of Certified Nurse Assistant. Emphasis is placed on human anatomy and physiology, cardiac pulmonary resuscitation, and nutrition and diet therapy. Topics include: role and responsibilities of the Certified Nurse Assistant; topography, structure, and function of body systems; legal and safety requirements in the patient care field; equipment use and care; and performance skills standards and procedures.

**COS 100 - INTRODUCTION TO COSMETOLOGY THEORY**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the fundamental theory and practices of the cosmetology profession. Emphasis will be placed on professional practices and safety. Topics include: state and local laws, rules, and regulations; professional image; bacteriology; decontamination and infection control; chemistry fundamentals; safety; Hazardous Duty Standards Act compliance; and anatomy and physiology; and types of employment.
COS 101 - INTRODUCTION TO PERMANENT WAVING AND RELAXING
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): COS 100
Corequisite(s):
Introduces the chemistry and chemical reactions of permanent wave solutions and relaxers. Topics include: permanent wave techniques, chemical relaxer techniques, chemistry, physical and chemical change, safety procedures, and permanent wave and chemical relaxer application procedures on mannequins and hair analysis and scalp analysis.

COS 103 - BASIC CREATIVE TREATMENT OF HAIR, SCALP, AND SKIN
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): COS 100
Corequisite(s):
Introduces the theory, procedures, and products used in the care and treatment of the skin, scalp, and hair. Topics include: basic corrective hair and scalp treatments, plain facial, products and supplies, diseases and disorders, and safety precautions.

COS 105 - INTRODUCTION TO SHAMPOOING AND STYLING
Weekly Hours: Class - 2; Lab - 4; Credit Hours: 4
Prerequisite(s): COS 100
Corequisite(s):
Introduces the fundamental theory and skills required to shampoo and create shapings, pincurls, fingerwaves, roller placement, and combouts. Laboratory training includes styling training to total 20 hours on manikin and 25 hours on live models without compensation. Topics include: braiding/intertwining hair, shampoo chemistry, shampoo procedures, styling principles, pincurls, roller placement, fingerwaves, combout techniques, skipwaves, ridgycurls, and safety precautions.

COS 106 - INTRODUCTION TO HAIRCUTTING
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): COS 100
Corequisite(s):
Introduces the theory and skills necessary to apply haircutting techniques. Safe use of haircutting implements will be stressed. Topics include: haircutting terminology, safety, decontamination, and precautions, cutting implements, and haircutting techniques.

COS 107 - ADVANCED HAIRCUTTING
Weekly Hours: Class - 0; Lab - 5; Credit Hours: 2
Prerequisite(s): COS 106
Corequisite(s):
Continues the theory and application of haircutting techniques. Topics include: client consultation, head, hair, and body analysis, style cutting, haircutting techniques, and client consultations/head/hair/body analysis.

COS 108 - PERMANENT WAVING AND RELAXING
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): COS 101
Corequisite(s):
Provides instruction in the application of permanent waves and relaxers. Precautions and special problems involved in applying permanent waves and relaxers will be emphasized. Application of perms and relaxers on live models is included. Topics include: timed permanent wave, timed relaxer application, safety precautions, and Hazardous Duty Standards Act compliance, chemistry of permanent waving/soft curl perming/chemical hair relaxing.

COS 109 - HAIR COLOR
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): COS 100, COS 101, COS 103, COS 105, COS 106, and COS 108
Corequisite(s):
Presents the application of temporary, semi-permanent, deposit only, and permanent hair coloring and decolorization products. Topics include: basic color concepts, classifications of color, safety precautions, consultation, communication and record and release forms, product knowledge, special problems in hair color and corrective coloring, and special effects.

COS 110 - SKIN, SCALP, AND HAIR
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): COS 100, COS 101, COS 103, COS 105, COS 106, COS 108, and COS 109
Corequisite(s):
Provides instruction on and application of techniques and theory in the treatment of the skin, scalp, and hair. Emphasis will be placed on work with live models. Topics include: implements, products and supplies, corrective hair and scalp treatments, facial procedures and manipulations, safety precautions, cosmetic chemistry/products and supplies, and treatment theory: electrotherapy, electricity and light therapy.

COS 111 - STYLING
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): COS 105
Corequisite(s): COS 110
Continues the theory and application of hairstyling and introduces thermal techniques. Topics include: blow dry styling, thermal curling, thermal pressing, thermal waving, advanced cutting and styling, safety precautions, and artificial hair and augmentation.
COS 112 - MANICURING AND PEDICURING
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): COS 100
Corequisite(s):
Provides manicuring and pedicuring experience on live models. 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).

COS 113 - COSMETOLOGY PRACTICUM I
Weekly Hours: Class - 1; Lab - 12; Credit Hours: 5
Prerequisite(s): COS 111 and COS 112
Corequisite(s):
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 and bleaching; skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

COS 114 - COSMETOLOGY PRACTICUM II
Weekly Hours: Class - 4; Lab - 12; Credit Hours: 8
Prerequisite(s): COS 113
Corequisite(s):
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 and bleaching; skin, scalp, and hair treatments; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

COS 115 - COSMETOLOGY PRACTICUM III
Weekly Hours: Class - 1; Lab - 12; Credit Hours: 5
Prerequisite(s): COS 114
Corequisite(s):
Provides experience necessary for professional development and completion of requirements for state licensure. Emphasis will be placed on the development 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: permanent waving and relaxers; hair color and bleaching; skin, scalp, and hair treatment; haircutting; styling; dispensary; manicure/pedicure/advanced nail techniques; reception; safety precautions/decontamination; and Hazardous Duty Standards Act compliance.

COS 116 - COSMETOLOGY PRACTICUM IV
Weekly Hours: Class - 1; Lab - 12; Credit Hours: 5
Prerequisite(s): COS 115
Corequisite(s):
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.

COS 117 - SALON MANAGEMENT
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): COS 112
Corequisite(s):
Emphasizes the steps involved in opening and operating a privately owned cosmetology salon. Topics include: planning a salon, business management, retailing, public relations, sales skills, career development, and client retention.

COS 118 - NAIL CARE I
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): COS 100, COS 112
Corequisite(s):
Provides additional experience in manicuring and pedicuring techniques required of applicants for state licensure. Emphasis is placed on performance, using live models in an actual or simulated occupational setting. Topics include: manicure, nail repair, artificial nails, pedicure, advanced and new techniques, and safety/sanitation.

COS 119 - NAIL CARE II
Weekly Hours: Class - 4; Lab - 15; Credit Hours: 9
Prerequisite(s): COS 117, COS 118
Corequisite(s):
Provides nail care experience on live models. Emphasis will be placed on the display of professional conduct and positive attitudes. The appropriate number of applications required by the state board of cosmetology in theory and service credit requirements for this course. Emphasis is placed on
performance, using live models in an actual or simulated occupational setting. Topics include: manicure/pedicure, nail repair, artificial nails, electric file, advanced/new techniques, nail art, receptionist/ dispensaries, state board licensure preparation, HIV and OSHA updates, and safety/sanitation.

**CRJ 101 - INTRODUCTION TO CRIMINAL JUSTICE TECHNOLOGY**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s): Examines the emergence, progress, and problems 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.

**CRJ 102 - INTRODUCTION TO CONSTITUTIONAL LAW**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 101
Corequisite(s): 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 Constitution, and Bill of Rights and the Constitutional Amendments.

**CRJ 103 - CORRECTIONS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s): Provides an overview 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.

**CRJ 104 - PRINCIPLES OF LAW ENFORCEMENT**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s): Examines the principles of organization and administration and the duties of local and state law enforcement agencies with emphasis on police departments. 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.

**CRJ 105 - CRIMINAL PROCEDURE**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): CRJ 101
Corequisite(s): Introduces the substantive law of major crimes against persons and property. Attention is given to observation of courtroom trials. Topics include: laws of arrest and search and seizure; procedures governing arrest, trial, and administration of criminal sanctions; rules of evidence; general court procedures; rights and duties of officers and citizens; and Supreme Court rulings that apply to Criminal Justice / overview of Constitutional Law.

**CRJ 106 - CRIMINOLOGY**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 104
Corequisite(s): Introduces the nature, extent, and factors related to criminal behavior, and the etiology of criminal offenses and offenders. Topics include: scope and varieties of crime; sociological, psychological, and biological causes of crime; criminal subculture and society’s reaction; prevention of criminal behavior; behavior of criminals in penal and correctional institutions; and problems of rehabilitating the convicted criminal.

**CRJ 107 - INTRODUCTION TO JUVENILE JUSTICE**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 101
Corequisite(s): 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.

**CRJ 109 - CRIMINAL JUSTICE TECHNOLOGY PRACTICUM/INTERNSHIP**

Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5
Prerequisite(s): Completion of all required courses.
Corequisite(s): Provides experiences necessary for further professional development and exposure to related agencies in the law enforcement field. The student will either pursue a study project directed by the instructor within the institution, or an internship in a related agency supervised by the instructor subject to the availability of an approved site. Topics include: observation and/or participation in law enforcement activities, law enforcement theory applications, and independent study project.
CRJ 121 - INTRODUCTION TO PRIVATE SECURITY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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: Security Systems at Work: Putting It All Together, and Challenges Facing the Security Profession in the 1990’s and beyond.

CRJ 122 - RETAIL SECURITY AND SHORTAGE PROTECTION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 121
Corequisite(s):
This is a course that provides an orientation that focuses on security and shortage protection for small retail businesses with an emphasis placed on vulnerabilities, losses and practical retail business measures. Topics include: Retailing and Security, Legal Aspects of Retail Security, Protection at the Point of Sale, Internal losses and countermeasures, shoplifting and countermeasures, investigation of internal losses and shoplifting, store design and physical security and risk management.

CRJ 123 - COMPUTER SECURITY/CORPORATE FRAUD
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
Provides an orientation that contains a step-by-step approach to the investigation, seizure, and evaluation of computer evidence. Topics include: computer-related evidence, crime scene investigation, evidence evaluation and analysis, passwords and encryption, networks, and investigative computer systems. The second part of this course provides an orientation that focuses on corporate fraud as it relates to computerized accounting systems and its technology, the various types of corporate computer fraud and simple audit techniques that can assist in investigating and detecting fraud. Topics include: history and evolution of fraud, mindset: step one in fraud auditing, corporate fraud in the current environment, corporate fraud investigation in the electronic data processing era, defenses against corporate fraud, theft and embezzlement, and auditing for inventory shortage.

CRJ 140 - CULTURAL PERSPECTIVES FOR LAW ENFORCEMENT OFFICERS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
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.

CRJ 141 - WORKPLACE SPANISH
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): Program Admission.
Corequisite(s):
Introduces the vocabulary, sentence structure and conversational skills needed to communicate in Spanish with co-workers and inmates in a correctional facility. Topics include the following: parts of speech, vocabulary, sentence structure, and common phrases in the workplace and prison system.

CRJ 143 - PROBATION AND PAROLE
Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
This is will cover the history of both juvenile and adult probation and the history of parole. The probation and parole systems will be covered in general with a special emphasis on the Georgia systems and related laws. Rehabilitation theory and indeterminate punishments will be covered as well as the duties and tasks of probation and parole officers.

CRJ 150 - POLICE PATROL OPERATIONS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission.
Corequisite(s):
This course presents the knowledge and skills associated with police patrol operations. Emphasis is placed on patrol techniques, crimes in progress, crisis intervention, domestic disputes, Georgia Crime Information Center procedures, electronics communications and police reports. Topics include: foundations, policing skills and communication skills.

CRJ 152 - POLICE ADMINISTRATION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission.
Corequisite(s):
This course explores the managerial aspects of effective and efficient police administration. Emphasis is directed towards increasing organizational skills and overcoming interdepartmental and inter-agency non-communication. Topics include: environmental management, human resources, and organizational concerns.

**CRJ 154 - POLICE OFFICER SURVIVAL**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission.  
Corequisite(s):  
This course examines the critical issues involved in the survival of a police officer. Emphasis is placed on conducting enforcement raids, managing hostage situations, controlling hazardous materials spills, search techniques, mechanics of arrest, and levels of force. Topics include: hazardous duty, public safety, and self-protection.

**CRJ 156 - POLICE TRAFFIC CONTROL AND ACCIDENT INVESTIGATION**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission.  
Corequisite(s):  
This course examines enforcement of traffic laws and procedures for traffic accident investigation. Emphasis is placed on Georgia traffic laws, traffic law enforcement, recognition of impaired driving, and traffic accident investigation. Topics include: regulations, impaired driving, and traffic accident investigation.

**CRJ 158 - FUNDAMENTAL ISSUES IN POLICING**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission.  
Corequisite(s):  
This course examines the fundamental issues within the occupation of policing. Emphasis is placed on ethics and professionalism, civil liability, interpersonal communications, mental health, substance abuse, health and wellness, equipment preparation, vehicle pullovers, and emergency vehicle operations. Topics include: occupational standards, health related hazards, and daily preparedness.

**CRJ 160 - PRIVATE AND INDUSTRIAL SECURITY SERVICES**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission.  
Corequisite(s):  
This course will provide an overview of the private and industrial security as it relates to the protection of industry, the community, and as helping hand to law enforcement agencies and organizations. Emphasis is placed on the role of watchman, guards, and patrolmen. Topics include: industry concerns, and occupational techniques.

**CRJ 162 - METHODS OF CRIMINAL INVESTIGATION**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission.  
Corequisite(s):  
Presents the fundamental principles of criminal investigation. Emphasis is placed on legal requirements stated in Georgia Criminal Law, definition of felony crimes stated in the Georgia Code and fundamentals of: investigative procedures, crime scene searches, identification and collection of evidence, note-taking and report writing, surveillance, identification of witnesses and suspects, interviews and interrogation, and preparation and presentation of evidence in court. Topics include: Georgia Criminal Law, common investigative techniques, and procedures used for investigating various crimes.

**CRJ 163 - INVESTIGATION AND PRESENTATION OF EVIDENCE**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3  
Prerequisite(s): CRJ 162  
Corequisite(s):  
This course presents students with practical exercises dealing with investigations and gathering of evidence. Emphasis is placed on crime scene search, fingerprinting, cast molding, and practical exercises. Topics include: crime scene management, specialized investigation techniques, and homicide and suicide investigation.

**CRJ 165 - COMMUNITY-ORIENTED POLICING**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): CRJ 104  
Corequisite(s):  
Presents the fundamentals for the community-oriented policing philosophy. Topics include: 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; organizational mental and physical restructuring; creation of partnerships with community organizations, businesses, private security, other governmental agencies, and special interest groups; and police problem-solving methodologies.

**CRJ 167 - FIRST RESPONDER**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
This is a course in advanced first aid procedures. The course will focus on the duties and responsibilities of first responders as well as the development of the skills necessary
to respond to a medical emergency. Traditional CPR is also part of the course.

**CRJ 168 - CRIMINAL LAW**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission.
Corequisite(s):
This course emphasizes the historical development of criminal law in the United States and the current status of Georgia criminal law. The main focus of the course will be the statutory contents of the Official Code of Georgia Annotated (O.C.G.A), with primary emphasis on the criminal and traffic codes.

**CRJ 170 - ORIENTATION TO CORRECTIONS**
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
Provides students with an orientation to the correctional officer workplace with an emphasis on skills needed for success in the corrections environment. Topics include: human resources, fire safety, accreditation, inmate management and supervision, suicide prevention, hostage situations, use of force, games criminals play, inmate manipulation, chemical and inflammatory agents, special needs offenders, communicable diseases and exposure control, team building, sexual harassment, and medical/psychological referral.

**CRJ 171 - CORRECTIONS OPERATIONS PRACTICES**
Weekly Hours: Class - 9; Lab - 0; Credit Hours: 9
Prerequisite(s): Program Admission
Corequisite(s):
A more detailed view of the corrections workplace and extends discussion of many topics included in CRJ 170. Topics include: stress management, first aid and CPR, court procedures, interpersonal communications, substance abuse, cultural diversity, report writing and investigation, tool and key control, use of restraints, radio and telephone communications, pressure point control techniques, crisis prevention and intervention, crime scene procedures, self-contained breathing apparatus, security groups, inmate problem solving, searches and contraband, and true colors.

**CRJ 172 - INTRODUCTORY TO FORENSIC SCIENCE**
Class – 5; Lab – 0; Credit Hours – 5
Prerequisite(s):
Corequisite(s):
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. The practical application of forensic science in law enforcement will be emphasized.

**CRJ 175 - REPORT WRITING IN CRIMINAL JUSTICE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
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.

**CRJ 180 - HOSPITAL SECURITY**
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s):
Corequisite(s):
This course will provide an overview of the safety and security issues relating to the modern medical facility. Topics include: hospital environment, security operations, special operations and concerns, workplace violence, CPR/First Aid training, alcohol and drugs, infant abduction and basic firearms safety. Students will be introduced to OHSA regulations and blood borne pathogens training.

**CRJ 190 – MARKSMANSHIP AND FIREARMS FAMILIARIZATION**
Weekly Hours: Class – 1; Lab – 4; Credit Hours: 3
Prerequisite(s)
Corequisites:
Emphasizes proper shooting principles and proficiency using a virtual firearms simulator and live fire exercises. Other course topics include firearm familiarization, safe handling procedures of firearms, use and care of firearms, use of force doctrine, and legal and moral aspects surrounding the use of deadly force.

**CRJ 202 - CONSTITUTIONAL LAW**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 101
Corequisite(s):
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 Constitution, Bill of Rights and the Constitutional Amendments.

**CRJ 206 - CRIMINOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 104
Corequisite(s):
Introduces the nature, extent, and factors related to criminal behavior, and the etiology of criminal offenses and offenders. Topics include: scope and varieties of crime; sociological, psychological, and biological causes of crime; criminal subculture and society’s reaction; prevention of criminal behavior; behavior of criminals in penal and correctional institutions; and problems of rehabilitating the convicted criminal.

**CRJ 207 - JUVENILE JUSTICE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): CRJ 101
Corequisite(s):
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.

**CRJ 209 - CRIMINAL JUSTICE TECHNOLOGY PRACTICUM/INTERNSHIP**
Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5
Prerequisite(s): Completion of all required courses
Corequisite(s):
Provides experiences necessary for further professional development and exposure to related agencies in the criminal justice field. The student will either pursue a study project directed by the instructor within the institution, or an internship in a related agency supervised by the instructor subject to the availability of an approved site. Topics include: observation and/or participation in criminal justice activities, criminal justice theory applications, and independent study project.

**CRJ 212 - ETHICS IN CRIMINAL JUSTICE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission.
Corequisite(s):
This course provides an exploration of the field of criminal justice ethics, which broadly encompasses the history of justice and theories of morality and ethics. It includes the study of ethics from both the individual perspective and the organizational standpoint. Special attention will be given to concrete ethical issues and dilemmas which are encountered regularly by participants in the major components of the criminal justice system. Four areas of ethical decision making opportunities are therefore studied in this course, including: law enforcement ethics; correctional ethics; legal profession ethics; and policymaking ethics.

**CRJ 2201 – CRIMINAL COURT**
Weekly Hours: Class – 5; Lab — 0; Credit Hours: 5
Prerequisite(s)
Corequisite(s):
Examines the historical context on the development, functions, and controversies in the courts system. Topics include: introduction to the courts; participants of a trial; courtroom processes; and the post conviction process.

**CTD 101 - FUNDAMENTALS OF COMMERCIAL TRUCK DRIVING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
Fundamentals of Commercial Truck Driving introduces students to the trucking 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.

**CTD 102 - BASIC OPERATIONS OF COMMERCIAL TRUCK DRIVING**
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s): None
Corequisite(s): CTD 101
This course focuses on familiarizing students with truck instruments and controls and on performing basic maneuvers required to drive safely in a controlled environment and on the Driving Range. Each student must receive at least twelve (12) hours behind-the-wheel (BTW) instructional time in range operations- operating a tractor trailer through clearance maneuvers, backing, turning, parallel parking, and coupling and uncoupling.

**CTD 103 - ADVANCED OPERATIONS OF COMMERCIAL TRUCK DRIVING**
Weekly Hours: Class - 1; Lab - 13; Credit Hours: 5
Prerequisite(s): None
Corequisite(s): CTD 102
Advanced Operations focuses on developing driving skills under actual road conditions. The classroom part of the course stresses following safe operating practices. On the road, safe operating practices are integrated into the development of 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 44 (forty four) hours BTW instructional time in any combination (with CTD 102) of 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 a student is driving.

**CUL 100 - PROFESSIONALISM IN CULINARY ARTS**

Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
The Professionalism in Culinary Arts course provides an overview of the professionalism in culinary arts and culinary career opportunities. Chef history, pride, and esprit d'corp are taught. Topics include: cuisine, food service organizations, career opportunities, food service styles, basic culinary management techniques, professionalism, and culinary work ethics.

**CUL 110 - FOOD SERVICE SAFETY AND SANITATION**

Weekly Hours: Class - 2; Lab - 4; Credit Hours: 3  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
Emphasizes fundamental kitchen and dining room safety, sanitation, maintenance, and operation procedures. Topics include: cleaning standards, OSHA, M.S.D.S. guidelines, sanitary procedures following SERV-SAFE guidelines, H.A.C.C.P., 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.

**CUL 112 - PRINCIPLES OF COOKING**

Weekly Hours: Class - 2; Lab - 11; Credit Hours: 6  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
The Principles of Cooking course 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.

**CUL 114 - AMERICAN REGIONAL CUISINE**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5  
Prerequisite(s): CUL 110  
Corequisite(s):  
The American regional cuisine course emphasis is on terms, concepts, and methods necessary to American Cuisine food preparation. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include: kitchen aromatics, regional cooking principles and history, methods of American regional food preparation, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

**CUL 116 - FOOD SERVICE PURCHASING AND CONTROL**

Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3  
Prerequisite(s): MAT 100  
Corequisite(s):  
Introduces principles and practices necessary to food, supply, and equipment selection, procurement, receiving, storage, and distribution. Topics include: quality factors, food tests, pricing procedures, cost determination and control, selection, procurement, receiving, storage, and distribution. Laboratory demonstration and student experimentation parallel class work.

**CUL 117 - INTRODUCTION TO CULINARY NUTRITION**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite: Program Admission  
Corequisite(s):  
This course is an orientation for school nutrition employees that will introduce students to proper sanitation and food handling, equipment safety, first aid, meal pattern requirements, quantity food production, merchandising, communication, and basic nutrition knowledge. The course will help school nutrition employees develop skills that will result in improved nutrition programs and service to customers. Basic nutrition concepts will focus on Iron, Fats, Saturated Fat, and Cholesterol, Protein, Fiber, Sugar, and Sodium, Calories, Calcium, Vitamin A, and Vitamin C.

**CUL 121 - BAKING PRINCIPLES I**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5  
Prerequisite(s): CUL 110  
Corequisite(s): CUL 112  
Baking Principles I presents the fundamental terms, concepts, and methods involved in preparation of yeast and quick breads. 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, weights, measures, and conversions, preparation of baked goods, baking sanitation and hygiene, and baking supplies and equipment. Laboratory demonstrations and student experimentation parallel class work.
CUL 122 - BAKING PRINCIPLES II
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): CUL 121
Corequisite(s):
Baking Principles II course presents the fundamental terms, concepts, and methods involved in preparation of 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 desserts, cakes, and pastries, weights, measures, and conversions, preparation of baked goods, baking sanitation and hygiene, and baking supplies and equipment. Laboratory demonstrations and student experimentation parallel class work.

CUL 124 - RESTAURANT AND HOTEL BAKING
Weekly Hours: Class - 3; Lab - 8; Credit Hours: 6
Prerequisite(s): CUL 121 and CUL 122
Corequisite(s):
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.

CUL 127 - BANQUET PREPARATION AND PRESENTATION
Weekly Hours: Class - 1; Lab - 8; Credit Hours: 4
Prerequisite(s): CUL 112
Corequisite(s):
Provides experience in preparation of a wide variety of quantity foods. Course content reflects American Culinary Federation Educational Institute apprenticeship training objectives. Topics include: kitchen operational procedures, equipment use, banquet planning, recipe conversion, food decorating, safety and sanitation, and production of quantity food. Laboratory practice is provided.

CUL 129 - FRONT OF THE HOUSE SERVICE
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
The front of the house service course introduces the fundamentals of dining and beverage service. 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. Laboratory practice parallels class work.

CUL 130 - PANTRY, HORS D’OEUVRES AND CANAPES
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): CUL 114
Corequisite(s):
Introduces basic pantry manager 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, basic garnishes, breakfast preparation, buffet presentation, cold preparations, cold sandwiches, salads and dressings, molds, garnishes, and cold hors d’oeuvres. Laboratory practice parallels class work.

CUL 132 - GARDE MANAGER
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): CUL 130
Corequisite(s):
Emphasizes basic garde manger utilization and preparation of appetizers, condiments, and hors d’oeuvres. Topics include: hot and cold hors d’oeuvres; salads, dressings, and relishes; sandwiches; patés and terrines; chaud foids, gels, and molds; canapés; and garnishing, carving, and decorating. Laboratory practice parallels class work.

CUL 133 - FOOD SERVICE LEADERSHIP AND DECISION MAKING
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
The Food Service Leadership and Decision Making Course familiarize the student with the principles and methods of sound leadership and decision making in the hospitality industry. Topics include: basic leadership principles and how to use them to solicit cooperation, use of leadership to develop the best possible senior-subordinate relationships, the various decision making processes, the ability to make sound and timely decisions, leadership within the framework of the major functions of management, and delegation of authority and responsibility in the hospitality industry.

CUL 137 - NUTRITIONAL FOOD AND MENU MANAGEMENT
Weekly Hours: Class - 1; Lab - 6; Credit Hours: 3
Prerequisite(s): CUL 100, CUL 110, CUL 112
Corequisite(s):
The nutritional food and menu management course 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.

**CUL 140 - BASIC NUTRITION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite: Program Admission
Corequisite(s):
This course will emphasize the correlation of nutrition and special needs/diets. Techniques to manipulate diets for special populations will be taught. Additional topics include current trends such as the effects of water, carbohydrates and phytochemicals in the discussions of good nutrition.

**CUL 142 - MARKETING AND CUSTOMER SERVICE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite: Program Admission
Corequisite(s):
This course focuses on skills necessary to promote sales and incorporate strategies to meet customer needs.

**CUL 145 - FOOD SERVICE MANAGER IN TRAINING I**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite: Program Admission
Corequisite(s):
Introduction to culinary nutrition management including menu management, production, service, and customer relations.

**CUL 146 - FOOD SERVICE MANAGER IN TRAINING II**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite: CUL 145
Corequisite(s):
Introduction to Culinary Nutrition Management that emphasizes the role of the manager, leadership, personnel, and program accountability.

**CUL 215 - CONTEMPORARY CUISINE I**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): CUL 100, CUL 110, CUL 114
Corequisite(s):
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, and competition entry. Laboratory demonstration and student experimentation parallel class work.

**CUL 216 - PRACTICUM/INTERNEHIP I**
Weekly Hours: Class - 1; Lab - 30; Credit Hours: 11
Prerequisite(s): CUL 114, CUL 116, and CUL 127
Corequisite(s):
The Practicum/Internship I course provides the student with the opportunity to gain management/supervision 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 quarter. 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.

**CUL 220 - CONTEMPORARY CUISINE II**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): CUL 112
Corequisite(s): CUL 215
Emphasizes supervision, and management concepts, knowledge, and skills necessary to restaurants serving contemporary cuisine. Topics include: menu selection, layout and design, on/off premise catering, entrepreneurship, small business management, and nutrition. Laboratory demonstrations and student experimentation parallel class work.

**CUL 224 - INTERNATIONAL CUISINE I**
Weekly Hours: Class - 3; Lab - 8; Credit Hours: 6
Prerequisite(s): CUL 100, CUL 110, and CUL 114
Corequisite(s):
The International Cuisine I course 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.

**DCP 110 FACILITATING ACCESS TO COMMUNITY LIVING I**
Weekly Hours: Class – 5; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
Aims to help students begin to understand how support systems have changed over time, the importance of the values underlying those changes, and how planning and support actions begin with a much deeper understanding, or “discovery,” of who the individual is that requires support. This course also covers individual accomplishments, the
resources and social capital present within the community, and information and tools for providing appropriate representation and support that facilitates a person’s contributions and interdependence to and with a community. Students also begin learning and practicing the Try Another Way training pioneered by Dr. Marc Gold, an early leader in systematic instruction technology.

**DCP 111 – FACILITATING ACCESS TO COMMUNITY LIVING II**

**Weekly Hours:** Class – 5; Credit Hours: 5
**Prerequisite:** DCP 110
**Corequisite(s):**

Begins with an exploration of effective training within natural work environments and other community settings. Support for persons with “challenging behaviors” is approached from a perspective of encouragement and motivation. The course contains basic and necessary information for Georgia’s DSPs covering basic rights, confidentiality, documentation, personal wellness, medical supports and medications. It concludes with conduct and expectations for support professionals, learning teams/learning organizations, and Georgia’s services system. The courses are intended to provide people working in direct support roles with the knowledge and tools that will enable their support of people within a context that is inclusive, community-based and person centered. Both courses combine classroom dialogue and application of the curriculum content to personal outcomes in the life of at least one person experiencing disabilities.

**DCP 113 – DIRECT SUPPORT PRACTICUM I**

**Weekly Hours:** Lab – 6; Credit Hours: 2
**Prerequisites:** DCP 110, DCP 111
**Corequisite(s):**

From the beginning, each student is paired with an individual who receives support services, so that subsequent information provided throughout the courses is related directly to an individual’s life circumstances. Classroom courses include practice activities and discussion. Practicum runs concurrently with each class and each student maintains a portfolio and journal documenting the skills and experiences obtained from the classroom courses and practicum. Students who are already employed with a community provider will likely (though not necessarily) use their own organization as a practicum site. A site agreement, however, must be secured for each site. It is likely that a student will have to do many things that pull him or her away from regular duties even if the regular assignment is in direct support. If a student has no existing opportunity to engage in a practicum experience, the instructor will assist in finding a practicum site in which the student can serve as a volunteer. There is no statewide requirement that the practicum occur during paid or unpaid time. Most participating providers pay for practicum time that occurs during a student’s normal work hours, and do not pay for experiential activities.

**DCP 114 – DIRECT SUPPORT PRACTICUM II**

**Weekly Hours:** Lab – 9; Credit Hours: 3
**Prerequisites:** DCP 110, DCP 111, DCP 113
**Corequisite(s):**

From the beginning, each student is paired with an individual who receives support services, so that subsequent information provided throughout the courses is related directly to an individual’s life circumstances. Classroom courses include practice activities and discussion. Practicum runs concurrently with each class and each student maintains a portfolio and journal documenting the skills and experiences obtained from the classroom courses and practicum. Students who are already employed with a community provider will likely (though not necessarily) use their own organization as a practicum site. A site agreement, however, must be secured for each site. It is likely that a student will have to do many things that pull him or her away from regular duties even if the regular assignment is in direct support. If a student has no existing opportunity to engage in a practicum experience, the instructor will assist in finding a practicum site in which the student can serve as a volunteer. There is no statewide requirement that the practicum occur during paid or unpaid time. Most participating providers pay for practicum time that occurs during a student’s normal work hours, and do not pay for experiential activities.

**DDF 101 - INTRODUCTION TO DRAFTING**

**Weekly Hours:** Class - 2; Lab - 8; Credit Hours: 6
**Prerequisite(s):** Provisional Admission
**Corequisite(s):**

Emphasizes the development of fundamental drafting techniques. Topics include: safety practices, terminology, care and use of drafting equipment, lettering, line relationships, and geometric construction.

**DDF 102 - SIZE AND SHAPE DESCRIPTION I**

**Weekly Hours:** Class - 1; Lab - 9; Credit Hours: 5
**Prerequisite(s)/Corequisite(s):** DDF 101

Provides multiview and dimensioning techniques necessary to develop views that completely describe machine parts for manufacture. Topics include: multiview drawing, basic dimensioning practices, tolerances and fits, sketching, and precision measurement.

**DDF 103 - SIZE AND SHAPE DESCRIPTION II**

**Weekly Hours:** Class - 1; Lab - 9; Credit Hours: 5
**Prerequisite(s)/Corequisite(s):** DDF 102
Continues dimensioning skill development and introduces sectional views. Topics include: advanced dimensioning practices and section views.

**DDF 105 - AUXILIARY VIEWS**

Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s)/Corequisite(s): DDF 103
Introduces techniques necessary for auxiliary view drawings. Topics include: primary auxiliary views and secondary auxiliary views.

**DDF 106 - FASTENERS**

Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s): DDF 105
Corequisite(s):
Provides knowledge and skills necessary to draw and specify fasteners. Topics include: utilization of technical reference sources, types of threads, representation of threads, specification of threads, fasteners, and welding symbols.

**DDF 107 - INTRODUCTION TO CAD**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s)/Corequisite(s): DDF 102, SCT 100
Introduces basic concepts, terminology, and techniques necessary for CAD applications. Topics include: terminology, CAD commands, basic entities, and basic CAD applications.

**DDF 108 - INTERSECTIONS AND DEVELOPMENT**

Weekly Hours: Class - 1; Lab - 9; Credit Hours: 5
Prerequisite(s)/Corequisite(s): DDF 103, MAT 1015
Introduces the graphic description of objects represented by the intersection of geometric components. Topics include: surface development, establishment of true length, and intersection of surfaces.

**DDF 109 - ASSEMBLY DRAWINGS I**

Weekly Hours: Class - 1; Lab - 9; Credit Hours: 5
Prerequisite(s)/Corequisite(s): DDF 108
Provides knowledge and skills necessary to make working drawings. Topics include: detail drawings, orthographic assembly drawings, pictorial assembly drawings, and utilization of technical reference source.

**DDF 111 - INTERMEDIATE CAD**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): DDF 107, MAT 1015
Corequisite(s):
Continues developing CAD utilization skills in discipline-specific applications. Topics include: intermediate CAD commands, entity management, advanced line construction, block construction and management, command reference customization, advanced entity manipulation, and system variables.

**DDF 112 - 3-D DRAWING AND MODELING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): DDF 111
Corequisite(s):
Continues developing CAD utilization skills in discipline-specific applications. Topics include: advanced CAD commands, CAD applications, macro utilization, application utilization, 3-D modeling, rendering, advanced application utilization, and pictorial drawings.

**DDF 120 - INTRODUCTION TO ANIMATION**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces students to the various techniques used to create 3D animations. Additionally, students will create animations utilizing digital lighting, materials, and other animation effects. Topics include: using various controllers, camera matching and tracking, hierarchy linking and inverse kinematics, mechanical motion, basic bone creation, and basic caricature creation.

**DDF 125 - DIGITAL LIGHTING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces students to more advanced techniques in lighting and rendering of computer-generated art and animations. Students will learn how to incorporate lighting affects into animation and still renderings. Topics include: lighting workflow, three point lighting, shadows, quality of light, and basic materials and rendering.

**DDF 133 - INTRODUCTION TO 3D STUDIO MAX OR VIZ**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces students to the fundamentals of 3D Studio Max or 3D Studio Viz. Topics include: basic program operation, modeling, modifiers, primitives and shapes, model animation, and basic lighting and camera operation.

**DDF 135 - MATERIALS FOR 3D MODELING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Introduces students to basic and advanced materials for use in 3D Studio Max or 3D Studio Viz. Topics include: material
creation and application, types of materials, shaders, material libraries, and maps.

**DDS 202 - ADVANCED CAD**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): DDF 107, MAT 1015
Corequisite(s):
Continues developing CAD utilization skills in discipline specific applications. Topics include: DOS usage, advanced CAD commands, CAD applications, macro utilization, and application utilization.

**DDS 203 - SURVEYING I**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): DDF 107, MAT 1015
Corequisite(s):
Introduces fundamental plane surveying concepts, instruments, and techniques. Topics include: linear measurements; instrument use; and angles, bearings, and directions.

**DDS 204 - ESTIMATING**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): ENG 1010, MAT 1015
Corequisite(s):
Introduces the essential skills necessary for assessing the expected materials, labor requirements and costs for given structures or products. Topics include: blue print reading, material take-offs, price extension and utilization of reference sources.

**DDS 205 - RESIDENTIAL ARCHITECTURAL DRAWING I**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): DDF 111, DDF 112, DDS 201, ENG 1010, MAT 1015
Corequisite(s):
Introduces architectural drawing skills necessary to produce a complete set of construction drawings given floor plan information. Topics include: footing, foundation, and floor plans; interior and exterior elevations; sections and details; window, door, and finish schedules; site plans; and specifications.

**DDS 206 - MATERIALS, CODES & SPECIFICATIONS**
Weekly Hours: Class – 8; Lab - 2; Credit Hours: 9
Prerequisite(s): DDF 110, ENG 1010, MAT 1015
Corequisite(s):
Introduces materials, codes, and specifications as they apply to architectural design. Topics include: specification formats, reference source utilization, building codes and industry standards, and material selection and specification.

**DDS 207 - MECHANICAL SYSTEMS FOR ARCHITECTURE**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s)/Corequisite(s): DDS 205, DDS 206, PHY 1110,
Corequisite(s):
Reinforces technical knowledge and skills required to develop accurate mechanical and electrical plans. Topics include: heating, ventilation, and air conditioning calculations and plans; electrical calculations and plans; and plumbing calculations and plans.

**DDS 208 - RESIDENTIAL ARCHITECTURAL DRAWING II**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s)/Corequisite(s): DDS 205
Corequisite(s):
Continues in-depth architectural drawing practice and develops architectural design skills. Plans are designed to meet applicable codes. Topics include: footing, foundation, and floor plans; interior and exterior elevations; sections and details; window, door, and finish schedules; site plans; specifications; and mechanical and electrical systems.

**DDS 209 - STRUCTURAL STEEL DETAILING**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): DDF 111
Corequisite(s):
Develops knowledge and skills required for structural steel detailing and connections design utilized for commercial construction. Topics include: office practices; steel shapes; beam reaction; framed connections; seated connections; and columns, base plates, and splices.

**DDS 210 - COMMERCIAL ARCHITECTURAL DRAWING I**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s)/Corequisite(s): DDS 208; DDS 209 or DDS 241
Corequisite(s):
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.

**DDS 211 - COMMERCIAL ARCHITECTURAL DRAWING II 2-8-6**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s)/Corequisite(s): DDS 210 or DDS 242; PHY 222
Corequisite(s):
Provides in-depth commercial architectural drawing practice and develops commercial architectural design
skills. Plans are designed to meet applicable codes. Topics include: structural steel detailing, reflected ceiling plans, rebar detailing, complete sets of commercial construction drawings, mechanical and electrical systems, and site plans.

**DDS 263 - METAL BUILDING SYSTEMS TWO**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 5
Prerequisite(s)/Corequisite(s): Metal Building Systems One or Industry Experience
Corequisite(s):
Provides Level One Detailer training for the pre-engineered metal building industry. Topics include an introduction to architectural drafting, steel shapes, steel connections, level one building drafting, and terminology.

**DDS 264 - METAL BUILDING SYSTEMS ONE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): DDF 111 or Industry Experience
Corequisite(s):
Provides an introduction to the pre-engineered metal building industry. Topics include project types, project process (marketing, contract, design, manufacturing, delivery, erection), and terminology.

**DEN 1020 - HEAD AND NECK ANATOMY**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): Program Admission
Corequisite(s):
Focuses on normal head and neck anatomy. Topics include: osteology of the skull, muscles of mastication and facial expression, temporal mandibular joint, blood lymphatic and nerve supply of the head, and salivary glands and related structures.

**DEN 1030 - PREVENTIVE DENTISTRY**
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): Program Admission
Corequisite(s): DEN 106
Provides students with theory and clinical experience in the area of preventive and public health dentistry. Topics include: etiology of dental disease, patient education techniques, plaque control techniques, types and use of fluoride, diet analysis for caries control, and dietary considerations for the dental patient.

**DEN 1050 - MICROBIOLOGY AND INFECTION CONTROL**
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): Program Admission
Corequisite(s):
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.

**DEN 1060 - ORAL ANATOMY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Focuses on the development and functions of oral anatomy. Topics include: dental anatomy, oral histology, and oral embryology.

**DEN 1070 - ORAL PATHOLOGY AND THERAPEUTICS**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): DEN 106, DEN 101
Corequisite(s):
Focuses on the diseases affecting the oral cavity and pharmacology as it relates to dentistry. Topics include: identification and disease process, signs/symptoms of oral diseases and systemic diseases with oral manifestations, developmental abnormalities of oral tissues, basic principles of pharmacology, drugs prescribed by the dental profession, drugs that may contraindicate treatment, and applied pharmacology (regulations, dosage, and application).

**DEN 1090 - DENTAL ASSISTING NATIONAL BOARD EXAMINATION PREPARATION**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s)/Corequisite(s): Successful completion of all dental assisting didactic courses or two years of full-time work experience (3,500 hours) as a dental assistant, along with recommendation from the dentist employer.
Corequisite(s):
Reviews information concerning all didactic areas tested by the Dental Assisting National Board (DANB). Topics include: collecting and recording clinical data, dental radiography, chairside dental procedures, prevention of disease transmission, patient education and oral health management, office management procedures, and test taking skills.

**DEN 1340 - DENTAL ASSISTING I**
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s): Program Admission
Prerequisite(s)/Corequisite(s): AHS 104, DEN 105, DEN 106
Introduces students to chairside assisting with diagnostic and operative procedures. Topics include: four-handed dentistry techniques, clinical data collection techniques, introduction to operative dentistry, dental material basics, infectious control procedures in dental environment with emphasis on CDC and ADA guidelines.
DEN 1350 - DENTAL ASSISTING II
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): DEN 134
Corequisite(s):
Focuses on chairside assisting with operative and non-surgical specialty procedures. Topics include: operative dentistry, prosthodontic procedures (fixed and removable), orthodontics, and pediatric dentistry.

DEN 1360 - DENTAL ASSISTING III
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): DEN 135
Corequisite(s):
Focuses on chairside assisting in surgical specialties. Topics include: periodontic procedures, oral and maxillofacial surgery procedures, endodontic procedures, management of dental office emergencies, and medically compromised patients.

DEN 1370 - DENTAL ASSISTING - EXPANDED FUNCTIONS
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): DEN 134, DEN 135
Corequisite(s):
Focuses on expanded duties of dental auxiliary personnel approved by the Georgia Board of Dentistry. Topics include: expanded functions approved by law for performance by dental assistants in the State of Georgia.

DEN 1380 - SCOPES OF PROFESSIONAL PRACTICE
Weekly Hours: Class - 1; Lab - 0; Credit Hours: 1
Prerequisite(s): Program Admission
Corequisite(s):
Focuses on ethics, jurisprudence, and employability skills for the dental assistant. Students will relate integration of didactic and laboratory instruction with clinical experiences. Topics include: ethics and jurisprudence related to the dental office, and employability skills.

DEN 1390 - DENTAL RADIOLOGY
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s)/Corequisite(s): DEN 102, DEN 106
Corequisite(s):
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 films 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.

DEN 1400 - DENTAL PRACTICE MANAGEMENT
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): DEN 134
Corequisite(s):
Emphasizes procedures for office management in dental practices. Topics include: records management in dentistry, appointment control in dentistry, dental insurance form preparation, accounting procedures in dentistry, supply and inventory control as related to dentistry, and operation of basic business equipment. A computer lab provides basic skills in computer use and utilization of these skills to perform office procedures on a microcomputer.

DEN 1460 - DENTAL PRACTICUM I
Weekly Hours: Class - 0; Lab - 6; Credit Hours: 2
Prerequisite(s)/Corequisite(s): AHS 104, DEN 105, DEN 134, DEN 139
Corequisite(s):
Practicum focuses on infection control in the dental office and assisting with diagnostic and simple operative procedures. Topics include: infection control procedures, clinical diagnostic procedures, general dentistry procedures, and dental radiography procedures.

DEN 1470 - DENTAL PRACTICUM II
Weekly Hours: Class - 0; Lab - 6; Credit Hours: 2
Prerequisite(s)/Corequisite(s): DEN 135, DEN 146
Corequisite(s):
Practicum focuses on advanced general dentistry procedures and chairside assisting in dental specialties with special emphasis on non-surgical specialties. Topics include: advanced general dentistry and specialties.

DEN 1480 - DENTAL PRACTICUM III
Weekly Hours: Class - 0; Lab - 24; Credit Hours: 8
Prerequisite(s)/Corequisite(s): DEN 103, DEN 137, DEN 140, DEN 134, DEN 135, DEN 136, DEN 146, DEN 147
Corequisite(s):
Practicum continues to focus on assisting chairside with advanced general dentistry procedures with emphasis on dental office management, preventive dentistry, and expanded functions. Topics include: advanced general dentistry procedures, preventive dentistry, dental office management, expanded functions, chairside in specialties, and management of dental office emergencies.

DHYG 1000 - DENTAL HYGIENE PRECLINICAL LECTURE
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): BIOL 2651
Corequisite(s):
Provides didactic information relating to fundamental skills to be utilized in the delivery of optimum patient care by the dental hygienist. Introduces a grouping of fundamental principles, practices, and issues common to the health
Topics include: professionalism, patient assessment, patient history, intro and extra oral examination and documentation, basic setup, caries detection and classification, dental charting, documentation, periodontal probing and charting and oral health education.

**DHYG 1010 - DENTAL HYGIENE PRECLINICAL LAB**

Weekly Hours: Class - 0; Lab - 6; Credit Hours: 2  
Prerequisite(s): BIOL 2651  
Corequisite(s):  
Provides fundamental skills to be utilized in the delivery of optimum patient care by the dental hygienist. In addition to the essential skills, students explore various delivery systems and related issues. Topics include: asepsis, patient examination, basic instrumentation, charting, patient/operator positioning, oral health education, and professionalism. Other topics include basic life support/CPR, basic emergency care/first aid, vital signs, infection control and blood/airborne pathogens.

**DHYG 1020 - DENTAL BIOLOGY**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4  
Prerequisite(s): BIOL 2651  
Corequisite(s):  
Focuses on normal head and neck anatomy, the study of cells and tissues of the human body, with emphasis on those tissues that compose the head neck, and oral cavity. Provides the student with a thorough knowledge of external and internal morphological characteristics of human primary and secondary teeth. Topics include: osteology of the skull, muscles of mastication and facial expression, temporal mandibular joint, arterial and nerve supply of the head and salivary glands, the oral cavity and related structures, general histology, embryology and dental histology; oral cavity clinical structures, dental anatomy and morphology, occlusion, and dental terminology.

**DHYG 1030 - PHARMACOLOGY**

Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3  
Prerequisite(s): Admittance into the Dental Hygiene Program  
Corequisite(s):  
Introduces principles of basic pharmacology as they pertain to the practice of dentistry and dental hygiene. Emphasis 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, and dental related anesthesia.

**DHYG 1060 - INTRODUCTION TO DENTAL HYGIENE**

Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1  
Prerequisite(s): Program Admission  
Corequisite(s):  
Provides fundamental skills in the dental environment. The course focuses on infection control procedures and exposure management. Topics include: asepsis; dental terminology; ethics, professionalism; emergencies; patient assessment; and patient and clinician positioning.

**DHYG 1070 - RADIOLOGY LECTURE**

Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2  
Prerequisite(s): Program Admission  
Corequisite(s):  
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 1080 - RADIOLOGY LAB**

Weekly Hours: Class - 1; Lab - 2; Credit Hours: 1  
Prerequisite(s): DHYG 1000, 1010,1020  
Corequisite(s):  
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, and legal issues of dental radiography.

**DHYG 1100 - DENTAL HYGIENE LECTURE I**

Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2  
Prerequisite(s): DHYG 1000, 1010  
Corequisite(s):  
Continues the development of student skills in patient care. Topics include: care of dental appliances, patient management, dental calculus, bacterial plaque and soft deposits, skin and discoloration, principles of calculus removal, principles of polishing, principles of fluoride applications, disclosing agents, plaque control, and instrument selection.

**DHYG 1110 - DENTAL HYGIENE CLINIC I**

Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3  
Prerequisite(s): DHYG 1000, 1010  
Corequisite(s):  
Continues the development of student skills in patient care. Topics include: care of dental appliances, patient management, dental calculus, bacterial plaque and soft deposits, skin and discoloration, principles of calculus removal, principles of polishing, principles of fluoride applications, disclosing agents, plaque control, and instrument selection.
**DHYG 1120 - PATHOLOGY**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): DHYG 1000, 1010, 1020
Corequisite(s):
Introduces pathology, including etiology, progression of and recognition of various pathological conditions. Emphasizes pathology of the oral structures and oral manifestations of systemic disease that affect oral health. Topics include: terminology, pathology of oral dental anomalies, genetic diseases, inflammation and regeneration, pathology of oral structures, cysts and tumors of the head and neck, disease of salivary glands, blood dyscrasias, diseases of bone, vesiculo-erosive diseases, and autoimmune diseases.

**DHYG 1200 - DENTAL HYGIENE LECTURE II**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): DHYG 1100, 1110
Corequisite(s):
Continues the development of student knowledge in treating patients and preventing oral disease. Topics include: instrument sharpening, patient assessment, treatment planning, antimicrobial use, pulp vitality testing, treatment of hypersensitivity, and table clinics.

**DHYG 1210 - DENTAL HYGIENE CLINIC II**
Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3
Prerequisite(s): DHYG 1100, 1110
Corequisite(s):
Continues the development of student skills in treating patients and preventing oral disease. Topics include: Instrument sharpening, patient assessment, treatment planning, oral irrigation devices, and treatment of hypersensitivity.

**DHYG 1220 - PERIODONTOLOGY**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): DHYG 1000, 1010, 1020, 1100, 1110
Corequisite(s):
Provides fundamental information on periodontal anatomy, pathogenesis of the periodontal disease, and an introduction to modern rational periodontal therapy, including preventive, nonsurgical, and surgical methods. Topics include: periodontal disease complex, disease prevention, disease treatment, drug therapy, immunology, microorganisms associated with periodontology, and osseous integration.

**DHYG 2000 - DENTAL HYGIENE LECTURE III**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): DHYG 1200, 1210
Corequisite(s):
Provides didactic information relating to special needs patients. Familiarizes students with the role of nutrition in the human body with an emphasis on the dental hygienist's role as a nutrition educator. Topics include: special needs patients, ultrasonic and air polishing devices, patient assessment, special needs patient management, nutritional aspects, nutritional disorders, and diet assessment.

**DHYG 2010 - COMMUNITY DENTAL HEALTH**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 4
Prerequisite(s): DHYG 1200, 1210
Corequisite(s):
Provides students with a broad understanding of the health care system and an objective view of the significant social, political, psychological, and economic forces directing the system. Prepare 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, sociological concepts related to dentistry, terminology, dental care systems, biostatistics, and concepts of dental research.

**DHYG 2020 - DENTAL MATERIALS**
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite(s): DHYG 1000, 1010
Corequisite(s):
Focuses on the nature and qualities of modern dental materials, their composition and manipulation, and how this will assist the dental hygienist in professional duties. Topics include: dental material properties, restorative dental materials, dental material standards, preventive dental agents, adjunct dental materials, and quality assurance for dental material.

**DHYG 2100 - DENTAL HYGIENE LECTURE IV**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): DHYG 2000, 2010
Corequisite(s):
Continues the development of student knowledge necessary for treatment and prevention of oral disease. Focuses on the dental hygiene field and presents the fundamental concepts and principles necessary for successful participation in
the dental profession. Topics include: recall systems, ergonomics, advancements in dental technology, practice management, special needs patients, periodontal screening and recording (P.S.R.), applied techniques. Other topics include employability skills, State of Georgia Dental Practice Act, expanded duties, legal aspects of dental hygiene, dental ethical considerations, dental hygiene practice settings, and dentistry and dental hygiene regulation.

**DHYG 2110 - DENTAL HYGIENE CLINIC IV**
Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5
Prerequisite(s): DHYG 2000, 2010
Corequisite(s):
Continues the development of student skills necessary for treatment and prevention of oral disease. Focuses on the dental hygiene field and presents the fundamental skills necessary for successful participation in the dental profession. Topics include: periodontal screening and recording (P.S.R.), employability skills, office management, expanded duties and applied techniques.

**DMA 1030 – INTERMEDIATE NUTRITION**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Program Admission
Corequisite(s):
A study of the nutritional needs of the individual. Topics include: nutrients, standard and modified diets, nutrition throughout the lifespan, and client education.

**DMA 1050 – NUTRITION DATA AND RECORDS MANAGEMENT**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): DMA 1030
Corequisite(s):
A study of records management of individual nutrition data. Topics include: conduct nutrition screening, communicate client information to health professionals, utilize nutrition data in care plan, evaluate care plan effectiveness, implement continuous quality improvement, participate in regulator agency surveys, and provide appropriate service.

**DMM 154 – WORKING IN THE WAREHOUSING ENVIRONMENT**
Weekly Hours: Class – 2; Lab - 0; Credit Hours: 2
Prerequisite(s)/Corequisite(s):
Provides instruction in the primary mission of a warehouse and distribution center and the importance of these skills to a company’s competitiveness and profitability. Topics include introduction to business principles, general plant safety, positive work ethics, and management of change in the warehousing industry.

**DMM 156 – WAREHOUSING AND WORKPLACE PRACTICES**
Weekly Hours: Class – 2; Lab - 0; Credit Hours: 2
Prerequisite(s)/Corequisite(s):
Provides training in the workplace practices that contribute to success on the job: effective communication, projecting a positive image, and knowledge of the principles of good health. Another objective of the course is to provide training in the skills employees bring to the workplace that enhance their value to the organization. Topics include listening skills, teamwork, personal wellness, problem solving, and job interview skills.

**DMM 158 – WAREHOUSING AND DISTRIBUTION PROCESS**
Weekly Hours: Class – 4; Lab - 0; Credit Hours: 4
Prerequisite(s)/Corequisite(s):
Introduces the mission of warehouses and distribution centers, various types of jobs done by employees in a warehouse, and how distribution centers are organized to perform their mission. Topics include warehousing and distribution mission and operations, key warehousing job functions, warehousing productivity measures, and tools for excellence.

**DMM 160 – CORE WAREHOUSING SKILLS**
Weekly Hours: Class – 3; Lab - 0; Credit Hours: 3
Prerequisite(s)/Corequisite(s):
Provides training in practices necessary for safe working conditions in a technical environment, the use of powered equipment, preparing and protecting merchandise for shipment, and proper use and recovery of hazardous materials. Topics include fundamentals of electricity, powered industrial trucks, processing hazardous materials, protecting materials and merchandise, waste recovery, and containment.

**DMM 162 – WAREHOUSING TECHNOLOGY SKILLS**
Weekly Hours: Class – 4; Lab - 0; Credit Hours: 4
Prerequisite(s)/Corequisite(s):
This course provides participants with the knowledge and skills necessary to work more effectively in warehousing and distribution careers. Topics include warehouse data applications, scanners and data entry, handling systems, introduction to computers and automation, and methods of inventory management.

**ECE 1010 - INTRODUCTION TO EARLY CHILDHOOD CARE AND EDUCATION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This course introduces concepts relating the responsibilities and procedures involved in a variety of early childhood care situations. This course addresses key CDA competency goals and functional areas. Topics include: historical perspectives, professionalism, guidance, assessment and curriculum planning, learning environment, cultural diversity and licensing and accreditation.

**ECE 1012 - CURRICULUM DEVELOPMENT**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 3
Prerequisite(s)/Corequisite(s): ECE 1010, ECE 1030
Corequisite(s):
This course assists the student in understanding that play, developmental integration and active learning are critical to achieving meaningful curriculum for young children. The course develops knowledge and skills that will enable the student to establish a learning environment appropriate for young children. Topics include: instructional media, learning environments, curriculum approaches, development of curriculum plans and materials, transitional activities, approaches to teaching, learning, and assessing, and appropriate assessment strategies.

**ECE 1013 - ART FOR CHILDREN**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
This course introduces the concepts related to creativity in art. This course combines lecture and lab experiences to introduce the many media areas used by children to express themselves. Topics include: concepts of creativity and children’s creative development; facilitation of children’s creative expression; appreciation of children’s art processes and products; and art appreciation.

**ECE 1014 - MUSIC AND MOVEMENT**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): ECE 1030
Corequisite(s):
This course introduces the concepts related to creativity in music and movement. This course combines lecture and lab experiences to introduce media, methods, and materials used to foster musical activity and creative movement. Topics include: spontaneous and planned music and movement; media, methods and materials; coordination of movement and music; theoretical foundations; and music appreciation.

**ECE 1021 - EARLY CHILDHOOD CARE AND EDUCATION PRACTICUM I**
Weekly Hours: Class - 1; Lab - 6; Credit Hours: 3
Prerequisite(s): ECE 1030
Corequisite(s): ECE 1050
This course provides the student with the opportunity to gain a supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. Practicum training 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.

**ECE 1022 - EARLY CHILDHOOD CARE AND EDUCATION PRACTICUM II**
Weekly Hours: Class - 1; Lab - 6; Credit Hours: 3
Prerequisite(s): ECE 1021
Corequisite(s): ECE 1021
This course provides the student with the opportunity to gain a supervised experience in an actual or simulated work setting allowing demonstration of techniques obtained from course work. Practicum training 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; and becoming a professional.

**ECE 1025 - PROFESSIONALISM THROUGH CDA CERTIFICATE PREPARATION**
Weekly Hours: Class - 2; Lab - 1; Credit Hours: 2
Prerequisite(s): Program Admission, ECE 1010, ECE 1030, ECE 1050, 480 clock hours of work experience within last 60 months with young children and/or ECE 1021 and ECE 1022
Corequisite(s):
Provides training in professionalism through Child Development Associate Credentialing Certificate preparation in the following areas: applying for the Child Development Associate Credential through Direct Assessment; professional resource file development; and, strategies to establish positive and productive relationships with families.

**ECE 1026 - CDA CERTIFICATE ASSESSMENT PREPARATION**
Weekly Hours: Class - 2; Lab - 1; Credit Hours: 2
Prerequisite(s): Program Admission; ECE 1010, ECE 1030, ECE 105, 480 clock hours of work experience within the last 60 months with young children or ECE 1021, ECE 1022, ECE 1025
Corequisite(s): ECE 1025
Provides opportunities to demonstrate and obtain documentation of student competency. Topics include: Professional resource file completion; parent opinion questionnaires; formal observation; oral interview; and written assessment.
ECE 1030 - HUMAN GROWTH AND DEVELOPMENT I
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This course introduces the student to the physical, social, emotional, and cognitive development of the young child (prenatal through 5 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 providing positive guidance. Topics include: developmental characteristics, prenatal through age five; observing and recording techniques; ages and stages of development; and an introduction to children with special needs.

ECE 1050 - HEALTH, SAFETY AND NUTRITION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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.

ECE 1052 - EARLY ADOLESCENCE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the student to the physical, social, emotional, and intellectual development of the early adolescent (12 – 15 years of age). Provides learning experiences related to the principles of human growth, development, and maturation, and theories of learning and behavior. Topics include developmental characteristics, guidance techniques, and developmentally appropriate practice.

ECE 2010 - EXCEPTIONALITIES
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 1030
Corequisite(s):
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 special needs persons. Topics include inclusion/least restrictive environment (LRE), physical disabilities and health disorders, intellectual exceptionalities, social/emotional disorders, and community resources.

ECE 2020 - SOCIAL ISSUES AND FAMILY INVOLVEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Enables the student to value the complex characteristics of children’s families and communities, and 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.

ECE 2030 - HUMAN GROWTH AND DEVELOPMENT II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This course introduces the student to the physical, social, emotional, and intellectual development of human beings from age 6 through the lifespan, emphasizing school aged children (6-12 years of age). Provides learning experiences related to the principles of human growth, development, and theories of learning and behavior. Topics include: developmental characteristics, guidance techniques, ages and stages of development, introduction to children with special needs, and observation and recording techniques.

ECE 2110 - METHODS AND MATERIALS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 1012
Corequisite(s):
This course develops skills to enable the student to work as a paraprofessional in a program for pre-kindergarten through elementary aged children. Topics include: instructional techniques, curriculum, materials for instruction, and learning environments.

ECE 2115 - LANGUAGE ARTS AND LITERATURE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 1030
Corequisite(s):
This course develops knowledge and skills that will enable the student to plan and implement developmentally appropriate listening, speaking, writing, and reading activities for young children. Topics include: reading readiness, oral communication activities, writing readiness, listening comprehension, literature selection, story
presentation, and stages of language acquisition and use of technology in language arts.

**ECE 2116 - MATH AND SCIENCE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 1030
Corequisite(s):
This course presents the process of introducing science and math concepts to young children. It includes planning and implementation of developmentally appropriate activities, and development of methods and techniques of delivery. Topics include: cognitive stages and developmental processes in math and science; math and science activity planning; and development of math and science materials.

**ECE 2120 - PROFESSIONAL PRACTICES AND CLASSROOM MANAGEMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 2110
Corequisite(s): ECE 2110
This course develops knowledge that will enable the student to work as a paraprofessional in a program for pre-kindergarten through elementary aged children. Topics include: professional qualifications, professionalism, application of guidance techniques, and classroom management.

**ECE 2132 - INFANT/TODDLER DEVELOPMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the three developmentally meaningful age periods during infancy. Provides knowledge, grounded in brain and attachment research, about how children learn from birth to three. Principles of brain development and language 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.

**ECE 2134 - INFANT/TODDLER GROUP CARE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This course 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.

**ECE 2136 - INFANT/TODDLER CURRICULUM**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 2132 and ECE 2134
Corequisite(s):
Addresses the basic issues of how to translate significant research findings about the relationship of early brain and language development into classroom practices and how to arrange optimal learning experiences/activities at both the individual and group levels. Utilizes the latest findings about the minds of children and how they discover the world as well as developmental profiles and characteristics of children in a specific age range to present materials and strategies that may be used with individual children birth to age three. Examines how to design and implement learning experiences geared to address each child’s needs regardless of how typical or atypical that child’s development. Addresses strategies to most effectively work with a group of very young children, one or more of which may be significantly challenged in physical, cognitive, language, social, or behavioral development.

**ECE 2142 – FAMILY CHILDCARE PROGRAM MANAGEMENT**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides the guidelines, responsibilities, and appropriate practices needed for successful management of a Family Child Care Home. Topics include: rules and regulations; professional practices; and program management.

**ECE 2144 – FAMILY CHILDCARE BUSINESS MANAGEMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides guidelines and responsibilities for professional business practices associated with the successful establishment and administration of a Family Child Care Home. Topics include: business plans; budgeting; taxes; marketing, record keeping and professional qualifications.

**ECE 2170 - PROGRAM ADMINISTRATION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Provides training in planning, implementation, and maintenance of an effective early childhood program. Topics include: organization, mission, philosophy, goals and history of a program; types of programs; laws, rules, regulations accreditation and program evaluation; needs assessment; administrative roles and board of directors; marketing, public and community relations, grouping, enrollment and retention; working with parents; professionalism and work ethics; and time and stress management.

ECE 2210 - FACILITY MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Provides training in early childhood facilities management. Topics include: space management, money management, and program, equipment and supplies management.

ECE 2220 - PERSONNEL MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course provides training in personnel management in early childhood settings. Topics include: staff records; communication; personnel planning; personnel policies; managing payroll, recruitment, selection, interviewing, hiring, motivating, firing, and staff retention; staff scheduling; staff development; staff supervision; conflict resolution; staff evaluation; and ethical responsibilities to employees.

ECE 2240 - EARLY CHILDHOOD CARE AND EDUCATION INTERNSHIP
Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12
Prerequisite(s): Program Admission
Corequisite(s):
Provides the student with the opportunity to gain experience in a simulated or actual work setting. Students will be placed in an approved setting(s) throughout the quarter where planning, implementing, observing, and evaluating activities are the focus of their involvement. An evaluation procedure will be used by the designee of the institution and the on-site supervisor to critique the student’s performance. Topics include: problem solving, use of proper interpersonal skills, application of developmentally appropriate practice, professional development and resource file (portfolio) development.

ECE 2251 - DESIGNING PROGRAMS AND ENVIRONMENTS FOR SCHOOL AGE CHILDREN AND YOUTH
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
Provides the student with information about preparing appropriate environments and planning and implementing activities for school age children and youth. This class includes 30 hours of lab, during which the student will be observed implementing the concepts learned in class. Topics include: space design, varied choices and program activities to promote interest in: athletic/physical development, community involvement, cultural arts literacy, math, science and technology, and positive social relationships.

ECE 2260 - CHARACTERISTICS OF YOUNG CHILDREN WITH EXCEPTIONALITIES
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 2010
Corequisite(s):
This course prepares child care providers and paraprofessionals with knowledge and skills in the area of physical and motor impairments, talented and giftedness, 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, and multiple disabilities.

ECE 2262 - CLASSROOM STRATEGIES AND INTERVENTION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ECE 2010
Corequisite(s):
This course prepares child care providers and paraprofessionals with knowledge and skills in the area of coping with a disability, working with families as partners, examining the laws and regulations, exploring resources, service providers and agencies that may assist the child and their family, examining the adaptations and modifications to facilities and environments, reviewing the referral process, implementing inclusion, modifying teaching and instruction to accommodate the child with special needs, and investigating ways to document and chart observations.

ECE 2264 - EXPLORING YOUR ROLE IN THE EXCEPTIONAL ENVIRONMENT
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 5
Prerequisite(s): ECE 2010
Corequisite(s):
This course prepares child care providers and paraprofessionals with knowledge and skills in the area of examining the assessments and screenings used for placement, exploring resources, service providers and agencies that may assist the child in the child care or educational environment, examining the adaptations and modifications to environments, reviewing the referral
process, implementing inclusion, and modifying teaching and instruction to accommodate the child with special needs.

**ECO 1101 - PRINCIPLES OF ECONOMICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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.

**ECO 2105 - PRINCIPLES OF MACROECONOMICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides a description and analysis of macroeconomic operations in contemporary society. Emphasis is placed on developing an understanding of macroeconomic concepts and policies. Topics include: basic economic principles, macroeconomic principles, macroeconomic theory, macroeconomic policy, money and banking, and United States economy in perspective.

**ECO 2106 - PRINCIPLES OF MICROECONOMICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides a description and analysis of microeconomic operations in contemporary society. Emphasis is placed on developing an understanding of microeconomic concepts and theories as they apply to daily life. Topics include: basic economic principles; theory of the corporate firm; market system; market structure, pricing, and government regulation; resource markets; and international trade.

**EH0 101 - WOODY ORNAMENTAL PLANT IDENTIFICATION**
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides the basis for a fundamental understanding of the taxonomy, identification, and culture requirements of woody plants. Topics include: introduction to woody plants, classification of woody plants, and woody plant identification and culture requirements.

**EH0 102 - HERBACEOUS PLANT IDENTIFICATION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Emphasizes the taxonomy, identification, and culture requirements of herbaceous plants. Topics include: introduction to herbaceous plants, classification of herbaceous plants, and herbaceous plant identification and culture requirements.

**EH0 103 - GREENHOUSE OPERATIONS I**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops a basic understanding of greenhouse design, construction, and environmental factors affecting plant growth. Topics include: greenhouse construction, greenhouse heating and cooling, greenhouse soil functions and components, irrigation types and effects, fertilizer types and applications, and fall crops for the local area.

**EH0 104 - BASIC LANDSCAPE CONSTRUCTION**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops skills necessary to design and construct landscape features such as retaining walls, landscape paving, and drainage systems. Topics include: tool use and safety, retaining walls, drainage systems and erosion protection, and landscape paving

**EH0 105 - NURSERY PRODUCTION**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops skills necessary to propagate and produce both container and field grown nursery stock. Topics include: industry overview, facility design, propagation techniques and environment, field grown and container production, and managerial functions for nursery production.
EHO 106 - LANDSCAPE DESIGN
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces design principles, drawing skills, and plant selection techniques required to produce landscape plans for residential/commercial clients. Topics include: landscape design principles, sketching and drawing skills, site analysis, plant and material selection, and landscape design process.

EHO 107 - LANDSCAPE INSTALLATION
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces cultural techniques required for proper landscape installation with emphasis on practical application. Topics include: landscape installation procedures and managerial functions for landscape installers.

EHO 108 - PEST MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides experience in insect, disease, and weed identification and control with emphasis on safety and legal requirements for state licensure. Topics include: identification of insects, diseases, and weeds; safety regulations; equipment use and care; and regulations for licensure.

EHO 112 - LANDSCAPE MANAGEMENT
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces cultural techniques required for proper landscape maintenance with emphasis on practical application and managerial techniques. Topics include: landscape management and administrative functions for landscape management.

EHO 114 - GARDEN CENTER MANAGEMENT
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s)/Corequisite(s): Provisional Admission
Corequisite(s):
Presents cultural and managerial techniques required for success in the garden center industry. Topics include: garden center establishment, garden center management, and post-production handling and marketing.

EHO 115 - ENVIRONMENTAL HORTICULTURE INTERNSHIP
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s): Completion of all essential fundamental courses.
Corequisite(s): Provides the student with practical experience in an actual job setting. This internship allows the student to become involved in on-the-job environmental horticulture applications that require practice and follow through. Topics include: work ethics, skills, and attitudes; demands of the horticulture industry; horticultural business management; and labor supervision.

EHO 123 - GREENHOUSE PRODUCTION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): EHO 103
Corequisite(s):
Continues hands-on experience in crop production with emphasis on spring foliage crops and managerial skills. Topics include: light and temperature; insects and diseases; production and scheduling; and winter, spring, and foliage crops for the local area.

EHO 125 - PLANT PROPAGATION
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
Introduces the student to the basic principles of plant propagation. Focus of the course will be hands-on experience. Topics include: seed germination, rooting cuttings, propagation facilities construction, layering, insect disease and control, and cultural controls for propagation.

EHO 131 - IRRIGATION
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides students with exposure to the basic principles of hydraulics and fluidics. Special attention is given to watering plant materials in various soil and climatic conditions through the use of irrigation. Topics include: industry overview; fluidics and hydraulics; system design and installation.

EHO 133 - TURFGRASS MANAGEMENT
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
A study of turf grass used in the southern United States. Topics include: industry overview, soil and soil modification; soil fertility; turf installation; turf maintenance, turf diseases, insects and weeds; and estimating costs on management practices.
EHO 151 - SEASONAL COLOR MANAGEMENT
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Emphasis is placed on the design, installation, and maintenance of annual and perennial flowers in landscapes. Topics include: design, bed preparation, material selection, installation, maintenance, and identification of seasonal color displays.

EHO 159 - LANDSCAPE ORGANIZATIONS CERTIFICATION REVIEW
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Completion of program specific courses
Corequisite(s):
Prepares students for various state and national green industry certification exams.

EHO 172 - FLORAL DESIGN
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops skills in the arrangement of flowers and filler materials to form marketable arrangements for special occasions. Topics include: floral materials, design, flower conditioning, arrangements.

EHO 173 - FLORAL DESIGN II
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Continues development of skills in the arranging of flowers and filler materials to form marketable arrangements for special occasions. Topics include: floral materials, floral design principles, and constructing floral arrangements.

EHO 175 - INTERIORSCAPING
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops the skills involved in designing, installing, and maintaining interior plantings. Topics include: industry overview, environmental requirements, nutrient requirements, maintenance practices, plant disorders, design, and installation.

ELC 104 - SOLDERING TECHNOLOGY
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops the ability to solder and desolder connectors, components, and printed circuit boards using industry standards. Topics include: safety practices, total quality management concepts, soldering, desoldering, anti-static grounding, and surface mount techniques.

ELC 110 - ALTERNATING CURRENT II
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): IFC 102 or ELC 109
Corequisite(s):
Continues development of AC concepts with emphasis on constructing, verifying, and troubleshooting reactive circuits using RLC theory and oscilloscopes. Topics include: reactive components, simple RLC circuits, AC circuit resonance, passive filters, and non-sinusoidal wave forms.

ELC 115 - SOLID STATE DEVICES II
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): IFC 103 or ELC 114
Corequisite(s):
Continues the exploration of the physical characteristics and applications of solid state devices. Topics include: bipolar junction theory, bipolar junction application, and field effect transistors.

ELC 118 - DIGITAL ELECTRONICS I
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ELC 115
Corequisite(s):
Introduces the basic building blocks of digital circuits. Topics include: binary arithmetic, logic gates and truth tables, Boolean algebra and minimization techniques, logic families, and digital test equipment.

ELC 119 - DIGITAL ELECTRONICS II
Weekly Hours: Class - 1; Lab - 9; Credit Hours: 4
Prerequisite(s)/Corequisite(s): ELC 118
Corequisite(s):
Uses the concepts developed in Digital Electronics I as a foundation for the study of more advanced devices and circuits. Topics include: flip-flops, counters, multiplexers and demultiplexers, encoding and decoding, display drivers, and analog to digital and digital to analog conversions.

ELC 130 – MOBILE AUDIO AND VIDEO SYSTEMS
Weekly Hours: Class – 4; Lab – 2; Credit Hours: 5
Prerequisite: IFC 101
Corequisite: IFC 102
Provides the fundamental concepts for the installation of automotive audio and video systems. Topics include charging and electrical systems, automotive wiring harnesses, basic audio systems, advanced audio systems, and mobile video systems.
ELC 131 – MOBILE SECURITY, REMOTE START, AND NAVIGATIONAL SYSTEMS

Weekly Hours: Class – 4; Lab – 2; Credit Hours: 5
Prerequisite: IFC 101
Corequisite: IFC 102
Provides the fundamental concepts for the installation of automotive security and convenience systems. Topics include basic security systems, remote start systems, navigational system concepts, and troubleshooting electrical problems.

ELT 100 - ELECTRICAL WORKER

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces work hazards present during the construction of manufacturing homes or construction sites. Emphasis is placed on the proper use of electrical tools and equipment and maintenance of these tools on the work site. Topics include hazards of electricity, safe use electrical tools and equipment, and the repair of electrical cords, plugs, lights, and smirches.

ELT 101 - SAFETY

Weekly Hours: Class - 2; Lab - 1; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces hazards related to the use of electricity, how electrical shock or electrocution occurs, and methods of prevention and treatment. Emphasis is placed on proper use of hand tools, power tools, and equipment to avoid electrical shock, and first aid and CPR methods. Topics include: hazards of electricity, safety tools and equipment, and first aid and cardiopulmonary resuscitation.

ELT 102 - ELECTRICITY PRINCIPLES I

Weekly Hours: Class - 8; Lab - 6; Credit Hours: 9
Prerequisite(s)/Corequisite(s): MAT 102
Corequisite(s):
Introduces electrical theory and principles used in residential, commercial, and industrial wiring applications. Emphasis is placed in electron theory, DC and AC circuits, Ohm’s law, test equipment, transformers, and electrical power systems. Topics include: electricity production, electrical formulas, test equipment, transformer fundamentals, and fundamentals of AC and DC circuits.

ELT 106 - ELECTRICAL PRINTS, SCHEMATICS, AND SYMBOLS

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): IFC 100, IFC 101
Corequisite(s):
Introduces electrical symbols and their use in construction blueprints, electrical schematics, and diagrams. Topics include: electrical symbols, component identification, print reading scales and measurement.

ELT 107 - COMMERCIAL WIRING I

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): ELT 106, ELT 121, IFC 100
Corequisite(s):
Introduces commercial wiring practices and procedures. Topics include: National Electrical Code, commercial load calculations, and safety.

ELT 108 - COMMERCIAL WIRING II

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): ELT 107
Corequisite(s):
Presents the study of three-phase power systems, fundamentals of AC motor controls, and the basic transformer connections. Topics include: three-phase power systems, fundamentals of AC motor control, and transformer connections (single-phase and three-phase step down) and introduction of low voltage systems.

ELT 109 - COMMERCIAL WIRING III

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s)/Corequisite(s): ELT 107, ELT 108
Corequisite(s):
Presents the theory and practical application of conduit installation, system design, and related safety requirements. Topics include: conduit installation, system design concepts, and safety procedures.

ELT 110 - STATE LICENSE PREPARATION

Weekly Hours: Class - 3; Lab - 12; Credit Hours: 7
Prerequisite(s): ELT 102, ELT 103, ELT 104, ELT 105, ELT 106, MAT 1012
Corequisite(s):
Provides the student with the rules and regulations they must use while working with electricity. Topics include: general knowledge, wiring protection, wiring method and material, equipment for general use, special occupancies, special equipment, special condition, and tables.

ELT 111 - SINGLE-PHASE AND THREE-PHASE MOTORS

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): ELT 109, IFC 100, IFC 101
Corequisite(s):
Introduces the fundamental theories and applications of single-phase and three-phase motors. Topics include: motor theory/operating principles, motor terminology, motor identification, NEMA standards, motor efficiencies,
preventive maintenance, troubleshooting/failure analysis, and NEC requirements.

**ELT 112 - VARIABLE SPEED/LOW VOLTAGE CONTROLS**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s)/Corequisite(s): ELT 111  
Corequisite(s):  
Introduces types of electric motor control, reduced voltage starting, and applications. Emphasis will be placed on motor types, controller types, and applications. Includes information on wye and delta motor connections; part wind, autotransformer; adjustable frequency drives and other applications; and oscilloscopes and their operation. Topics include: types of reduced voltage starting, reduced voltage motor connections, and adjustable frequency drive.

**ELT 113 - PROGRAMMABLE LOGIC CONTROL I**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 4  
Prerequisite(s): ELT 111, ELT 112 (for Industrial Electrical Technology students only). Corequisite: ELT 118.  
Prerequisite(s)/Corequisite(s): IFC 101, IFC 102, IMT 120 (for non-Industrial Electrical Technology students)  
Corequisite(s):  
Introduces operational theory, systems terminology, field wiring/installation, and start-up procedures for programmable logic controls. Emphasis will be placed on PLC programming, connections, installations, and start-up procedures. Topics include: introductory programming, PLC functions and terminology, processor unit and power supply, introductory numbering system, relay/programming logic, and field wiring/installation and start-up.

**ELT 114 - PROGRAMMABLE LOGIC CONTROL II**

Weekly Hours: Class - 1; Lab - 5; Credit Hours: 2  
Prerequisite(s)/Corequisite(s): ELT 113  
Corequisite(s):  
Provides for development of operational skills in the use of PLC equipment and peripheral devices. Emphasis is placed on printers and other peripheral devices, PLC hard wiring, program writing, installation procedures, and operation of a PLC program. Topics include: program control information/data manipulation, report generation (outputs), peripheral devices, field wiring/installation, start-up, troubleshooting, and program enhancement/optimization.

**ELT 115 - DIAGNOSTIC TROUBLESHOOTING**

Weekly Hours: Class - 1; Lab - 6; Credit Hours: 3  
Prerequisite(s)/Corequisite(s): Advisor’s approval.  
Corequisite(s):  
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.

**ELT 116 - TRANSFORMERS**

Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4  
Prerequisite(s): ELT 109, IFC 101  
Corequisite(s):  
Provides instruction in the theory and operation of specific types of transformers. Emphasis will be placed on National Electrical Code requirements related to the use of transformers. Topics include: transformer theory, types of transformers, National Electrical Code requirements, and safety precautions.

**ELT 117 - NATIONAL ELECTRICAL CODE INDUSTRIAL APPLICATIONS**

Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4  
Prerequisite(s): ELT 109  
Corequisite(s):  
Provides instruction in industrial applications of the National Electrical Code. Topics include: rigid conduit installation, systems design concepts, equipment installation (600 volts or less), and safety precautions.

**ELT 118 - ELECTRICAL CONTROLS**

Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5  
Prerequisite(s): ELT 111, ELT 112, ELT 108  
Corequisite(s):  
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, 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.

**ELT 119 - ELECTRICITY PRINCIPLES II**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4  
Prerequisite(s): IFC 100  
Corequisite(s): IFC 101, MAT 1012  
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.

**ELT 120 - RESIDENTIAL WIRING I**

Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5  
Prerequisite(s): ELT 119, IFC 100, IFC 101  
Corequisite(s): ELT 106, ELT 121  
This course is designed to provide the student with a basic understanding of microprocessor and microcontroller operation, programming, interfacing, interrupts, and
troubleshooting. The choice of microprocessor and microcontroller used in the lab experiences and illustration of basic operation is not important. The main objective of the course is to give the student a basic understanding of microprocessor operation and applications.

**ELT 121 - RESIDENTIAL WIRING II**
Weekly Hours: Class - 5; Lab - 3; Credit Hours: 6
Prerequisite(s)/Corequisite(s): ELT 120
Corequisite(s):
Continues in-depth study of current microprocessors. Emphasis is placed on application and operation of current generation microprocessors. Topics include: instruction set, assembler, addressing schemes, debugging, and memory devices.

**ELT 122 - INDUSTRIAL PLC’S**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6
Prerequisite(s): ELT 111, ELT 112, ELT 118
Corequisite(s):
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 set up, PLC programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and PLC safety procedures.

**ELT 126 - WIRE PULLINNG/CODES**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
The purpose of this course is to learn procedures for the installation of cabling systems. Through this process students will learn several types of cabling technologies that address the areas of video, voice and data communication.

**ELT 150 - CONDUIT SIZING**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): Program Admission
Corequisite(s):
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.

**ELT 151 – GROUNDING AND BONDING**
Weekly Hours: Class – 2; Lab – 2; Credit Hours: 3
Prerequisite(s)/Corequisites: None
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, service grounding/bonding, and earth connections.

**EMP 1000 - INTERPERSONAL RELATIONS AND PROFESSIONAL DEVELOPMENT**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides a study of 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.

**EMP 153 - STUDENT SUCCESS**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):
This course is designed to acclimate the new student to strategies that are conducive to educational achievement and success. Topics include: learning styles, communication styles, study skills, time management, self-awareness and goal setting, creativity and supportive resources for the educational experience.

**EMS 1101 - INTRODUCTION TO EMT PROFESSION**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite: Program Admission
Corequisite(s):
The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 Standard, Module 1 and Module 7. It also covers Sections 1, 2, 3 and 4 of the NHTSA, National Standard Curriculum, EMT-Intermediate-1985. Topics include: basic cardiopulmonary resuscitation/AED, introduction to emergency medical care, roles and responsibilities of the EMT-Intermediate, EMS Systems for EMT-Intermediates, well being of the EMT- Basic, medical/legal and ethical issues, medical-legal aspects for the EMT-Intermediate, blood and airborne pathogens and infectious diseases, the human body, medical terminology, base line vital signs and SAMPLE history, lifting and moving patients, ambulance operations, gaining access, and overviews of HazMat/MCI.

**EMS 1103 - PATIENT ASSESSMENT FOR THE EMT**
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite: Program Admission
Corequisite(s):
The course covers all the components of the National Highway Safety Transportation Administration, National Standard...
Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 3. In addition to the NSC-B 1994 standards, this course also includes the NSC EMT-Intermediate 1985 Standard, Section 5 and part of Section 6. Topics include: Scene-Size Up, Initial Assessment, Focused History & Physical Exam for both Medical and Trauma Patients, Detailed Physical Exam, On-Going Assessment, Communications/Documentation, and EMS communications for the EMT-I.

**EMS 1105 - AIRWAY MANAGEMENT FOR THE EMT**

Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2  
Prerequisite: Program Admission  
Corequisite(s):  
The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 2. In addition to the NSC-B 1994 standards, this course also includes the NSC EMT-Intermediate 1985 Standard, Section 7. The 2002 Supplemental Airway Modules for the NSC-B 1994 curriculum will also be used. Topics include: Airway, Advanced Airway and Basic/Advanced Airway Management.

**EMS 1107 - MEDICAL AND BEHAVIORAL EMERGENCIES FOR THE EMT**

Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3  
Prerequisite: Program Admission  
Corequisite(s):  
The course covers Lessons 1 through 8, and parts of Lessons 10 and 11 of Module 4 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard. Topics include general pharmacology, respiratory emergencies, cardiovascular emergencies, diabetic/altered mental status emergencies, allergic reactions, poisoning/overdose emergencies, environmental emergencies, behavioral emergencies, and non-traumatic abdominal emergencies.

**EMS 1109 - ASSESSMENT AND MANAGEMENT ACROSS THE LIFESPAN FOR THE EMT**

Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2  
Prerequisite: Program Admission  
Corequisite(s):  
The course covers Lesson 9, and parts of Lessons 10 and 11 of Module 4 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard. All of Module 6 of the NSC-B 1994 curriculum is also included. The Georgia Office of EMS specific module for Geriatrics as well as the TCSG specific module for Special Needs Patients is included. Topics include obstetrical/gynecological emergencies, infants & children, geriatrics and patients with special needs.

**EMS 1111 - TRAUMA EMERGENCIES AND WMD RESPONSE**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4  
Prerequisites: Program Admission  
Corequisite(s):  
The course covers all the components of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, Module 5. In addition to the NSC-B 1994 standards, this course also includes portions of Section 6 of the NSC EMT-Intermediate 1985 Standard. The Georgia Office of EMS specific module for Emergency Response to Weapons of Mass Destruction is also included. Topics include: bleeding and shock, soft tissue injuries, musculoskeletal care, injuries to the head/spine, patient access and extrication, and emergency medical response to WMD.

**EMS 1113 - CLINICAL APPLICATIONS FOR THE EMT BASIC**

Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1  
Prerequisite: Program Admission  
Corequisite(s):  
The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This course will include all of the EMT-Basic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Module-C (Clinical) of the Georgia Office of EMS, EMT-Basic Curriculum standard. This course will include a minimum of 30 clinical hours.

**EMS 1115 - PRACTICAL APPLICATIONS FOR THE EMT BASIC**

Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2  
Prerequisite: Program Admission  
Corequisite(s):  
The course will serve as the integration point for the entire National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Basic, 1994 standard, as well as Sections 1 through 7 of the NSC EMT-Intermediate 1985 Standard, and the Georgia Office of EMS specific modules on CPR, Geriatrics and WMD. This course will focus on critical thinking skills and will enhance the assessment based management skills of EMT students. Topics include: Assessment Based Management for the EMT-Basic.
EMS 1201 - PHARMACOLOGY AND SHOCK/TRAUMA MANAGEMENT FOR THE EMT-INTERMEDIATE
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite: Program Admission
Corequisite(s):
The course covers Section 8 of the National Highway Safety Transportation Administration, National Standard Curriculum, Emergency Medical Technician-Intermediate, 1985 standard. Topics Include: general pharmacology review, IV and IO therapy and shock/trauma assessment and management.

EMS 1203 - CLINICAL APPLICATIONS FOR THE EMT-INTERMEDIATE I
Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1
Prerequisites: Program Admission
Corequisite(s):
The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This course will include all of the EMT-Intermediate Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Module-C (Clinical) of the Georgia Office of EMS, EMT-Intermediate Curriculum standard. This course will include a minimum of 30 clinical hours, and along with Clinical Applications for the EMT-Intermediate - II, will include a minimum skill set.

EMS 1205 - CLINICAL APPLICATIONS FOR THE EMT-INTERMEDIATE II
Weekly Hours: Class - 0; Lab - 3; Credit Hours: 1
Prerequisite: Program Admission
Corequisite(s):
The course will include clinical hours to be spent in both Hospital Emergency Departments and on Ambulance Clinical Rotations. This course will include all of the EMT-Intermediate Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Module-C (Clinical) of the Georgia Office of EMS, EMT-Intermediate Curriculum standard. This course will include a minimum of 30 clinical hours, and along with Clinical Applications for the EMT-Intermediate - I, will include a minimum skill set.

EMS 1207 - PRACTICAL APPLICATIONS FOR THE EMT-INTERMEDIATE
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite: Program Admission
Corequisite(s):
This is the final course for those pursuing EMT-Intermediate Certification. This course expands upon the critical thinking skills and assessment based management techniques covered in the ‘Practical Applications for the EMT-Basic’ course. This course integrates all components of the US DOT EMT-Basic 1994 Curriculum as well as the US DOT EMT-Intermediate 1985 Curriculum, and all Georgia specific modules for the EMT-Basic and EMT-Intermediate curricula. Preparation for the national certification exam for EMT-Intermediate/85s will be paramount throughout the course, and students will be required to complete this course prior to being eligible to sit for the National Registry Intermediate-1985 Exam. Topics will include skills competency verification and assessment based management techniques for the EMT-Intermediate.

EMS 126 - INTRODUCTION TO THE PARAMEDIC PROFESSION
Weekly Hours: Class - 3; Lab - 1; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s): ENG 1010, MAT 1012, AHS 1011, SCT 100
Introduces the student to the paramedic profession. Discussion centers on functions that extend beyond the EMT scope of practice. Topics include: the EMS system/roles and responsibilities, well-being of the paramedic, illness and injury prevention, medical/legal considerations, ethics, ambulance operations, medical incident command, rescue awareness/operations, hazardous materials incidents and crime scene awareness. This course provides instruction on topics in Division 1, Sections 1-5, Division 7, Section 1 and Division 8 sections 1-5 of the USDOT/NHTSA Paramedic National Standard Curriculum.

EMS 127 - PATIENT ASSESSMENT
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): None
Corequisite(s): AHS 1011, EMS 128
Introduces the fundamental principles and skills involved in assessing the pre-hospital patient. Emphasis is on the systematic approach to patient assessment, with adaptations for the medical versus the trauma patient. Topics include: therapeutic communications, history taking, techniques of physical exam, patient assessment, clinical decision-making, EMS communications, and documentation. This course provides instruction on topics in Division 1, Section 9 and Division 3, Sections 1-9 of the USDOT/NHTSA Paramedic National Standard Curriculum.

EMS 128 - APPLIED PHYSIOLOGY AND PATHOPHYSIOLOGY
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): AHS 1011
Corequisite(s):
This course introduces the concepts of pathophysiology as it correlates to disease processes. This course will enable caregivers to enhance their overall assessment and management skills. Disease-specific pathophysiology is
covered in each related section of the curriculum. This course covers a review of cellular composition and function, including cellular environment as it relates to fluid and acid-base balances. Content on genetics and familial diseases are discussed. Hypoperfusion, including various forms of shock, multiple organ dysfunction syndrome and cellular metabolism impairment are integral components of this course. The next portion of this section provides information on the body’s self-defense mechanisms, the inflammatory response, and variances in immunity. The last topic covered is stress and disease, which includes stress responses and the interrelationships among stress, coping, and disease.

**EMS 129 - PHARMACOLOGY**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): Program Admission
Prerequisite(s)/Corequisite(s): ENG 1010, MAT 1012, SCT 100, EMS 200
This unit is designed to help the paramedic implement a patient management plan based on principles and applications of pharmacology. Discussion of pharmacology includes: identification of drugs, drug calculations, drug administration techniques and procedures and drug safety and standards.

**EMS 130 - RESPIRATORY EMERGENCIES**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s): ENG 1010, SCT 100, EMS 200
This unit is designed to help the Paramedic assess and treat a wide variety of respiratory related illnesses in the pediatric and adult patient. Topics include a review of anatomy and physiology, pathophysiology of foreign body airway obstruction, recognition of respiratory compromise, use of airway adjunctive equipment and procedures, current therapeutic modalities for bronchial asthma, chronic bronchitis, emphysema, spontaneous pneumothorax, and hyperventilation syndromes. This section also provides expanded information for adult respiratory distress syndrome, pulmonary thromboembolism, neoplasms of the lung, pneumonia, emphysema, pulmonary edema, and respiratory infections. This course provides instruction on topics in Division 2 (Airway), Section 1 (Airway Management and Ventilation) and Division 5 (Medical), Section 1 (Respiratory) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 131 - TRAUMA**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s): ENG 1010, SCT 100, EMS 200
This Unit is designed to introduce the student to assessment and management of the trauma patient, to include: systematic approach to the assessment and management of trauma, demonstration of the assessment and management of certain types of trauma patients and bodily injuries. Student should complete the requirements for the Basic Trauma Life Support Course or the Pre-Hospital Trauma Life Support Course.

**EMS 132 - CARDIOLOGY I**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s): ENG 1010, SCT 100, EMS 132, EMS 200
Emphasizes the study of the cardiovascular system. Cardiology I will introduce and explore cardiovascular epidemiology, anatomy and physiology, pathophysiology, and electrophysiology. This course will also provide instruction on initial cardiovascular assessment, focused history, detailed physical examination, and electrocardiographic monitoring. Management of the cardiovascular patient will be taught in Cardiology II. At the completion of this unit, the paramedic student will be able to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 133 - CARDIOLOGY II**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s): ENG 1010, SCT 100, EMS 132, EMS 200
This course expounds on the objectives in Cardiology I emphasizing advanced patient assessment and management of the cardiac patient. Topics will include advanced cardiovascular assessment, pharmacological intervention, electrical intervention, and emergency resuscitative treatment utilizing the American Heart Association’s Advanced Cardiac Life Support (ACLS) Providers course. This course provides instruction on topics in Division 5 (Medical), Section 2 (Cardiology) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 134 - MEDICAL EMERGENCIES**

Weekly Hours: Class - 5; Lab - 1; Credit Hours: 5
Prerequisite(s): AHS 1011, EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s): ENG 1010, SCT 100, EMS 200
Provides an in-depth study of the nervous, endocrine, gastrointestinal, renal, hematopoietic, and immune systems. Topics include epidemiology, pathophysiology, assessment, and management of specific injuries/illnesses. Emphasis is placed on allergies/anaphylaxis, toxicology, environmental emergencies, and infectious and communicable diseases. General/specific pathophysiology assessment and management are discussed in detail for environmental emergencies. Infectious and communicable disease topics
include public health principles, public health agencies, infection, pathogenicity, infectious agents, and specific infectious disease processes and their management. This course provides instruction on topics in Division 5 (Medical), Sections 3, 4, 5, 6, 7, 8, 9, 10, and 11 of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 135 - MATERNAL/PEDIATRIC EMERGENCIES**
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s)/Corequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s):
Emphasizes the study of gynecological, obstetrical, pediatric and neonatal emergencies. Maternal/Child combines the unique relationships and situations encountered with mother and child. Provides a detailed understanding of anatomy/physiology, pathophysiology, assessment, and treatment priorities for the OB/GYN patient. Pediatric and neonatal growth and development, anatomy and physiology, pathophysiology, assessment and treatment specifics are covered in detail. Successful completion of a PLS/PALS course is required. This course provides instruction on topics in Division’s 5 (Medical), Sections 13 (Obstetrics) and 14 (Gynecology) and 6 (Special Considerations), Sections 1 (Neonatology) and 2 (Pediatrics) of the USDOT/NHTSA Paramedic National Standard Curriculum.

**EMS 136 - SPECIAL PATIENTS**
Weekly Hours: Class - 2; Lab - 1; Credit Hours: 2
Prerequisite(s): EMS 126, EMS 127, EMS 128, EMS 129
Corequisite(s):
Provides an overview of the assessment and management of behavioral emergencies as they pertain to prehospital care. Topics include: communication skills and crisis intervention, assessment and management of the adult and adolescent patient with behavioral emergencies, management of the violent patient, management of the suicidal patient, medical/legal considerations, and stress management. Life span, geriatrics, abuse, special challenges, and chronic care patients are included.

**EMS 201 - SUMMATIVE EVALUATION**
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 5
Prerequisite(s): Program Admission
Provides supervised clinical experience in the hospital and prehospital advanced life support settings to include: EMS leadership, summative case evaluations and EKG interpretation. This course also includes a: comprehensive paramedic program examination and a board examination review.

**EMS 210 – CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC I**
Weekly Hours: Class – 0; Lab - 6; Credit Hours: 2
Prerequisite(s): Program Admission
Corequisite(s):
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications for the EMT-Paramedic II”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV”, “Clinical Applications for the EMT-Paramedic V” & “Clinical Applications for the EMT-Paramedic VI”, will include a minimum skill set and a minimum number of assessments in various categories.

**EMS 211 – CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC II**
Weekly Hours: Class – 0; Lab - 6; Credit Hours: 2
Prerequisite(s): Program Admission
Corequisite(s):
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications for the EMT-Paramedic I”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV”, “Clinical Applications for the EMT-Paramedic V” & “Clinical Applications for the EMT-Paramedic VI”, will include a minimum skill set and a minimum number of assessments in various categories.

**EMS 212 – CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC III**
Weekly Hours: Class – 0; Lab - 6; Credit Hours: 2
Prerequisite(s): Program Admission
Corequisite(s):
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications
for the EMT-Paramedic I”, “Clinical Applications for the EMT-Paramedic II”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV” & “Clinical Applications for the EMT-Paramedic V”, will include a minimum skill set and a minimum number of assessments in various categories.

**EMS 213 – CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC IV**

Weekly Hours: Class – 0; Lab - 6; Credit Hours: 2  
Prerequisite(s): Program Admission  
Corequisite(s):  
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications for the EMT-Paramedic I”, “Clinical Applications for the EMT-Paramedic II”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV” & “Clinical Applications for the EMT-Paramedic V”, will include a minimum skill set and a minimum number of assessments in various categories.

**EMS 214 – CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC V**

Weekly Hours: Class – 0; Lab - 6; Credit Hours: 2  
Prerequisite(s): Program Admission  
Corequisite(s):  
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications for the EMT-Paramedic I”, “Clinical Applications for the EMT-Paramedic II”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV” & “Clinical Applications for the EMT-Paramedic V”, will include a minimum skill set and a minimum number of assessments in various categories.

**EMS 215 CLINICAL APPLICATIONS FOR THE EMT-PARAMEDIC VI**

Weekly Hours: Class – 0; Lab - 3; Credit Hours: 1  
Prerequisite(s): Program Admission  
Corequisite(s):  
The course will include clinical hours to be spent in Hospitals, Urgent Care Settings, and Ambulance Clinical Rotations. This course will include all of the EMT-Paramedic Clinical Procedures Requirements With Accompanying Psychomotor Objectives listed under Appendix B (Clinical Objectives) of the Georgia Office of EMS, EMT-Paramedic Curriculum standard. This course will include a minimum of 60 clinical hours, and along with “Clinical Applications for the EMT-Paramedic I”, “Clinical Applications for the EMT-Paramedic II”, “Clinical Applications for the EMT-Paramedic III”, “Clinical Applications for the EMT-Paramedic IV” & “Clinical Applications for the EMT-Paramedic V”, will include a minimum skill set and a minimum number of assessments in various categories.
of writing techniques used in selected readings, writing practice, editing and proofreading, research skills, and oral presentation skills. Homework assignments reinforce classroom learning.

**ENG 1012 - FUNDAMENTALS OF ENGLISH II**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1010
Corequisite(s):
Provides knowledge and application of written and oral communications found in the workplace. Topics include: writing fundamentals and speaking fundamentals.

**ENG 1101 - COMPOSITION AND RHETORIC**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission level language competency or ENG 0098 and RDG 0098
Corequisite(s):
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.

**ENG 1102 - LITERATURE AND COMPOSITION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1101 with C or better
Corequisite(s):
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.

**ENG 1105 - TECHNICAL COMMUNICATIONS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1101 with C or better
Corequisite(s):
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 oral technical report presentation.

**ENG 2130 - AMERICAN LITERATURE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1101
Corequisite(s):
A survey of important works in American literature. Includes a variety of literary genres: short stories, poetry, drama, nonfiction, and novels. Emphasized American literature as a reflection of culture and ideas. Topics include: literature and culture; essential themes and ideas; literature and history; research skills; and oral presentation skills.

**EST 100 - INTRODUCTION TO ESTHETICS**
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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, hazardous duty standards act.

**EST 101 - ANATOMY AND PHYSIOLOGY OF THE SKIN**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): EST 100
Corequisite(s):
Introduction to anatomy and physiology; disorders of the skin and nutrition and health of the skin. Topics include: cells/tissues/organisms, 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.

**EST 102 - SKIN CARE PROCEDURES**
Weekly Hours: Class - 1; Lab - 12; Credit Hours: 6
Prerequisite(s): EST 102
Corequisite(s):
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 air borne and blood borne pathogens.

**EST 103 - ELECTRICITY AND FACIAL TREATMENTS WITH MACHINES**
Weekly Hours: Class - 2; Lab - 12; Credit Hours: 7
Prerequisite(s): EST 102
Corequisite(s):
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.

**EST 104 - ADVANCED SKIN CARE**

Weekly Hours: Class - 1; Lab - 11; Credit Hours: 5  
Prerequisite(s): EST 103  
Corequisite(s):  
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.

**EST 105 - COLOR THEORY AND MAKE-UP**

Weekly Hours: Class - 1; Lab - 8; Credit Hours: 4  
Prerequisite(s): EST 102  
Corequisites: EST 103, EST 104  
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.

**EST 106 - ESTHETICS PRACTICUM I**

Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6  
Prerequisite(s): EST 105  
Corequisite(s):  
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.

**EST 107 - ESTHETICS PRACTICUM II**

Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6  
Prerequisite(s): EST 106  
Corequisite(s):  
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.

**FOR 101 - FOREST SAFETY AND ORIENTATION**

Weekly Hours: Class - 1; Lab - 0; Credit Hours: 1  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
Introduces the fundamentals of safety in the field and of forestry as a profession. Topics include: forest safety, history of forestry, and importance of forestry.

**FOR 116 - INTRODUCTION TO SURVEYING AND MAPPING I**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4  
Prerequisite(s): MAT 1012 or MAT 1111  
Corequisite(s): FOR 117  
Introduces the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Topics include: surveying and mapping equipment and surveying and mapping measurements.

**FOR 117 - INTRODUCTION TO SURVEYING AND MAPPING II**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): MAT 1012 or MAT 1111  
Corequisite(s):  
Introduces the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Topics include: surveying and mapping methods and introduction to global positioning systems and geographical information systems.

**FOR 121 - APPLIED SURVEY AND MAPPING I**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): MAT 1012 or MAT 1111  
Corequisite(s): FOR 116, FOR 117  
Focuses on application of the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Emphasizes areas of plane and boundary surveying and area determination. Topics include: deed search, tract location, surveying, and area determination.

**FOR 122 - APPLIED SURVEY AND MAPPING II**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): MAT 1012 or MAT 1111  
Corequisite(s): FOR 116, FOR 117  
Focuses on application of the fundamental principles and practices of land surveying and mapping and the use of surveying and mapping instruments. Emphasizes areas of plane and boundary surveying and area determination. Topics include: area determination, global positioning systems and geographical information systems, and aerial photography.
FSC 101 - INTRODUCTION TO FIRE SCIENCE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course is 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, county, 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.

FSC 102 - BASIC FIREFIGHTER - EMERGENCY SERVICES FUNDAMENTALS
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
This course provides the student with information on the applicable laws, policies, and standards that the Firefighter I course is designed, and how the course will be administered. This course will provide the student basic knowledge of where and how the fire service originated from the colonial periods to present day firefighting operations. The student will learn basic roles and responsibilities of a firefighter, how firefighters have to abide by and work from standard operating procedures and guidelines, and how the chain of command works and their position within it. The student will be provided the knowledge on how to communicate within the fire service; whether it with the fire station or on the fire ground.

This course provides the emergency responder with basic principles and functions of the Incident Command System. The course will provide the necessary knowledge and skills to operate within the ICS and their role within the ICS at the fire station, at a non-emergency scene, and at emergency scenes. It will provide also provide the emergency responder with knowledge on how to perform basic skills at emergency scenes that deal with infection control, cardiopulmonary resuscitation, basic first aid measures, and using an AED. Finally, it will provide the emergency responder skills and knowledge on how to recognize the presence of and the potential for a hazardous materials release, and how and who personnel should call.

FSC 103 - BASIC FIREFIGHTER MODULE I
Weekly Hours: Class - 3; Lab - 6; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
This course provides the firefighter candidate/recruit with basic knowledge and skills to perform various fireground operations as a firefighter on emergency scenes. The candidate/recruit will learn about safety during all phases of a firefighters career, the personal protective equipment that is required for training and every emergency response, and how to properly don it for use and doff it after use. The candidate/recruit will learn about the dynamics of fire through fire behavior and how to extinguish the different phases of fires with either portable fire extinguishers or through fire suppression attacks and techniques. The candidate/recruit will also learn the three tactical priorities of Life Safety, Incident Stabilization, and Property Conservation that have to be achieved on every fireground. Basic knowledge and skills will be provided to the candidate/recruit so they can achieve the tactical priorities through various fireground operations such as: response and size-up, forcible entry, ladders, search & rescue, ventilation, water supply, fire hose, fire nozzles, fire streams, salvage, and overhaul. Upon completion of this course the student emergency responder candidate/recruit will have the basic skills and knowledge to be able to obtain a certificate of completion or become certified through the appropriate governing agency for the following: Module I. This course meets the requirements NFPA 1001 – Standard for Fire Fighter Professional Qualifications and all other state, local, and provincial occupational health and safety regulatory requirements.

FSC 104 - BASIC FIREFIGHTER MODULE II
Weekly Hours: Class - 2; Lab - 4; Credit Hours: 4
Prerequisite(s): FSC 102, FSC 103
Corequisite(s):
This course builds from the skills and knowledge in Module I and provides the knowledge and skills to support the fireground techniques learned in the previous courses. The firefighter will learn various uses of ropes & knots and how to hoist fire fighting tools and equipment. The firefighter will also gain the knowledge and skills of building construction principles that will be used throughout their firefighting career to identify building conditions such as: fire spread and travel, how and where to ventilate, indications of potential building collapse, etc. The firefighter will learn survival techniques that will be used throughout their career to help keep themselves safe and how to rescue themselves or another firefighter. Firefighter rehabilitation will be discussed during this course, so that the firefighter will know how and when to properly rehab themselves before, during, after an emergency response. Knowledge of fire suppression systems will be discussed, so that the firefighter will have a basic understanding of the components of a fire detection, protection, and suppression system. Basic cause determination will be discussed so that firefighters will be aware of observations during various phases of fireground.
operations. Finally, to complete the Firefighter I program the firefighter will participate in the following “live fire” scenarios in order to complete the objectives of the program: Exterior Class A Fire, Interior Structure Attack – Above Grade Level, Interior Structure Attack – Below Grade Level, Vehicle Fire, and Dumpster Fire. Upon completion of this course the student emergency responder candidate/recruit will have the basic skills and knowledge to be able to obtain a certificate of completion or become certified through the appropriate governing agency for the following: NPQ – Fire Fighter I. This course meets the requirements NFPA 1001 – Standard for Fire Fighter Professional Qualifications and all other state, local, and provincial occupational health and safety regulatory requirements.

**FSC 105 - FIRE AND LIFE SAFETY EDUCATOR I**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5

Prerequisite(s):

Corequisite(s):

Most structural fires, fire deaths, and fire injuries occur in the home. This course addresses some of the most important responsibilities of the modern fire service; teaching the public to prevent or if needed, escape fires and related emergencies. We have adopted the approach that we must learn from each incident then put the information to work to prevent fires and fire losses through public fire and life safety education. Topics include: general requisite knowledge, administration, planning and development, education and implementation, and evaluation.

**FSC 106 - FIRE PREVENTION, PREPAREDNESS, AND MAINTENANCE**

Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4

Prerequisite(s): Program Admission; national certification of Firefighter I status or successful completion of FSC 102, FSC 103, FSC 104, FSC 141

Corequisite(s):

This course provides the student with the necessary skills of fire prevention, emergency scene preparedness, and tool and equipment maintenance. Specifically addressed are the following topics: basic principles of building construction; knowledge of water supply systems to include pressurized systems, rural water supplies, and alternative water supplies; perform hydrant flow tests as part of water flow assessments for water supplies coming from pressurized hydrants; discuss fire detection, suppression, and suppression systems; consolidate all knowledge to perform a pre-incident plan of a facility; selection of proper tools and techniques of cleaning and proper maintenance of those tools; discuss hoselines, nozzles, and fire streams to perform hose line lays with proper nozzles attached and select the proper fire stream for the class of fire encountered on various types of fire scenes; and service testing of fire hoses. Finally, this course will conclude fire cause determination to gain necessary knowledge and skills to perform a fire investigation to determine the point of origin and the cause of a fire in a structure.

**FSC 107 - INTRODUCTION TO TECHNICAL RESCUE**

Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6

Prerequisite(s): Program Admission; national certification of Firefighter I status or successful completion of FSC 102, FSC 103, FSC 104, FSC 141

Corequisite(s):

This course provides an awareness of the principles of technical rescue through utilization of readings from the text, classroom discussion, practical skills, and practice. This course includes Extricating a victim entrapped in a Motor Vehicle, Assisting a Rescue Team in various technical rescue operations including but not limited to Trench and Excavation, Rope Rescue, Water Rescue, Confined Space Operations, Structural Collapse, Vehicle and Machinery Rescue, and Wilderness Search and Rescue. The student will learn the application of knots, rigging principles, anchor selection criteria, system safety check procedures, rope construction and rope rescue equipment applications and limitations.

This course fulfills NFPA 1001, Standard for Firefighter Professional Qualifications, 2008 Edition Chapter 6 sections 6.4.1, 6.4.2 and NFPA 1006, Standard for Technical Rescuer Professional Qualifications, 2008 Edition Chapter 5 sections 5.2, 5.3, 5.4, 5.5.1, 5.5.2, 5.5.3, 5.5.4, 5.5.5, 5.5.8, 5.5.9, 5.5.11, 5.5.14 and NFPA 1670, Standard on operations and Training for Technical Search and Rescue Incidents, 2004 Edition sections 5.2.2, 6.2.2, 6.3.47.2.48.2.3, 9.2.3, 10.2.2, 11.2.3.

**FSC 108 - FIRE GROUND OPERATIONS**

Weekly Hours: Class - 2; Lab - 4; Credit Hours: 4

Prerequisite(s): Program Admission; national certification of Firefighter I status or successful completion of FSC 102, FSC 103, FSC 104, FSC 141

Corequisite(s):

This course will provide the student basic knowledge of the roles and responsibilities of the Firefighter II; the standard operating procedures and guidelines of firefighters; fire service communications relative to obtaining information from occupants and owners to complete an incident report can be written accurately; Incident Command principles and their application; practical fireground hydraulics to supply proper nozzle pressures while participating in live fire scenarios.
**FSC 110 - FIRE ADMINISTRATION - SUPERVISION AND LEADERSHIP**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s):  
Corequisite(s):  
This course 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 record’s 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:  
NFA – Leadership I  
NFA – Leadership II  
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.  

**FSC 121 - FIRE FIGHTING STRATEGY AND TACTICS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
This course presents the principles of applying fire department resources to mitigate a fire or related emergency. General topics include: principles of fire fighting, 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 water front fires.  

**FSC 132 - FIRE SERVICE INSTRUCTOR**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
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 FSC 132 are qualified to test for the National Professional Qualification (NPQ) Fire Instructor I Exam.  

**FSC 141 - HAZARDOUS MATERIALS OPERATIONS**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): NPQ FF I, NPQ Hazardous Materials Awareness Level  
Corequisite(s):  
This course 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 Haz Mat 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.  

**FSC 151 - FIRE PREVENTION AND INSPECTION**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
Emphasis is placed on 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 FSC 151 qualifies individuals to test for the National Professional Qualification (NPQ) Inspector Level-I examination.

FSC 161 - FIRE SERVICE SAFETY AND LOSS CONTROL
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course will provide 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.

FSC 201 - FIRE ADMINISTRATION - MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course will provide 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’s 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.

FSC 210 - FIRE SERVICE HYDRAULICS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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, stand pipe systems, automatic sprinkler systems, fire fighting foams, and the clip board friction loss system.

FSC 220 - FIRE PROTECTION SYSTEMS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
A review of fire detection and protection systems including: 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, no water-based suppression systems, fire alarm systems, smoke management systems, and portable fire extinguishers.

FSC 230 - FIRE SERVICE BUILDING CONSTRUCTION
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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 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.

**FSC 240 - BUILDING PLANS REV. FOR FIRE SCIENCE**

Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3  
Prerequisite(s):  
Corequisite(s): FSC 141, FSC 151, FSC 220, FSC 230  

**FSC 241 - INCIDENT COMMAND**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s):  
Corequisite(s): FSC 101  
The Incident Command course is designed to illustrate 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.

**FSC 250 - HAZARDOUS MATERIALS II**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s): FSC 141  
Problems of hazardous materials in transportation, storage, and use. Additional emphasis on emergency services in combating, coordinating and controlling a hazardous materials incident. Covers bulk storage of hazardous materials and their transportation by land, sea, and air.

**FSC 260 - FIRE SERVICE INFORMATION MANAGEMENT**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s):  
Corequisite(s): FSC 101  
This course begins with the fundamentals of information gathering and report writing as they apply to the fire service then narrows its scope to include specific types of record keeping. Topics include: narrative reports, personnel records, training records, vehicle and physical maintenance records, incident investigation reports, inspection reports, budget documentation, news releases, and applicable laws, standards, procedures, and recommendations. A review of the use of computers for each operation will be included as the topics are covered.

**FSC 270 – FIRE/ARSON INVESTIGATION**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
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, Techniquest used in fire deaths and injuries, arson as a crime, other techniques, State and Federal laws, and future trends in fire investigative technology.

**FSC 280 - FIRE SERVICE LAW**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s):  
Corequisite(s): FSC 101  
An introduction to law using cases and applications relevant to the fire service. This course includes: introduction to American Law, municipal corporations, the law of torts, employee and employer relationships, criminal law, criminal procedures, administrative law, and administrative procedure. Federal, state, local laws, and legislative processes will be addressed as will current cases and trends.

**HCT 110 - HEMODIALYSIS PATIENT CARE**

Weekly Hours: Class - 10; Lab - 0; Credit Hours: 10  
Prerequisite(s): Program Admission  
Corequisite(s):  
This course will focus on the theoretical and clinical aspects of hemodialysis, including the duties and responsibilities essential to the delivery of patient care in the chronic outpatient setting.
HCT 120 - HEMODIALYSIS PRACTICUM
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This course will focus on the theoretical and clinical aspects of hemodialysis, including the duties and responsibilities essential to the delivery of patient care in the chronic outpatient setting.

HIS 1111 - WORLD HISTORY I
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
This course is a 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; the Americas; Japan, Ancient Greece; the Middle Ages; and the Renaissance.

HIS 1112 - WORLD HISTORY II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
This course is a 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.

HIS 2111 - U.S. HISTORY I
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
This course is a survey 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. 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.

HIS 2112 - U.S. HISTORY II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s):
Corequisite(s):
This course will provide an overview 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. 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 1950’s; the 1960’s and 1970’s; and America since 1980.

HIT 1100 - INTRODUCTION TO HEALTH INFORMATION MANAGEMENT
Weekly Hours: Class-2; DLab- 2; Credit-3
Prerequisite(s): Program Admission
Corequisite(s):
This course 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).

HIT 1150 - COMPUTER APPLICATIONS IN HEALTHCARE
Weekly Hours: Class-2; DLab- 2; Credit-3
Prerequisite(s): SCT100
Corequisite(s):
Designed to provide 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.

HIT 1200 - LEGAL ASPECTS IN HEALTHCARE
Weekly Hours: Class-3; Lab-0; Credit-3
Prerequisite(s): Program Admission
Corequisite(s):
This course 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, 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.
HIT 1250 - HEALTH RECORD CONTENT AND STRUCTURE
Weekly Hours: Class-3; DLab-4; Credit-5
Prerequisite(s): HIT1100
Corequisite(s):
This course 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.

HIT 1350 - PHARMACOTHERAPY
Weekly Hours: Class-3; Lab-0; Credit-3
Prerequisite(s): BUS2300 or AHS109
Corequisite(s):
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.

HIT 1400 - CODING AND CLASSIFICATION I - ICD CODING
Weekly Hours: Class-2; DLab-4; Credit-4
Prerequisite(s): BIO2114 or AHS1011; AHS109 or BUS2300, HIT1350
Corequisite(s): MAS112
This course provides the student an introduction to Medical Coding & Classification of diseases, injuries, encounters, and procedures using standard applications of Medical Coding Guidelines to support reimbursement of healthcare services.

HIT 1410 - CODING AND CLASSIFICATION II - ICD CODING
Weekly Hours: Class-2; Lab-2; Credit-3
Prerequisite(s): HIT1400
Corequisite(s):
This course is a continuation of HIT 1400 (Coding and Classification I). This course 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.

HIT 2150 - HEALTHCARE STATISTICS
Weekly Hours: Class-5; Lab-0; Credit-5
Prerequisite(s): MAT 1111; HIT1100; HIT1250
Corequisite(s):
This course 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.

HIT 2200 - PERFORMANCE IMPROVEMENT
Weekly Hours: Class-3; Lab-0; Credit-3
Prerequisite(s): HIT1100; HIT1250
Corequisite(s):
This course introduces the students to the peer review and the role health information plays in evaluating patient care. The 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 and accreditation requirements of various agencies.

HIT 2300 - HEALTHCARE MANAGEMENT
Weekly Hours: Class-3, DLab-4, Credit-5
Prerequisite(s): Program Admission
Corequisite(s):
This course will engage in the functions of a manager, 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 evaluation.

HIT 2400 - CODING AND CLASSIFICATION III – CPT CODING
Weekly Hours: Class-2; Lab-4; Credit-4
Prerequisite(s): HIT1400
Corequisite(s):
This course 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.

HIT 2410 - REVENUE CYCLE MANAGEMENT
Weekly Hours: Class-2; Lab-4; Credit-3
Prerequisite(s): HIT2400
Corequisite(s):
This course 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.
HIT 2450 - HEALTH INFORMATION TECHNOLOGY PRACTICUM I
Weekly Hours: Class-0; P Lab-9; Credit-3
Prerequisite(s): HIT1200; HIT1250; HIT1410; HIT2400
Corequisite(s):
This is a supervised internship in acute care and alternative care settings. This course will prepare the student to perform the basic functions and tasks of a health information department in a traditional hospital setting and alternative care settings. Activities will include application of health information management procedures learned in the classroom and lab. The HIT program director and the health care facility staff will guide the student in accomplishing the objectives set forth in the Professional Practice Experience Handbook. This course is designed to help the student gain entry-level competences as set forth by the American Health Information Management Association (AHIMA).

HIT 2460 - HEALTH INFORMATION TECHNOLOGY PRACTICUM II
Weekly Hours: Class-0; P Lab-12; Credit-4
Prerequisite(s): HIT2450
Corequisite(s):
This is a continuation of HIT 2450 Practicum I. This course is designed to allow students to apply all functions related to the HIT profession. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into management and supervisory applications on the job. The student will be given additional advanced health information management experience. The occupation-based instruction is implemented through the use of an internship and all of the following: written individualized training plans, written performance evaluation, and a required bi-weekly seminar.

HRS 102 - EMPLOYMENT LAW
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):

HRT 106 - FOOD AND BEVERAGE MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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: history and careers, equipment layout and décor, menu and beverage list planning, distribution, merchandising, and service professionalism.

HRT 107 - FOOD PREPARATION
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the student to the skills of food preparation common to a food and beverage operation. Emphasis is placed on identifying culinary techniques which provide a quality and profitable service. Topics include: safety and sanitation, preparation equipment, interpretation of recipes, handling and storage, preparation techniques, and cost control.

HUM 1101 - INTRODUCTION TO HUMANITIES
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1101 with a grade of “C” or better
Corequisite(s):
Explores the philosophic and artistic heritage of humanity expressed through a historical perspective on visual arts, music, and literature. The humanities provide insight into people and society. Topics include: historical and cultural developments; contributions of the humanities; and research project.

IDS 101 - INDUSTRIAL COMPUTER APPLICATIONS
Weekly Hours: Class - 3; Lab - 5; Credit Hours: 5
Prerequisite(s): IFC 101, SCT 100
Corequisite(s):
Provides a foundation in Industrial computers and computer systems with a focus in linking computers to the plant floor process. Topics include: hardware, software, boot sequence, configuration, troubleshooting, and communication platforms.

IDS 102 – ALTERNATING CURRENT I
Weekly Hours: Class – 3; Lab – 2; Credit Hours: 4
Prerequisite: IFC 101
Corequisite(s): None
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.

IDS 103 - INDUSTRIAL WIRING
Weekly Hours: Class - 3; Lab - 9; Credit Hours: 6
Prerequisite(s): IFC 101, IFC 102
Corequisite(s):
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, over current protection, NEC requirements, industrial lighting systems, and switches, receptacles, and cord connectors.

**IDS 105 - DC AND AC MOTORS**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): IFC 101, IFC 102  
Corequisite(s):  
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.

**IDS 107 – BASIC MECHANICS**
Weekly Hours: Class – 3; Lab – 5; Credit Hours: 5  
Prerequisite(s)/Corequisite(s): None  
Emphasizes basic skills training needed in mechanical maintenance. Provides instruction for learning common terminology of maintenance and practical measuring/mathematical skills. Also introduces layout/fabrication procedures focusing on good shop practice skills and addresses typical materials and manufacturing processes used in the plant. Introduces power transmission equipment.

**IDS 110 - FUNDAMENTALS OF MOTOR CONTROLS**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): IDS 105  
Corequisite(s):  
Introduces the fundamental concepts, principles, and devices involved in industrial motor control. Emphasis is placed on developing a theoretical foundation of industrial motor control devices. Topics include: principles of motor control, control devices, symbols and schematic diagrams, and Article 430 NEC.

**IDS 113 - MAGNETIC STARTERS AND BRAKING**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3  
Prerequisite(s): IDS 110  
Corequisite(s):  
Provides instruction in wiring motor control circuits. Emphasis is placed on designing and installing magnetic starters in across-the-line, reversing, jogging circuits, and motor braking. Topics include: control transformers, full voltage starters, reversing circuits, jogging circuits, and braking.

**IDS 115 - TWO-WIRE CONTROL CIRCUITS**
Weekly Hours: Class - 0; Lab - 5; Credit Hours: 2  
Prerequisite(s): IDS 110  
Corequisite(s):  
Provides instruction in two-wire motor control circuits using relays, contactors, and motor starters with application sensing devices. Topics include: wiring limit switches, wiring pressure switches, wiring float switches, wiring temperature switches, wiring proximity switches, and wiring photo switches.

**IDS 121 - ADVANCED MOTOR CONTROLS**
Weekly Hours: Class - 1; Lab - 3; Credit Hours: 2  
Prerequisite(s): IDS 115  
Corequisite(s):  
Continues the study and application of motor control circuits with emphasis on sequencing circuits, complex circuits, and motor control centers. Topics include: sequencing circuits, reduced voltage starting, motor control centers, and troubleshooting.

**IDS 131 - VARIABLE SPEED MOTOR CONTROL**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): IDS 121  
Corequisite(s):  
Provides instruction in the fundamentals of variable speed drives, industrial motors, and other applications of variable speed drives. Topics include: fundamentals of variable speed control, AC frequency drives, DC variable speed drives, installation procedures, and ranges.

**IDS 141 - BASIC INDUSTRIAL PLC’S**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6  
Prerequisite(s): IDS 105, IDS 121  
Corequisite(s):  
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 set up, plc programming basics, relay logic instructions, timers and counters, connecting field devices to I/O cards, and plc safety procedures.

**IDS 142 - INDUSTRIAL PLC’S II**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6  
Prerequisite(s): IDS 141  
Corequisite(s):  
Provides for hands-on development of operational skills in the maintenance and troubleshooting of industrial control systems and automated industrial equipment. Emphasis is placed on applying skills developed in previous courses in programmable logic controls (PLC’s) in an industrial setting. This course includes advanced skills necessary to complete the students knowledge and skills to understand and work with PLC’s in an industrial plant.
IDS 209 - INDUSTRIAL INSTRUMENTATION
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6
Prerequisite(s): IDS 141, IDS 142
Corequisite(s):
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, sensing Pressure, Flow, Level, and Temperature, Instrument calibration, and Loop tuning.

IDS 215 - INDUSTRIAL MECHANICS
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 6
Prerequisite(s): Program Admission level math achievement
Corequisite(s):
Provides instruction in basic physics concepts applicable to mechanics of industrial production equipment, and teaches basic industrial application of mechanical principles with emphasis on power transmission and specific mechanical components. Topics include: mechanical tools, fasteners, basic mechanics, lubrication, bearings, and packings and seals.

IDS 221 - INDUSTRIAL FLUIDPOWER
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 7
Prerequisite(s): Program Admission level math achievement
Corequisite(s):
Provides instruction in fundamental concepts and theories for safely operating hydraulic components and pneumatic systems. Topics include: hydraulic theory, suction side of pumps, actuators, valves, pumps/ motors, accumulators, symbols and circuitry, fluids, filters, pneumatic theory, compressors, pneumatic valves, air motors and cylinders, and safety.

IDS 231 - PUMPS AND PIPING SYSTEMS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 2
Prerequisite(s): Program Admission level math achievement
Corequisite(s):
Studies the fundamental concepts of industrial pumps and piping systems. Topics include: pump identification; pump operation; pump installation, maintenance, and troubleshooting; piping systems; and installation of piping systems.

IDS 251 SCHEMATIC READING AND CIRCUIT DIAGNOSIS
Weekly Hours: Class - 3; Lab - 1; Credit Hours: 3
Prerequisite(s):
Corequisite(s):
Provides student with the fundamentals of schematic diagrams used in circuit tracing and diagnostics. Standards symbols and typical diagram layouts are explored to facilitate understanding and troubleshooting of electrical and fluid power systems. Topics include: electrical symbols, electronic symbols, fluid power symbols, circuit diagrams, volt-ohm-milliammeter operation, and electrical troubleshooting.

IFC 100 - INDUSTRIAL SAFETY PROCEDURES
Weekly Hours: Class - 2; Lab - 1; Credit Hours: 2
Prerequisite(s): Provisional Admission
Corequisite(s):
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.

IFC 101 - DIRECT CURRENT CIRCUITS I
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): MAT 1012 (for out of program students)
Prerequisite/Corequisite: MAT 1013 (diploma), for Electronics programs students
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.

IFC 102 - ALTERNATING CURRENT I
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): IFC 101, MAT 1013
Corequisite: MAT 1015 or MAT 1017 (diploma)
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.

IFC 103 - SOLID STATE DEVICES I
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Corequisite(s): IFC 102
Corequisite(s):
Introduces the physical characteristics and applications of solid state devices. Topics include: introduction to semiconductor fundamentals, diode applications, basic transistor fundamentals, basic amplifiers, and semiconductor switching devices.

IMT 118 – DC AND AC MOTORS
Weekly Hours: Class – 3; Lab – 2; Credit Hours: 4
Prerequisite(s): IFC 101, IFC 102, MAT 1013
Corequisite(s): None
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.

MAS 101 - LEGAL ASPECTS OF THE MEDICAL OFFICE
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): Program Admission
Corequisite(s):
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, ethics and bioethical issues.

MAS 103 - PHARMACOLOGY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): AHS 1011, AHS 109, MAT 1012
Corequisite(s):
Introduces drug therapy with emphasis on safety, classification of drugs, their action, side effects, and/or adverse reactions. Also introduces the basic concept of mathematics used in the administration of drugs. Topics include: introduction to pharmacology, calculation of dosages, sources and forms of drugs, drug classification, and drug effects on the body systems. Principles of infusion therapy and laboratory application of infusion are optional.

MAS 106 - MEDICAL OFFICE PROCEDURES
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Emphasizes essential skills required for the typical business office. Topics include: office protocol, time management, telephone techniques, office equipment, mail services, references, filing, correspondence, and travel and meeting arrangements.

MAS 108 - MEDICAL ASSISTING SKILLS I
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): Program Admission, AHS 1011, AHS 109
Corequisite(s):
Introduces the skills necessary for assisting the physician with a complete history and physical in all types of 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 examinations and diagnostic procedures, vital signs/mensuration, minor office surgical procedures, and electrocardiograms.

MAS 109 - MEDICAL ASSISTING SKILLS II
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): MAS 101, MAS 103, MAS 108, AHS 104
Corequisite(s):
Furthers the student knowledge of the more complex activities in a physician’s office. Topics include: collection/examination of specimens and CLIA regulations; urinalysis; venipuncture, hematology and chemistry evaluations; advanced reagent testing (Strep Test, HcG, etc), administration of medications; emergency procedures of the medical office, respiratory evaluations, rehabilitative therapy procedures; principles of radiology safety and emergency procedures of the medical office.

MAS 110 - MEDICAL INSURANCE MANAGEMENT
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): Program Admission, AHS 1011, AHS 109, MAS 106
Corequisites: MAS 103, MAS 111, MAS 112
Emphasizes essential skills required for the typical medical office in the areas of computers and medical transcription. Topics include: medical transcription, application of computer skills, integration of medical terminology, accounting procedures, and application of software.

MAS 111 - ADMINISTRATIVE PRACTICE MANAGEMENT
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s): AHS 1011, BUS 1130, ENG 1010, AHS 109, SCT 100
Corequisites: MAS 103, MAS 106, MAS 110
Emphasizes essential skills required for the typical medical office. Topics include: Managed care and reimbursement coding.

MAS 112 - HUMAN DISEASES
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): AHS 1011 or AHS 109 (School may substitute AHS 100 or BUS 2310 for AHS 1011 prerequisite; BUS 2300 can substitute for AHS 109
Corequisite(s):
Provides clear, succinct, and basic information about common medical conditions. Taking each body system, the disease condition is highlighted following a logical formation consisting of: description, etiology, signs and symptoms, diagnostic procedures, treatment, prognosis, and prevention. Topics include: introduction to disease and diseases of body systems.
MAS 113 - MATERNAL AND CHILD CARE
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): AHS 1011, AHS 109, MAS 103
Corequisite(s):
Focuses on the reproductive system, care of the mother in all stages of pregnancy, the normal and emotional growth of the healthy child, and care of the sick child. Topics include: introduction to obstetrics, female reproductive system, male reproductive system, intrauterine development, prenatal care, principles of specialized testing, labor and delivery, postpartum care, patient education, and methods of contraception.. Child development and common pathophysiology from newborn through adolescence.

MAS 114 - MEDICAL ADMINISTRATIVE PROCEDURES I
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): Program Admission, AHS 1011, AHS 109, BUS 1130, SCT 100
Corequisite(s):
Emphasizes essential skills required for the typical medical office in the areas of computers and medical transcription. Topics include: introduction to the computer and medical transcription

MAS 115 - MEDICAL ADMINISTRATIVE PROCEDURES II
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): MAS 104
Corequisite(s):
Emphasizes essential skills required for the typical medical office. Topics include: accounting procedures and insurance preparation and coding.

MAS 117 - MEDICAL ASSISTING EXternSHIP
Weekly Hours: Class - 0; Lab - 20; Credit Hours: 8
Prerequisite(s): Completion of all required courses except MAS 118
Corequisite(s):
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 situation at a professional level of technical application and requires concentration, practice, and follow-through. Topics include: application of classroom knowledge and skills, functioning in the work environment, listening, and following directions.

MAS 118 - MEDICAL ASSISTING SEMINAR
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s): Completion of all required courses except MAS 117
Corequisite(s):
Seminar 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.

MAT 0096 - MATH II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0095, or entrance arithmetic score in accordance with approved TCSG admission score levels.
Corequisite(s):
Teaches the student basic arithmetic skills needed for the study of mathematics related to specific occupational programs. Topics include: whole numbers, fractions, decimals, and measurement.

MAT 0097 - MATH III
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0096, or entrance arithmetic score in accordance with approved TCSG admission score levels.
Corequisite(s):
Emphasizes in-depth arithmetic skills needed for the study of mathematics related to specific occupational programs and for the study of basic algebra. Topics include: whole numbers, fractions, decimals, percents, measurement, geometry, and application problems.

MAT 0098 - PRE-ALGEBRA
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0097, or entrance elementary algebra score in accordance with approved TCSG admission score levels
Corequisite(s):
This course provides instruction in basic algebra. Topics include: introduction to real numbers and algebraic expressions, solving equations and inequalities, graphs of linear equations, polynomial operations, and polynomial factoring.

MAT 0099 - INTERMEDIATE ALGEBRA
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0098 or entrance elementary algebra score in accordance with approved TCSG admission score levels
Corequisite(s):
This course provides instruction in intermediate algebra. Topics include: factoring, inequalities, rational expressions and equations, linear graphs, slope, and applications, systems of equations, radical expressions and equations, and quadratic equations.

MAT 1011 - BUSINESS MATHEMATICS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0097, or entrance arithmetic score in accordance with approved TCSG admission score levels
Corequisite(s):
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 using electronic calculators (not to include the touch method).

**MAT 1012 - FOUNDATIONS OF MATHEMATICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0097, or entrance arithmetic score in accordance with approved TCSG admission score levels
Corequisite(s):
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.

**MAT 1013 - ALGEBRAIC CONCEPTS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 0098, or entrance arithmetic and algebra scores in accordance with approved TCSG admission score levels.
Corequisite(s):
Introduces concepts and operations which can be applied to the study of algebra. Course content emphasizes: basic mathematical concepts, basic algebraic concepts, and intermediate algebraic concepts. Class includes lecture, applications, and homework to reinforce learning.

**MAT 1015 - GEOMETRY AND TRIGONOMETRY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1013 with a passing grade of C or better.
Corequisite(s):
Introduces and develops basic geometric and trigonometric concepts. Topics include: geometric concepts and trigonometric concepts.

**MAT 1017 - TRIGONOMETRY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1013 with a passing grade of C or better.
Corequisite(s):
Emphasizes trigonometric concepts. Introduces logarithms and exponential functions. Topics include: geometric formulas, trigonometric concepts, and logarithms and exponentials.

**MAT 1100 - QUANTITATIVE SKILLS AND REASONING**
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s): Program Admission requirements or MAT 0098 and/or MAT 1013 with a passing grade of C or better.
Corequisite(s):
Overview course covering algebra, statistics, and mathematics of finance. Topics include: fundamental operations of algebra, sets and logic, probability and statistics, and mathematics of finance.

**MAT 1101 - MATHEMATICAL MODELING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Minimum ASSET score of 42 or completion of MAT 0099 with a minimum exit ASSET score of 42 or COMPASS equivalent.
Corequisite(s):
This course is designed as an alternative to College Algebra for those students who will not take Trigonometry, Pre-Calculus, or Calculus. It is an applications-driven course that introduces functions using real-world phenomena as models. The major topics include: fundamental concepts of algebra; linear, quadratic, polynomial, exponential, and logarithmic functions and models of real-world phenomena; systems of equations; and additional topics in algebra.

**MAT 1111 - COLLEGE ALGEBRA**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Minimum ASSET score of 42 or completion of MAT 0099 with a minimum exit ASSET score of 42 or COMPASS equivalent.
Corequisite(s):
This course emphasizes techniques of problem solving using algebraic concepts. Topics include: fundamental concepts of algebra; equations and inequalities; functions and graphs; systems of equations; optional topics including sequences, series, and probability; and analytic geometry.

**MAT 1112 - COLLEGE TRIGONOMETRY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1111 with a C or better.
Corequisite(s):
Emphasizes techniques of problem solving using trigonometric concepts. Topics include: trigonometric functions, properties of trigonometric functions, vectors and triangles, inverse of trigonometric functions/graphing, logarithmic and exponential functions, and complex numbers.

**MAT 1113 - PRE-CALCULUS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1111 with a grade of C or better.
Corequisite(s):
This course 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.

**MAT 1127 - INTRODUCTION TO STATISTICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s) /Corequisite(s): Program Admission level Math achievement.
Corequisite(s):
Discusses 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.

**MAT 1131 - DIFFERENTIAL CALCULUS**
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s) /Corequisite(s): MAT1113 with a passing grade of C or better
Corequisite(s):
Emphasizes the use of differential calculus. Applications of techniques include extreme valuable problems, motion, graphing, and other topics as time allows. Topics include: derivatives and applications, differentiation of transcendental functions, and introduction to integration and applications.

**MAT 1259 - MATH FOR GAME DEVELOPERS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite: None
Emphasizes the math skills needed in computer game design. These skills include trigonometric properties, vectors, and motion in one dimension.

**MCA 201 - ADVANCED MILLING I**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): MCH 115, MCH 116
Corequisite(s):
Provides instruction in advanced techniques of milling machine operations. Emphasis is placed on skill development through laboratory practice. Topics include: vertical milling, horizontal milling, compound angles, gear cutting, and safety.

**MCA 203 - ADVANCED MILLING II**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s)/Corequisite(s): MCA 201
Corequisite(s):
Provides instruction in advanced techniques of milling machine operations. Emphasis is placed on skill development through laboratory practice. Topics include: indexing; rotary table; boring, facing, and turning; straddle milling, and safety.

**MCA 205 - ADVANCED LATHE OPERATIONS I**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): MCH 109, MCH 110
Corequisite(s):
Provides instruction in advanced lathe operations and procedures. Emphasis is placed on skill development through laboratory experience. Topics include: thread cutting, precision boring, precision knurling, tapers and safety.

**MCA 207 - ADVANCED LATHE OPERATIONS II**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): MCA 205
Corequisite(s):
Provides instruction in advanced lathe operations and procedures. Emphasis is placed on skill development through laboratory experiences. Topics include: eccentric turning, special setups, tolerance turning and safety.

**MCA 208 - ADVANCED GRINDING I**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): MCH 112
Corequisite(s):
Provides instruction in advanced grinding operations and procedures. Emphasis is placed on skill development through laboratory experiences. Topics include: surface grinding, cylindrical grinding, tool and cutter grinding, grinding theory and safety.

**MCA 209 - ADVANCED GRINDING II**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): MCA 208
Corequisite(s):
Provides instruction in advanced grinding techniques and procedures. Emphasis is placed on skill development through laboratory experiences. Topics include: grinding theory, abrasives, wheel preparation, form grinding and safety.

**MCA 211 - CNC FUNDAMENTALS**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s): MCH 118
Corequisite(s):
Provides a comprehensive introduction to computer numerical controlled (CNC) machining processes. Topics include: math review, safety, jigs and fixtures, tooling and tool holders, reference points, tool offset, program loading and editing and safety.

**MCA 213 - CNC MILL MANUAL PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): MCA 211
Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) milling machines. Topics include: machine safety, command codes, program loading, machine setup, process control, and practical application.

**MCA 215 - CNC LATHE MANUAL PROGRAMMING**
Weekly Hours: Class - 4; Lab - 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): MCA 211
Corequisite(s):
Provides instruction for the safe operation and manual programming of computer numerical controlled (CNC) lathes. Topics include: machine safety, command codes, program loading, machine setup, process control, and practical application.

**MCA 217 - CNC PRACTICAL APPLICATIONS**
Weekly Hours: Class - 1; Lab - 9; Credit Hours: 4
Prerequisite(s)/Corequisite(s): MCA 211, MCA 213, MCA 215
Corequisite(s):
Provides instruction in specialty tooling and multi-axis machining. Students will also gain experience in process control. Topics include: specialty tooling, EDM/ECM, multi-axis machining, process control, and laboratory practice.

**MCA 219 - CAD/CAM PROGRAMMING**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s)/Corequisite(s): MCA 211
Corequisite(s):
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, digitizer, pen plotter, drawing manipulations, tool path generation, and program uploading and downloading.

**MCA 220 - DIE DESIGN I**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): MCH 116
Corequisite(s):
Provides instruction in design, construction, selection, and safe use of dies required for mass production. Topics include: die sets, die blocks, punches, types of dies, blanking, bending, types of presses, tool and die drafting, related math, and safety.

**MCA 221 - DIE CONSTRUCTION I**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5
Prerequisite(s): MCA 220
Corequisite(s):
Provides practical application for theory and competency areas addressed in MCA 220 Die Design I. Students will be assigned the manufacture of punches and dies utilizing a variety of advanced machines. Topics include: jig bore, EDM, indexing, fixtures, precision grinding, and safety.

**MCH 101 - INTRODUCTION TO MACHINE TOOL**
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the fundamental concepts and procedures necessary for the safe and efficient use of basic machine tools. Topics include: use of hand and bench tools, use of power tools, analysis of measurements, saw and blade selection, feed and speeds determination, use of coolants, saw and blade maintenance, sawing operations, drilling setup and operation, ISO 9000, Deming’s quality theory, quality goals and objectives, and coordinate measurement machines (CMM).

**MCH 102 - BLUEPRINT READING FOR MACHINE TOOL**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the fundamental concepts necessary to interpret drawings and produce sketches for machine tool applications. Topics include: interpretation of blueprints and sketching.

**MCH 103 - APPLIED MEASUREMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course is 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.

**MCH 104 - MACHINE TOOL MATH I**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MAT 1012
Corequisite(s):
Develops mathematic competencies as applied to machine tool technology. This course emphasizes manipulation and use of machining formulas and the discussion of machining geometry. Topics include: machining algebra and machining geometry.
MCH 105 - MACHINE TOOL MATH II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): MCH 104
Corequisite(s):
Continues the development of mathematics competencies as applied to machine tool technology. Emphasis is placed on the uses of geometric and trigonometric principles in machining. Topics include: advanced applied geometry and applied trigonometry.

MCH 107 - CHARACTERISTICS OF METALS/HEAT TREATMENT I
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the properties of various metals, production methods, and identification of ferrous and non-ferrous metals. Topics include: metallurgy and heat treatment.

MCH 109 - LATHE OPERATIONS I
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides opportunities for students to develop skill in the use of bench grinders and lathes. Topics include: lathes, bench grinders, bench grinder operations, lathe calculations, lathe setup, lathe operations and Safety.

MCH 110 - LATHE OPERATIONS II
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides further instruction for students to develop skill in the use of lathes. Topics include: lathes, lathe setup, lathe operations, and safety.

MCH 112 - SURFACE GRINDER OPERATIONS
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides instruction in the setup, operations, maintenance, and assembly operations of surface grinders. Topics include: surface grinders and surface grinder maintenance, surface grinder setup, surface grinder operations and safety.

MCH 114 - BLUEPRINT READING II
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): MCH 104
Corequisite(s):
Continues the development of blueprint reading competencies as applied to Machine Tool Technology. Topics include: advanced sectioning, geometric dimensioning, geometric tolerancing, and assembly drawings.

MCH 115 - MILL OPERATIONS I
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides instruction in the setup and use of the milling machine. Topics include: milling machines, milling machine calculations, milling machine setup, milling machine operations and safety.

MCH 116 - MILL OPERATIONS II
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides further instruction for students to develop skills in the use of milling machines. Topics include: vertical and horizontal mill calculations, vertical and horizontal mill set-ups, and vertical/horizontal mill operations and safety.

MCH 118 - COMPUTER/CNC LITERACY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Provides an introduction to the terminology and application of microcomputers and terminology associated with computer numerical controlled (CNC) equipment. Students will become familiar with the basic operations of computers and the capabilities and limitations of CNC machinery. Topics include: introduction to microcomputer concepts, basic microcomputer operations, functions and subroutines, machine tool applications, Cartesian coordinates, absolute and incremental programming, and capabilities and limitations of CNC.

MCH 152 - INDUSTRIAL MACHINE APPLICATIONS
Weekly Hours: Class - 2; Lab - 8; Credit Hours: 6
Prerequisite(s): MCH 110, MCH 112, MCH 116
Corequisite(s):
Provides an opportunity to perform creative and critical thinking skills needed to fabricate, modify, and maintain complex machine assemblies. Emphasis is placed on bench work, lathe, mill, and grinder operations; tool selection; and sequencing fabrication operations. Topics include: job planning, preparation for machining operations, and machining operations.

MKT 100 - INTRODUCTION TO MARKETING
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Emphasizes the trends and the dynamic forces that affect the marketing process and the coordination of the marketing functions. Topics include: marketing strategies, marketing mix, marketing trends, and dynamic forces affecting markets.
MKT 101 - PRINCIPLES OF MANAGEMENT
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ENG 1010
Corequisite(s):
Develops skills and behaviors necessary for successful supervision of people and job responsibilities. Emphasis will be placed on personnel management, the basic supervisory functions, supervisory skills and techniques, and the special challenges and demands of supervising employees. Topics include: management theories, including total quality management; motivation, supervision, and evaluation of employees; recruitment, screening, and selection of employees; supervision techniques; and functions of management.

MKT 103 - BUSINESS LAW
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the study of contracts and other business obligations in the legal environment. Topics include: creation and evolution of laws, court decision processes, sales contracts, commercial papers, risk-bearing devices, and Uniform Commercial Code.

MKT 104 - PRINCIPLES OF ECONOMICS
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission level math achievement
Corequisite(s):
Provides a study of micro and macro economic principles, policies, and applications. Topics include: supply and demand, money and the banking system, business cycle, and economic systems.

MKT 106 - FUNDAMENTALS OF SELLING
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Emphasizes sales strategies and techniques to assist the student in the sales process. Topics include: customer relations, professional image, product/service knowledge, selling techniques and procedures, sales presentations, and ethics of selling.

MKT 108 - ADVERTISING
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the fundamental principles and practices associated with advertising activities. Topics include: purposes of advertising; principles of advertising; MKT budgeting; marketing and advertising plans; regulations and controls; media evaluation, target marketing, and selection; campaign planning; and trends in advertising.

MKT 109 - VISUAL MERCHANDISING
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Provisional Admission
Corequisite(s):
Focuses on the components of display necessary for the effective visual presentation of goods and services. Opportunities will be provided to utilize the principles and techniques that are common to display work in various types of businesses. Emphasis will be placed on design, color, tools and materials, and installation of displays. Topics include: design and color principles, tools and materials of the trade, props and fixtures, lighting and signing, installation of displays, store planning, and safety.

MKT 110 - ENTREPRENEURSHIP
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): Program Admission level math achievement
Corequisite(s):
Provides an overview of the activities that are involved in planning, establishing, and managing a small business enterprise. Topics include: planning, location analysis, financing, and development of a business plan.

MKT 112 – PRINCIPLES OF BANKING
Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): None
Introduces the history, documents, and operational functions of the banking industry. Topics include history, documents, operations, and specialized services.

MKT 113 – MONEY AND BANKING
Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): None
Emphasizes the relevance of monetary instruments, intermediaries, and the central banks to local, state, national, and international economics. Topics include history and evolution of financial institutions; monetary instruments and flow; and central banking, operation, and policies.

MKT 114 – FINANCIAL BUSINESS MACHINES
Weekly Hours: Class – 1; Lab – 4; Credit Hours: 3
Prerequisite: MAT 1011
Corequisite(s): None
Emphasizes basic calculator, teller terminal, proof machine, and financial computer use. Topics include introduction to types of equipment, calculators, teller machines, proof machines, and financial computers.

MKT 115 – FINANCIAL MANAGEMENT
Weekly Hours: Class – 4; Lab – 1; Credit Hours: 4
Prerequisite(s)/Corequisite(s): None
Provides knowledge and applications in the management of personal and consumer finance. Topics include record keeping, budgeting, credit principles, investment principles, and forecasting.

**MKT 122 - MERCHANDISING MANAGEMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
Develops skills for the potential entrepreneur to effectively merchandise and manage a business. Topics include: principles of merchandising, traffic patterns, basic stock and inventory, inventory control, mark-ups and mark-downs, and types of discounts.

**MKT 123 - SMALL BUSINESS MANAGEMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): ACC 1101, ENG 1010, MAT 1011
Corequisite(s):
Summarizes competencies included in the entrepreneurship specialization and provides opportunities for application and demonstration of skills. Topics include: management principles, marketing functions, financial applications, and entrepreneurial growth potential.

**MKT 125 – RETAIL OPERATIONS MANAGEMENT**
Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): None
Emphasizes the planning, organizing, and managing of retail firms. Topics include organizational development, strategic planning, short-term planning, human resource management, inventory controls, analysis of profit and loss statements and balance sheets, and entrepreneurship.

**MKT 130 - MARKETING ADMINISTRATION O.B.I. I**
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s): Program Admission, MKT 101; ENG 1010
Corequisite(s):
Introduces the application and reinforcement of marketing administration and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into marketing administration applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of marketing administration techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

**MKT 131 - MARKETING ADMINISTRATION O.B.I. II**
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s)/Corequisite(s): MKT 130
Corequisite(s):
Focuses on the application and reinforcement of marketing administration and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into marketing administration applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of marketing administration techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

**MKT 132 BANKING AND FINANCE O.B.I. I**
Weekly Hours: Class - 0; Lab – 10; Credit Hours: 3
Prerequisite: ENG 1011, MKT 101
Corequisite(s): None
Introduces the application and reinforcement of banking and finance and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into banking and finance applications on the job. Topics include problem solving, adaptability to the job setting, use of proper interpersonal skills, application of banking and finance techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

**MKT 134 - ENTREPRENEURSHIP O.B.I. I**
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s): Program Admission, ENG 1010, MKT 101
Corequisite(s):
Introduces the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.
MKT 135 - ENTREPRENEURSHIP O.B.I. II
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s)/Corequisite(s): MKT 134
Corequisite(s):
Focuses on the application and reinforcement of entrepreneurship and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into entrepreneurship applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of entrepreneurship techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

MKT 136 - RETAIL MANAGEMENT OBI I
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s): Program Admission, ENG 1010, MKT 101
Corequisite(s):
Introduces the application and reinforcement of retail management and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into retail management applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of retail management techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

MKT 137 - RETAIL MANAGEMENT OBI II
Weekly Hours: Class - 0; Lab - 10; Credit Hours: 3
Prerequisite(s): MKT 136
Corequisite(s):
Focuses on the application and reinforcement of retail management and employability principles in an actual job placement or practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into retail management applications on the job. Topics include: problem solving, adaptability to the job setting, use of proper interpersonal skills, application of retail management techniques, and professional development. The occupation-based instruction is implemented through the use of written individualized training plans, written performance evaluation, required weekly seminar, and required practicum or on-the-job training.

MKT 161 - SERVICE INDUSTRY BUSINESS ENVIRONMENT
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): ENG 0096 and ENG 0097, or entrance English score in accordance with approved TCSG admission score levels; RDG 0096 and RDG 0097, or entrance reading score in accordance with approved TCSG admission score levels; and MAT 0096 and MAT 0097, or entrance Corequisite(s):
Introduces students to the services industry. Topics include: an introduction to the service industry business environment; an introduction to life-long learning, work ethic and positive behaviors required for exceptional customer service, an introduction to customer relations, working together successfully on teams, and basic business principles.

MKT 162 - CUSTOMER CONTACT SKILLS
Weekly Hours: Class - 6; Lab - 0; Credit Hours: 6
Prerequisite(s)/Corequisite(s): MKT 161
Corequisite(s):
Provides students with skills necessary to communicate with customers and successfully manage that relationship in both telephone and face-to-face situations. Topics include: skills to effectively communicate with customers, developing rapport with customers, problem-solving in customer service, telephone skills, sales skills in the service environments, managing the difficult customer, and managing the multicultural customer. Computer-Based Training (CBT) is used to allow students to practice skills using simulated business situations.

MKT 163 - COMPUTER SKILLS FOR CUSTOMER SERVICE
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s)/Corequisite(s): MKT 162
Corequisite(s):
Provides students with the fundamentals of computer skills used in a customer service environment. Topics include: introduction to computer technology, introduction to the Windows environment, introduction to word processing, introduction to spreadsheets, introduction to databases, introduction to E-mail, and credit card processing.

MKT 164 - BUSINESS SKILLS FOR THE CUSTOMER SERVICE ENVIRONMENT
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s)/Corequisite(s): MKT 163
Corequisite(s):
Provides students with the fundamentals of basic business skills used in the customer service environment. Topics include: introduction to business correspondence, basic business calculations, change environment, managing
multiple tasks and priorities, and tools for team problem-solving and service improvement.

**MKT 165 - PERSONAL EFFECTIVENESS IN CUSTOMER SERVICE**
Weekly Hours: Class - 1; Lab - 0; Credit Hours: 1
Prerequisite(s)/Corequisite(s): MKT 164
Corequisite(s):
Provides students with skills that will allow them to present a positive image to both co-workers and customers. Topics include: personal wellness and stress management, positive image, and job interview skills.

**MKT 208 - SERVICE MARKETING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
This course defines the service industry and illustrates how to utilize methods of reaching and maintaining customers. Topics include: service industry classifications, strategies in balancing demand and capacity, developing a marketing plan, customer loyalty, technology, and trends.

**MKT 209 – REAL ESTATE FINANCE**
Weekly Hours: Class – 5; Lab — 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): None
Emphasizes the relevance of land value. Topics covered include legal titles, legal descriptions, types of real estate finance, and the leverage of real estate, the bank funding requirement, mortgage amortizations, financial theory, and real estate markets.

**MKT 228 - ADVANCED MARKETING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite(s):
This course gives an in-depth study of marketing research, consumer behavior, and marketing management strategies in a complex global environment. Topics include: marketing research, consumer behavior, strategic management, competitive advantage, and market segmentation.

**MKT 232 - ADVANCED SELLING**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): MKT 106 or instructor permission based upon experience
Corequisite(s):
This course emphasizes the advanced sales presentation skills needed to build partnerships with business representatives and final consumers. Topics include sales presentations, customer relationship management, sales training, self-management, and sales force training.

**MSD 100 - MANAGEMENT PRINCIPLES**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops skills and behaviors necessary for successful supervision of people and 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 marketplace, 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.

**MSD 101 - ORGANIZATIONAL BEHAVIOR**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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.

**MSD 102 - EMPLOYMENT LAW**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Develops a working knowledge of the legal environment of business necessary for supervisors. Topics include: the legal system and public policy making, administrative law and business contracts, individual accountability and liability, debtor-creditor relationships, interpreting and understanding federal protective laws relating to consumers and competition, the Uniform Commercial Code, Title VII of the Civil Rights Act, OSHA (Occupational Safety and Health Administration) regulations, and employee protective laws.

**MSD 103 - LEADERSHIP**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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.

**MSD 104 - HUMAN RESOURCE MANAGEMENT**

Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
This course is designed as an overview of the Human Resource Management (HRM) function and the manager and supervisor’s 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.

**MSD 105 - LABOR MANAGEMENT RELATIONS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
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. 

**MSD 106 – PERFORMANCE MANAGEMENT**

Weekly Hours: Class – 5; Lab — 0; Credit Hours: 5  
Prerequisite(s)/Corequisite(s): None  
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.

**MSD 107 - EMPLOYEE TRAINING AND DEVELOPMENT**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
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.

**MSD 109 – MANAGERIAL ACCOUNTING AND FINANCE**

Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5  
Prerequisite(s)/Corequisite(s): None  
Focus is to acquire the skills and concepts necessary to use accounting information in managerial decision making. Course is designed for those who will use, not necessarily prepare, accounting information. Those applications include the use of information for short and long term planning, operational control, investment decisions, and cost and pricing products and services. An overview of financial accounting and basic concepts of finance provides an overview of financial statement analysis. Topics include accounting background, accounting equations, financial statements and financial statement analysis, budgeting and planning, applied analysis for management decisions, cost flow analysis in manufacturing with applications
in process improvement, applications in product profitability, cost and pricing, client/server technology, computer software applications, payroll, income tax, inventory management, and ethical responsibilities.

**MSD 112 – INTRODUCTION TO BUSINESS & ECONOMICS**

Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): None
Provides 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.

**MSD 113 - BUSINESS ETHICS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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 to both develop 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.

**MSD 114 – MANAGEMENT COMMUNICATION TECHNOLOGIES**

Weekly Hours: Class – 5; Lab - 0; Credit Hours: 5
Prerequisite(s): None
Corequisite: SCT 100
Focuses on communication, supervision, and organizations in the age of technology. Builds on the basic computer skills introduced in SCT 100 using computer-based technology to develop skills in applying information technology. The student will create written, verbal, and electronic communications applied to supervisory functions in the workplace. Topics include word processing applications; spreadsheet applications; database applications, presentation technology and applications, graphical interface applications, interpersonal communications; organizational communications; applications come from communications, human resource management, and general business.

**MSD 120 - EMPLOYEE COMPENSATION AND BENEFITS**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
This business and public administration management course provides students with the theoretical and practical knowledge of the design and implementation of effective compensation and benefits programs.

**MSD 210 - TEAM PROJECT**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
This course 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 amongst others.

**MSD 220 – MANAGEMENT O.B.I. I**

Weekly Hours: Class - 0; Lab – 10; Credit Hours: 3
Prerequisite(s)/Corequisite(s): None
Provides reinforcement of management, supervision, and employability principles in an actual job placement or through a practicum experience. Students are acquainted with occupational responsibilities through realistic work situations and are provided with insights into management and supervisory applications on the job. Topics include problem solving, adaptability to the job setting, use of proper interpersonal skills, application of management and supervisory techniques, and professional development. The occupation-based instruction is implemented through the use of a practicum or internship and all of the following: written individualized training plans, written performance evaluation, and a required weekly seminar.

**MUS 1101 - MUSIC APPRECIATION**

Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s) /Corequisite(s): ENG 1101 with a grade of “C” or better.
Corequisite(s):
Explores the analysis of well-known works of music, their composition, the relationship to their periods through writing. Students practice various modes of writing, ranging from exposition to argumentation and persuasion. The course includes a brief review of standard grammatical and stylistic usage in proofreading and editing. An introduction to locating, acquiring, and documenting information resources lays the foundation for research to include: the creative and critical process, the themes of music, the formal elements of composition, and the placing of music in the historical context, writing analysis, practice, revision, and research about a musical composition or compositions. Topics include: historical and cultural development represented in musical arts; contributions of the musical arts; and communication skills.

**NPT 112 - MEDICAL SURGICAL NURSING PRACTICUM I**

Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NSG 112
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatment, pharmacology, medication administration, and diet therapy related to the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions.

**NPT 113 - MEDICAL SURGICAL NURSING PRACTICUM II**

Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NSG 113
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

**NPT 212 - PEDIATRIC NURSING PRACTICUM**

Weekly Hours: Class - 0; Lab - 6; Credit Hours: 2
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NPT 213, NSG 213, NSG 212
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the pediatric client; client care, treatment, pharmacology, medication administration, and diet therapy of the pediatric client; growth and development; and standard precautions.

**NPT 213 - OBSTETRICAL NURSING PRACTICUM**

Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NPT 212, NSG 213, NSG 212
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, and providing client education. Topics include: health management and maintenance and prevention of illness; care of the individual as a whole; and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatment, pharmacology, medication administration, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.

**NPT 215 - NURSING LEADERSHIP PRACTICUM**

Weekly Hours: Class - 0; Lab - 7; Credit Hours: 2
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NSG 215
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, critical thinking, supervisory skills, client education methods, group and other TQM processes, and conflict resolution.

**NSG 110 - NURSING FUNDAMENTALS**

Weekly Hours: Class - 5; Lab - 12; Credit Hours: 10
Prerequisite(s): AHS 1011, AHS 104, ENG 1010, MAT 101, PSY 1010
Corequisite(s):
An introduction to the nursing process. Topics include: orientation to the profession; ethics and law; community health; 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; geriatrics; customer/client relationships; and standard precautions.

**NSG 112 - MEDICAL SURGICAL NURSING I**
Weekly Hours: Class - 9; Lab - 0; Credit Hours: 9
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NPT 112
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the cardiovascular, respiratory, endocrine, urinary, and gastrointestinal systems; client care, treatment, pharmacology, and diet therapy related to the cardiovascular respiratory, endocrine, urinary, and gastrointestinal systems; and standard precautions.

**NSG 113 - MEDICAL SURGICAL NURSING II**
Weekly Hours: Class - 9; Lab - 0; Credit Hours: 9
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NPT 113
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; client care, treatment, pharmacology, and diet therapy related to the musculoskeletal, neurological, integumentary, and sensory systems, mental health, and oncology; and standard precautions.

**NSG 212 - PEDIATRIC NURSING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): AHS 102, AHS 103, NSG 110
Corequisite(s): NPT 213, NPT 212, NSG 212
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, and providing client education. Topics include: health management and maintenance and prevention of illness, care of the individual as a whole, and deviations from the normal state of health in the reproductive system, obstetric clients, and the newborn; client care, treatments, pharmacology, and diet therapy related to the reproductive system, obstetric clients, and the newborn; and standard precautions.

**OPD 101 - INTRODUCTION TO OPHTHALMIC OPTICS**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces students to the eye-care field and the profession of opticianry. Emphasis is placed on the scope of activities performed by opticians. Topics include: eye-care professions, major divisions of opticianry, basic ocular anatomy, light and refraction, vision problems, corrective lenses and national and state regulations.
Develops students’ knowledge of the anatomy and physiology of the eye. Emphasis is placed on the cornea metabolism and its accommodation of a contact lens. Topics include: anatomy of the eye, physiology of the eye, eye diseases and abnormalities, anterior and posterior segments, drugs and treatment methods, and ophthalmic terminology.

**OPD 103 - APPLIED OPTICAL THEORY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission, OPD 101
Corequisite(s):
Introduces students to properties of light and the laws of geometrical optics. Emphasis is placed on understanding major theories of light and the principles of plane and curved surfaces of mirrors and lenses. Topics include: light and vision, refraction, lens modified light, lens systems, and advanced optical calculations.

**OPD 106 - OPTICAL LABORATORY TECHNIQUES I**
Weekly Hours: Class - 4; Lab - 11; Credit Hours: 8
Prerequisite(s): Program Admission
Corequisite(s):
Introduces students to the operations involved in lens fabrication. Emphasis is placed on gaining knowledge of equipment requirements and developing surfacing and finishing techniques. Topics include: safety and environmental procedures, lens processing terminology, lens surfacing and finishing equipment, lens blank selection and layout, lens surfacing techniques, lens finishing techniques, lens final insertion and mounting techniques, standard alignment and inspection and inspection of lenses.

**OPD 107 - OPTICAL LABORATORY TECHNIQUES II**
Weekly Hours: Class - 4; Lab - 11; Credit Hours: 8
Prerequisite(s): OPD 106
Corequisite(s):
This course continues students’ study of lens fabrication. Emphasis is placed on using specialized lens materials and multifocal surfacing and finishing techniques. Topics include: specialized lens fabrication; multifocal lenses; inspection of multifocal lenses; optical calculations; frame repairs; and final inspection and optical equipment maintenance.

**OPD 108 - CONTACT LENS INSTRUMENTATION**
Weekly Hours: Class - 5; Lab - 3; Credit Hours: 6
Prerequisite(s): OPD 102
Corequisite(s):
Introduces the field of contact lenses. Emphasis is placed on the development of contact lenses to correct visual defects, defects of contact lenses and consumer selection. Topics include: history of contact lenses, contact lens instruments, contact lens terminology, corneal topography, lens types, pre-fitting evaluation, and adverse effects of contact lens wear.

**OPD 109 - FRAME SELECTION AND DISPENSING**
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): OPD 107, Program Admission
Corequisite(s):
Introduces students to frame selection and dispensing techniques. Emphasis is placed on gaining clinical experience in providing service to the eyewear consumer. Topics include: ocular measurements, frame selection, frame materials, eyewear fitting techniques, frame adjustment, lensmeter operation, administrative procedures, lens finishing, and matching frames to consumer needs.

**OPD 110 - SOFT CONTACT LENSES**
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): OPD 108
Corequisite(s):
This course introduces students to soft contact lens fitting techniques. Emphasis is placed on fitting trial and prescribed lenses. Topics include: lens selection; inspection and verification; fitting guidelines and regulations; follow-up care; lens care and storage; and fitting specialty soft contact lenses.

**OPD 112 - EYEWEAR LENS SELECTION AND DISPENSING**
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): OPD 109
Corequisite(s):
This course continues students’ study of eyewear dispensing techniques. Emphasis is placed on gaining clinical experience in providing service to the eyewear consumer. Topics include: prescription lens materials; lens positioning; multifocal lenses; absorptive lenses; special lens coatings; prescription lens selection; lens finishing; use and care of eyewear; matching lenses to consumer needs; and optical, physiological, and psychological problems.

**OPD 113 - RIGID CONTACT LENSES**
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): OPD 111
Corequisite(s):
This course continues students’ study of contact lenses with emphasis on rigid and gas permeable trial and prescriptive lens fitting techniques. Topics include: lens selection; inspection and verification; fitting guidelines and regulations; follow-up care; lens care and storage; and fitting specialty lenses.

**OPD 114 - OPTICIANRY SALES**
Weekly Hours: Class - 2; Lab - 10; Credit Hours: 6
Prerequisite(s): OPD 112
Corequisite(s):
This course introduces students to techniques of ophthalmic sales and emphasizes effective consumer service. Topics include: managed care terminology; information gathering; information technology; communicating with consumers, prescribers and suppliers; ophthalmic sales skills; effective consumer services and problem solving; and lens finishing.

**OPD 117 - CONTACT LENS REVIEW**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): OPD 113
Corequisite(s):
This course continues students’ study of contact lens dispensing knowledge skills. Emphasis is placed on reviewing types of contact lenses, fitting techniques, and further development of associated skills. Topics include: soft contact lens fitting; hard contact lens fitting; contact lens instrumentation; effective consumer service; and contact lens regulations.

**OPD 118 - OPTICIANS REVIEW**
Weekly Hours: Class - 1; Lab - 5; Credit Hours: 3
Prerequisite(s): OPD 114
Corequisite(s):
Continues students’ study of ophthalmic dispensing knowledge and skills. Emphasis is placed on reviewing optical theory, laboratory procedures, and further development of associated skills. Topics include: optical laboratory; frames and lenses; dispensing techniques; eyewear sales; and eyewear regulations.

**OPD 119 - OPTICIANS OCCUPATION - BASED INSTRUCTION**
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6
Prerequisite(s):
Corequisite(s):
Continues students’ study of ophthalmic dispensing techniques. Emphasis is placed on gaining clinical experience in providing service to the ophthalmic consumer. Topics include: special visual problems; contact lenses; analyzing ophthalmic problems; ordering procedures; marketing eyewear; and work attitudes. The occupation-based instruction is implemented through the use of a practicum or internship and all of the following: written individualized training plans, written performance evaluation, and required weekly seminar.

**OPD 120 - CLINICAL REFRACCTOMETRY**
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): OPD 101, OPD 102, OPD 103
Corequisite(s):
The course presents the fundamentals, terminology and practical procedures used in determining the powers of corrective lenses in relation to a patient’s refractive error. Emphasis will be placed on theory and use of the phoropter, retinoscope and automated refraction instruments. Various problems associated with changes in refractive powers will be discussed and demonstrated.

**PGT 101 - INTRODUCTION TO THE PRINTING INDUSTRY**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the beginning student to overview and the fundamentals of printing industry. Emphasizes the overview of graphic design. Topics include: first aid and safety, graphic design, electronic imaging, reproduction photography/digital reproduction, image assembly, offset duplication, bindery, measurement, industry overview, and printers math.

**PGT 102 - BASIC PUBLICATIONS DESIGN**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): PGT 102
Corequisite(s):
Focuses on the advanced study of publications design. Topics include: safety, page layout, basic scanning, graphics, file formats, font management, color theory, and quality issues.

**PGT 103 - ADVANCED PUBLICATIONS DESIGN**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): PGT 102
Corequisite(s):
Focuses on the advanced study of publications design. Topics include: safety, page layout, basic scanning, graphics, file formats, font management, color theory, and quality issues.

**PGT 107 - COLOR PHOTO MANIPULATION AND SCANNING**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): PGT 106
Corequisite(s):
Emphasizes the overview and the fundamentals of color photo manipulation and scanning. Topics include: safety, color theory, color scanning techniques, color correction, duotone and multitone, color separation techniques, special effects and filters, Process control, and industry standards/quality control (swop- standard web offset practices).

**PGT 109 - COLOR DIGITAL PRODUCTION**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): PGT 106
Corequisite(s):
Focuses on color digital production process. Topics include: first aid and safety, process color assembly, color separation production, trapping operations, color proofing operations, process color production, press proof/inspection, densitometry/color, industry overview, and printers math.

**PGT 110 - DIGITAL IMAGING PRACTICUM/INTERNSHIP**
Weekly Hours: Class - 0; Lab - 36; Credit Hours: 12
Prerequisite(s): PGT 109
Corequisite(s):
Provides an approved industry like setting where the student develops and sharpens skills. Emphasis is placed on production standards achievement and quality control. Topics include one or more of the following: process black and white and color assembly, black and white and color separation production, digital manipulation, and industry production techniques.

**PGT 111 - BASIC PRESS OPERATIONS I**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): Program Admission
Corequisite(s):
Introduces students to the basics of press operations. Topics include: safety, plating making, press operations, paper handling, chemistry, printing methods, press and bindery equipment, ink technology, and control devices.

**PGT 112 - BASIC PRESS OPERATIONS II**
Weekly Hours: Class - 3; Lab - 12; Credit Hours: 8
Prerequisite(s): PGT 111
Corequisite(s):
Emphasizes the basic press operations. Topics include: first aid and safety, press production methods, troubleshooting, substrate properties, inspection and maintenance, operational settings, basic finishing, ink mixing, image registration, signature imposition, and color control.

**PGT 113 - ADVANCED PRESS OPERATIONS I**
Weekly Hours: Class - 3; Lab - 12; Credit Hours: 8
Prerequisite(s): PGT 111
Corequisite(s):
Introduces students to advanced press operations. Topics include: first aid and safety, waste disposal, multi-pass production, operational control methods, scheduling and production standards, advanced production techniques, densitometry, troubleshooting, and production control.

**PGT 114 - ADVANCED PRESS OPERATIONS II**
Weekly Hours: Class - 3; Lab - 12; Credit Hours: 8
Prerequisite(s): PGT 113
Corequisite(s): Emphasizes the advanced press operations. Topics include: first aid and safety, parking and pressure settling, process color printing, dot gain printing, folding/cutting operations, finishing operations, coating process, and quality control requirements.

**PGT 115 - IMAGE OUTPUT AND PREFLIGHT**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the students to the study of image output and assembly. Topics include: safety, basic film assembly, film processing/chemistry, basic multicolor assembly, outputting files, film composition and contacting, proofing and plate making, registration methods, output control (preflighting), imposition, trapping, color proofing, and calibration/quality control.

**PGT 120 - BASIC OFFSET PRESS I**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): PGT 102
Corequisite(s):
Introduces the student to offset press technology. Topics include: safety, duplicator platemaking, fundamentals of paper technology for duplicator operations, ink technology for duplicator operations, make ready, single-color printing operations, fountain chemistry pH, planning and scheduling, recording, and cleaning and maintenance.

**PGT 122 - BASIC OFFSET PRESS II**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): PGT 115
Corequisite(s):
Emphasizes the advanced offset press technology. Topics include: safety and advanced duplicator, specialty inks, duplicator attachments for specialty printing, controls and aids for register printing, advanced printing on various substrates, multicolor printing and various quality control teaching, planning and scheduling, and process printing.

**PGT 124 - ADVANCED OFFSET PRESS OPERATIONS**
Weekly Hours: Class - 6; Lab - 4; Credit Hours: 8
Prerequisite(s): PGT 121
Corequisite(s):
Provides instruction in advanced press operations. Platemaking ink technology and paper technology are covered in-depth. Topics include: safety in press operations, plate making for press operations, ink technology for large press operations, fountain chemistry for press operations, planning and scheduling, single color printing, positioning and registration, make and ready for press operations, press adjustments, quality control, and cleaning and maintenance.
PGT 128 - BLACK AND WHITE PHOTO MANIPULATION AND SCANNING
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
Focuses on the overview and fundamentals of black and white photo manipulation and scanning. Topics include: safety, scanning operations, resolution, sizing/scaling, file formats, photo manipulation software, halftone gray scale theory, gray scale, quality control and calibration, OCR software, file conversion, digital input, digital manipulation, digital output, multitasking, industry production techniques and industry standards/quality control.

PGT 150 - DIRECTED INDIVIDUAL STUDY
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6
Prerequisite(s): PGT 101
Corequisite(s):
Provides the instructor and student an opportunity to develop special learning environments. Instruction is delivered through occupational work experiences, practicums, advanced projects, industry sponsored workshop, seminar, or specialized and/or innovative learning arrangements. Topics include: application of occupational/technical skills, adaptability to the work environment, and problem solving. Each course should be documented with a written agreement between the instructor and the student detailing expected requirements.

PHL 103 - INTRODUCTION TO VENIPUNCTURE
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s)/Corequisite(s): AHS 1011, AHS 109, ENG 1010, and Program Admission
Corequisite(s): SCT 100, AHS 104
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.

PHL 105 - CLINICAL PRACTICE
Weekly Hours: Class - 0; Lab - 20; Credit Hours: 6
Prerequisite(s): AHS 104, PHL 103
Corequisite(s):
Provides work experience in a clinical setting. Emphasis is placed on enhancing skills in venipuncture techniques. Topics include: introduction to hospital policies and procedures and work ethics; routine collections: adult, pediatric, and newborn; and special procedures.

PHR 1000 - PHARMACEUTICAL CALCULATIONS
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): MAT 1012
Corequisite(s):
Develops knowledge and skills in pharmaceutical calculations procedures. Topics include: systems of measurement, medication dispensing calculations, pharmacy mathematical procedures, and calculation tools and techniques.

PHR 1010 - PHARMACY TECHNOLOGY FUNDAMENTALS
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): Provisional Admission
Corequisite(s):
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, cardiopulmonary resuscitation (CPR), ethics and laws, definitions and terms, and reference sources.

PHR 1020 - PRINCIPLES OF DISPENSING MEDICATIONS
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): PHR 1000
Corequisite(s): PHR 1050
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.

PHR 1030 - PRINCIPLES OF STERILE MEDICATION PREPARATION
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): PHR 1010
Corequisite(s): PHR 1050
Continues the development of student knowledge and skills in preparing medication, processing glassware, and maintaining an aseptic environment. Topics include: aseptic and sterile techniques, parenteral admixtures, hyperalimentation, chemotherapy, filtering, disinfecting, contamination, ophthalmic preparations, infection control, and quality control.
PHR 1040 - PHARMACOLOGY
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): PHR 1010
Corequisite(s): AHS 1015, PHR 1030
The course 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.

PHR 1050 - PHARMACY TECHNOLOGY PRACTICUM
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): PHR 1010, PHR 1020
Corequisite(s): PHR 1030
Orients students to the clinical environment and provides experiences with the basic skills necessary for the pharmacy technician. Topics include: aseptic and sterile techniques, storage and control, documentation, inventory, filing, compounding, parenteral admixtures, filtering, disinfection, medication delivery, and hospital pharmacy techniques.

PHR 1055 – PHARMACY ASSISTANT PRACTICUM
Weekly Hours: Class - 0; Lab - 9; Credit Hours: 3
Prerequisite(s): MAT 1012, AHS 1011, SCT 100, AHS 109, PHR 1000, PHR 1010, PHR 1020
Corequisite(s): This course orients students to the clinical environment and provides experiences with the basic skills necessary for the pharmacy assistant.

PHR 2060 - ADVANCED PHARMACY TECHNOLOGY PRINCIPLES
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5
Prerequisite(s): PHR 1030, PHR 1050, SCT 100
Corequisite(s): PHR 2070
Presents the advanced concepts and principles needed in the pharmacy technology field. Topics include: physician orders, patient profiles, pharmacy data systems, job readiness, legal requirements and pharmaceutical calculations review.

PHR 2070 - ADVANCED PHARMACY TECHNOLOGY PRACTICUM
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): PHR 1030, PHR 1050, SCT 100
Corequisite(s): PHR 2060
Continues the development of student knowledge and skills applicable to pharmacy technology practice. Topics include: dispensing responsibilities, physician orders, controlled substances, hyperalimentation, chemotherapy, patient profiles, pharmacy data systems, ophthalmic preparations, and hospital/retail/home health pharmacy techniques.

PHY 1110 - INTRODUCTORY PHYSICS
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): MAT 1101 or MAT 1111
Corequisite(s):
The course is an introduction to some of the basic laws of physics. Topics include: systems of units and conversion of units; vector algebra; Newtonian mechanics; fluids and thermodynamics; heat; light, and optics; mechanical waves; electricity and magnetism; and modern physics. Laboratory experience supports classroom learning. Computer use is an integral part of class and laboratory assignments.

PHY 1111 - MECHANICS
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): MAT 1112 or MAT 1113
Corequisite(s):
The first course of three algebra and trigonometry based courses in the physics sequence. This course introduces the classical theories of mechanics. Topics include: measurements and systems of units; Newton’s laws; work energy, and power; momentum and collisions; one and two dimensional motion; circular motion and law of gravity; and rotational dynamics and mechanical equilibrium. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

PHY 1112 – ELECTRICITY AND MAGNETISM
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): PHY-1111
Corequisite(s):
The second of three algebra and trigonometry based courses in the physics sequence. This course introduces theories of electricity and magnetism. Topics include: electric charge, forces, and fields; electric potential, energy, and capacitance; magnetism; electric current, resistance, and basic electric circuits; alternating current circuits; and electromagnetic waves. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

PHY 1113 – FLUIDS, HEAT, SOUND AND LIGHT
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): PHY-1111
Corequisite(s):
The third of three algebra and trigonometry based courses in the physics sequence. This course introduces the classical theories of fluids, heat, sound, and light. Topics include: statics and dynamics of fluids; gas laws; heat transfer; thermodynamics; harmonic motion; wave motion; sound; and properties of light. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.
**POL 1101 - AMERICAN GOVERNMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s) /Corequisite(s): Program Admissions  
Corequisite(s):  
This course is a 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, special interest groups, political parties, and the election process along with the three branches of government. Topics include; foundations of government political behavior; and governing institutions.

**PSC 1111 – PHYSICAL SCIENCE**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): MAT-1100 OR MAT-1111  
Corequisite(s):  
Introduces the fundamentals of classical physics, the solar system, and universe from a descriptive viewpoint. Topics include: mechanics; temperature and heat; waves; electricity and magnetism; and astronomy. Laboratory exercises supplement class work. Computer use is an integral part of class and laboratory assignments.

**PSY 1010 - BASIC PSYCHOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
Presents the basic principles of human behavior and their application to everyday life and work. Topics include: introduction to psychology; social environments; communications and group processes; personality; emotions and motives; conflicts, stress, and anxiety; perception and learning; life span development, and abnormal psychology.

**PSY 1101 - INTRODUCTION TO PSYCHOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
Emphasizes the basics of psychology. Topics include: science of psychology; social environments; life stages; physiology and behavior; personality; emotions and motives; conflicts, stress, and anxiety; abnormal behavior; and perception, learning, and intelligence.

**PSY 1150 - INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s): Program Admission  
Corequisite(s):  
This course provides instruction in, and discussion of a wide range of activities related to interpersonal and managerial skills required in today’s business and industry. Topics include: an overview of industrial, organizational psychology, principles of human resources management, psychological testing, performance appraisal, training and professional development of employees, principles of leadership, motivational factors, workplace conditions, safety and health, workplace stressors and worth ethics.

**PSY 2103 - HUMAN DEVELOPMENT**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s) /Corequisite(s): PSY 1101  
Corequisite(s):  
This course surveys the changes that occur during the human life cycle beginning with conception and continuing through late adulthood and death. The scientific basis of our knowledge of human growth and development and the interactive forces of nature and nurture are emphasized. Topics include theories: research methods; nature and nurture; physical development; prenatal development, birth, infancy, childhood, adolescence, adulthood, aging, and death; cognitive development, learning perception, and language development; and social development; temperament, emotions, personality, attachment, parenting and family relationships.

**PSY 2250 – ABNORMAL PSYCHOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5  
Prerequisite(s) : PSY 1101  
Corequisite(s):  
Studies the nature and causes of various forms of behavior disorder. Topics include: types of abnormalities; psychopathology; assessment and classification of mental disorders; symptomatology of major mental disorders; and critical evaluation of current theories.

**RAD 101 - INTRODUCTION TO RADIOGRAPHY**
Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): Program Admission level reading and math competency  
Corequisite(s):  
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 institution affiliation, body mechanics/transportation, vital signs, medical emergencies, contrast...
agents, CPR, medical and surgical asepsis, OR and mobile procedures, patient preparation, and death and dying.

**RAD 103 - BODY TRUNK AND UPPER EXTREMITY PROCEDURES**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s)/Corequisite(s): BIO 2113, BIO 2114
Corequisite(s):
Introduces the knowledge required to perform radiographic 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; and procedures, anatomy, and topographical anatomy related to body cavities, upper extremities, the shoulder girdle, and the bony thorax imaging, principles, radiographic quality, radiation protection, equipment introduction, and patient preparation/disclaimer contract.

**RAD 106 - LOWER EXTREMITY AND SPINE PROCEDURES**
Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3
Prerequisite(s): RAD 101
Corequisite(s):
Continues to develop the knowledge required to perform radiographic procedures. Topics include: anatomy and routine projections of the lower extremities, anatomy and routine projections of the pelvic girdle, anatomy and routine projections of the spine.

**RAD 107 - PRINCIPLES OF RADIOGRAPHIC EXPOSURE I**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s)/Corequisite(s): RAD 101
Corequisite(s):
Introduces knowledge of the factors that govern and influence the production of the radiographic image on radiographic film. Laboratory experiences will demonstrate applications of theoretical principles and concepts. Emphasis will be placed on knowledge and techniques required to process radiographic film. Topics include: radiographic density, radiographic contrast, recorded detail, distortion, exposure latitude, film holders and intensifying screens, processing area considerations, chemicals, handling and storage of film, characteristics of films utilized in radiographic procedures, automatic processor, artifacts, silver recovery, processing quality assurance concepts, and state and federal regulations.

**RAD 109 - CONTRAST PROCEDURES**
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): RAD 106
Corequisite(s):
Continues development of the knowledge and skill required prior to execution of radiographic procedures in the clinical setting. Topics include: gastrointestinal (GI) procedures, genitourinary (GU) procedures, biliary system procedures, and other radiographic procedures.

**RAD 113 - CRANIUM PROCEDURES**
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 2
Prerequisite(s): RAD 106
Corequisite(s):
Continues to develop the knowledge required to perform radiographic procedures. Topics include: anatomy and routine cranial radiography and anatomy and routine facial radiography.

**RAD 116 - PRINCIPLES OF RADIOGRAPHIC PROCEDURES II**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): RAD 107
Corequisite(s):
Continues to develop knowledge of the factors that govern and influence the production of the radiographic image on radiographic film. Topics include: beam limiting devices, beam filtration, scattered/secondary radiation, control of the remnant beam, technique formation, and exposure calculations.

**RAD 117 - RADIOGRAPHIC IMAGING EQUIPMENT**
Weekly Hours: Class - 3; Lab - 3; Credit Hours: 4
Prerequisite(s): RAD 116
Corequisite(s):
Provides knowledge of equipment routinely utilized to produce diagnostic images. Various recording media and techniques are discussed. Topics include: radiographic equipment, image intensified fluoroscopy, recording media and techniques, image noise, other imaging equipment, digital imaging/PACS, monitoring and maintenance, and state and federal regulations.

**RAD 119 - RADIOGRAPHIC PATHOLOGY AND MEDICAL TERMINOLOGY**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): BIO 2113, BIO 2114
Corequisite(s):
Provides the student with an introduction to the concepts of disease. Pathology and disease as they relate to various radiographic procedures are discussed. Topics include: pathology fundamentals, trauma/physical injury, and systemic classification of disease and medical terminology.
**RAD 120 - PRINCIPLES OF RADIATION BIOLOGY AND PROTECTION**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission level math and English competency
Corequisite(s):
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.

**RAD 123 - RADIOLOGIC SCIENCE**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s)/Corequisite(s): MAT 1101 or MAT 1111
Corequisite(s):
Introduces the concepts of basic physics and emphasizes the fundamentals of r-ray generating equipment. Topics include: atomic structure, structure of matter, magnetism and electromagnetism, electrodynamics, and control of high voltage rectification, x-ray circuitry, x-ray tubes and rectifiers, production and characteristics of radiation.

**RAD 126 - RADIOLOGIC TECHNOLOGY REVIEW**
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s)/Corequisite(s): RAD 134, RAD 138
Corequisite(s):
Provides a review of basic knowledge from previous courses and helps the student prepare for national certification examinations for radiographers. Topics include: principles of radiographic exposure; radiographic procedures; anatomy, physiology, pathology, and terminology; radiologic science and equipment; radiation protection; and patient care techniques.

**RAD 132 - CLINICAL RADIOGRAPHY I**
Weekly Hours: Class - 0; Lab - 14; Credit Hours: 5
Prerequisite(s): Program Admission
Prerequisite(s)/Corequisite(s): RAD 104 or RAD 108
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, and bony thorax. Students’ activities are under direct supervision.

**RAD 133 - CLINICAL RADIOGRAPHY II**
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): RAD 122, RAD 101
Prerequisite(s)/Corequisite(s): RAD 112
Continues introductory student learning experiences in the hospital setting. Topics include: equipment utilization; exposure techniques; participation in and/or observation of routine projections of the lower extremities, pelvic girdle, spine, and bony thorax; and participation in and/or observation of procedures related to the gastrointestinal (GI), genitourinary (GU), and biliary systems. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 134 - CLINICAL RADIOGRAPHY III**
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): RAD 109; RAD 133
Prerequisite(s)/Corequisite(s): RAD 113
Provides students with continued hospital setting work experience. Students improve skills in executing procedures introduced in Radiographic Procedures I and II and practiced in previous clinicals. Topics include: equipment utilization; exposure techniques; participation in and/or observation of gastrointestinal (GI), genitourinary (GU), and biliary system procedures; and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 135 - CLINICAL RADIOGRAPHY IV**
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): RAD 101
Corequisite(s):
Provides students with continued hospital setting work experience. Students continue to develop proficiency in executing procedures introduced in Radiographic. Topics include: sterile techniques; participation in and/or observation of minor special procedures, special equipment use, and genitourinary system procedures; and participation in and/or observation of cranial and facial radiography. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 136 - CLINICAL RADIOGRAPHY V**
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): RAD 135
Corequisite(s):
Provides students with continued hospital setting work experience. Students demonstrate increased proficiency levels in skills introduced in Radiographic Procedures and practiced in previous clinical radiography courses. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional, minor special, and special genitourinary system procedures; and participation in and/or observation of...
special equipment use. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 137 - CLINICAL RADIOGRAPHY VI**
Weekly Hours: Class - 0; Lab - 28; Credit Hours: 10
Prerequisite(s): RAD 136
Prerequisite(s)/Corequisite(s): RAD 120
Provides a hospital setting in which students continue to develop proficiency levels in skills introduced in Previous Radiographic Procedures Courses and practiced in previous clinical radiography courses. Topics include: equipment utilization, exposure techniques, and participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision.

**RAD 138 - CLINICAL RADIOGRAPHY VII**
Weekly Hours: Class - 0; Lab - 28; Credit Hours: 10
Prerequisite(s): RAD 137
Corequisite(s):
Provides a culminating hospital setting work experience which allows the students to synthesize information and procedural instruction provided throughout the program. Topics include: equipment utilization, exposure techniques, participation in 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.

**RAD 220 - INTRODUCTION TO COMPUTED TOMOGRAPHY**
Weekly Hours: Class - 2; Lab - 0; Credit Hours: 2
Prerequisite(s): Program Admission
RAD 222 and RAD 225
Introduces the student to computed tomography and patient care in the CT suite. Topics include the history of computed tomography, patient care and assessment, contrast agents, radiation safety, medical ethics and law, cultural diversity, and patient information management.

**RAD 221 - COMPUTED TOMOGRAPHY PHYSICS AND INSTRUMENTATION**
Weekly Hours: Class - 7; Lab - 0; Credit Hours: 7
Prerequisite(s): RAD 220, RAD 222, and RAD 225
Corequisite(s): RAD 223 and RAD 226
Introduces the concepts of basic physics and instrumentation for computed tomography. Topics include system operation and components, image processing and display, image quality and artifacts.

**RAD 222 - CT PROCEDURES I**
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s): RAD 220 and RAD 225
Provides knowledge of anatomy, pathology, scanning protocols, contrast administration, and contraindications for computed tomography of the head, chest, abdomen, and pelvis.

**RAD 223 - CT PROCEDURES II**
Weekly Hours: Class - 4; Lab - 0; Credit Hours: 4
Prerequisite(s): RAD 220, RAD 222 and RAD 225
Corequisite(s): RAD 221 and RAD 226
Provides knowledge of anatomy, pathology, scanning protocols, contrast administration, and contraindications for computed tomography of the neck, musculoskeletal system, and special procedures. Post-processing and quality assurance criteria are addressed.

**RAD 225 - COMPUTED TOMOGRAPHY CLINICAL I**
Weekly Hours: Class - 0; Lab - 18; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s): RAD 220 and RAD 222
Introduces students to the computed tomography department and provides an opportunity for participation in and observation of CT procedures. Topics include equipment utilization, exposure techniques, evaluation of CT procedures, incorporation of contrast media, and progression toward completion of clinical competency evaluations.

**RAD 226 - COMPUTED TOMOGRAPHY CLINICAL II**
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): RAD 220, RAD 222, and RAD 225
Corequisite(s): RAD 221 and RAD 223
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. Topics include equipment utilization, exposure techniques, evaluation of CT procedures, incorporation of contrast media, post-processing techniques, and completion of clinical competency evaluations.

**RDG 0096 - READING II**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): RDG 095, or entrance reading score in accordance with approved TCSG admission score levels
Corequisite(s):
Emphasizes the strengthening of fundamental reading competencies. Topics include: vocabulary skills, comprehension skills, and study skills.

**RDG 0097 - READING III**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): RDG 0096, or entrance reading score in accordance with approved TCSG admission score levels
Corequisite(s):
This course emphasizes vocabulary, comprehension, and critical reading skills development. Topics include vocabulary skills, comprehension skills, critical reading skills, study skills, and content area reading skills.

**RDG 0098 - READING IV**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): RDG 0097, or entrance reading score in accordance with approved TCSG admission score levels
Corequisite(s):
This course provides instruction in vocabulary and comprehension skills with emphasis on critical reading skills. Topics include vocabulary skills, comprehension skills, critical reading skills, study skills, and content area reading skills.

**SCT 100 - INTRODUCTION TO MICROCOMPUTERS**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): Provisional Admission
Corequisite(s):
Introduces the fundamental concepts and operations necessary to use microcomputers. Emphasis is placed on basic functions and familiarity with computer use. Topics include: computer terminology, introduction to the Windows environment, introduction to networking, introduction to word processing, introduction to spreadsheets, and introduction to databases.

**SMB 107 - SMALL BUSINESS ACCOUNTING**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): Program Admission
Corequisite(s):
Introduces the basic 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 and accounting for a personal service business, the accounting cycle and accounting for a merchandising enterprise, and cash control. Laboratory work demonstrates theory presented in class.

**SMB 108 - SMALL BUSINESS ACCOUNTING AND FINANCE**
Weekly Hours: Class - 3; Lab - 2; Credit Hours: 4
Prerequisite(s): SMB 107
Corequisite(s):
Applies the basic principles of accounting to specific account classifications and emphasizes a fundamental understanding of cash flows and analysis of financial statements. Topics include: receivables, plant assets, payables, preparation of sales tax returns, creating a statement of cash flows, and analysis and interpretation of financial statements. Laboratory work demonstrates theory presented in class.

**SOC 1101 - INTRODUCTION TO SOCIOLOGY**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission
Corequisite(s):
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.

**SPC 1101 - PUBLIC SPEAKING**
Weekly Hours: Class - 5; Lab - 0; Credit Hours: 5
Prerequisite(s): Program Admission level language competency or ENG 0098
Corequisite(s):
Introduces the fundamentals of oral communication. Topics include: selection and organization of materials, preparation and delivery of individual and group presentations, and analysis of ideas presented by other, and professionalism.

**SUR 101 - INTRODUCTION TO SURGICAL TECHNOLOGY**
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s): Program Admission
Corequisite(s):
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: orientation to surgical technology, asepsis and the surgical environment, basic instrumentation and equipment, principles of the sterilization process, and application of sterilization principles.

**SUR 102 - PRINCIPLES OF SURGICAL TECHNOLOGY**
Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5
Prerequisite(s): SUR 101; SUR 108; and PSY 1010
Corequisite(s):
Provides continued study of surgical team participation by introducing basic case preparation/procedures and creation/maintenance of the sterile field. Topics include: basic case preparation and procedures, creation and maintenance of the sterile field, surgical supplies and accessory equipment, wound management, principles of surgery, minimal invasive surgery, and outpatient surgical procedures.

**SUR 108 - SURGICAL MICROBIOLOGY**
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s): AHS 104; AHS 109; BIO 2113; SCT 100; ENG 1010, MAT 1012
Corequisite(s): SUR 101; and PSY 1010
Introduces the fundamentals of surgical microbiology. Topics include: historical development of microbiology, cell structure and theory, microbial function, human and pathogen relationships, infectious process, bloodborne and airborne pathogens, defense microorganisms, infection control, and principles of microbial control and destruction.

SUR 109 - SURGICAL PATIENT CARE
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): SUR 101; SUR 108; and PSY 1010
Corequisite(s):
Introduces a complex diversity of surgical patients. Topics include: physiological diversities and needs, special patient needs, preoperative routine, intraoperative patient care, surgical emergencies, documentation and assessment skills, postoperative patient care, and care of the caregiver.

SUR 110 - SURGICAL PHARMACOLOGY
Weekly Hours: Class - 2; Lab - 2; Credit Hours: 3
Prerequisite(s): SUR 101; SUR 108; and PSY 1010
Corequisite(s): SUR 102, SUR 109
Introduces the fundamentals of intraoperative pharmacology, and emphasizes concepts of anesthesia administration. Topics include: weights and measurements, drug conversions, interpretation of drug orders, legal aspects of drug administration, intraoperative pharmacologic agents, and anesthesia fundamentals.

SUR 112 - INTRODUCTORY SURGICAL PRACTICUM
Weekly Hours: Class - 0; Lab - 21; Credit Hours: 7
Prerequisite(s): Program Admission, AHS 1011 and SUR 101 (taken no longer than 6 months prior to enrollment in SUR 112)
Prerequisite(s)/Corequisite(s): SUR 102
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; basic instrumentation; and environmental sanitation.

SUR 203 - SURGICAL PROCEDURES I
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s): SUR 102, SUR 109, SUR 110, SUR 112
Corequisite(s): SUR 213
Continues introduction to surgical procedures, incisions, wound closure, operative pathology, and common complications as applied to general and specialty surgery. Topics include: general surgery and special techniques, obstetrical and gynecological surgery, gastrointestinal surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.

SUR 204 - SURGICAL PROCEDURES II
Weekly Hours: Class - 5; Lab - 2; Credit Hours: 6
Prerequisite(s): SUR 203, SUR 213
Corequisite(s): SUR 214
Continues development of student knowledge and skills applicable to specialty surgery areas. Topics include: ophthalmic surgery, orthopedic surgery, thoracic surgery, vascular surgery, cardiovascular surgery, and neurosurgery.

SUR 213 - SPECIALTY SURGICAL PRACTICUM
Weekly Hours: Class - 0; Lab - 24; Credit Hours: 8
Prerequisite(s): SUR 102, SUR 109, SUR 110, SUR 112, SUR 203
Corequisite(s):
Continues development of surgical team participation through clinical experience. Emphasis is placed on observation/participation in routine procedures and procedures for general and specialty surgery. Topics include: participation in and/or observation of general surgery, gastrointestinal surgery, obstetrical and gynecological surgery, genitourinary surgery, head and neck surgery, and plastic and reconstructive surgery.

SUR 214 - ADVANCED SPECIALTY SURGICAL PRACTICUM
Weekly Hours: Class - 0; Lab - 24; Credit Hours: 8
Prerequisite(s)/Corequisite(s): SUR 203, SUR 204, SUR 213
Corequisite(s):
Provides opportunity for students to complete all required Surgical Technology procedures through active participation in surgery in the clinical setting. Topics include: primary scrub on specialty surgical procedures; participation as a surgical team conducting ophthalmic, orthopedic, thoracic, vascular, cardiovascular, and neurosurgery procedures; independent case preparation and implementation of intraoperative skills; and demonstration of employability skills.

SUR 224 - SEMINAR IN SURGICAL TECHNOLOGY
Weekly Hours: Class - 3; Lab - 0; Credit Hours: 3
Prerequisite(s)/Corequisite(s): SUR 214
Corequisite(s):
Prepares students for entry into careers as surgical technologists and enables them to effectively review for the national certification examination. Topics include: professional preparation, certification review, and test-taking skills.
TEL 107 – CABLE INSTALLATION
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): None
Introduces the basics of cable installation from the initial site survey to splicing cable and making connections. Through extensive laboratory activities, students perform the basic tasks of a cable installer. Topics include: site survey, cable pulling, cable connections, cable splicing, and premise distribution systems.

TEL 108 – NETWORK INSTALLATION AND REPAIR I
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite(s)/Corequisite(s): TEL 106 and TEL 107, or ELC 120
Teaches the installation, testing, and repair of simple and complex network systems. Extensive laboratory activities give practical hands-on experience with various telephone systems. Topics include: straight line station apparatus and wiring, special apparatus systems, multi-line systems, isolation faults, line testing, key systems programming, and customer relations.

TEL 116 – FIBER OPTICS
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: TEL 103 or ELC 120
Corequisite(s): None
Introduces the fundamentals of fiber optics and explores the applications of fiber optics transmission systems. Laboratory exercises give students hands-on experience with fiber optic devices. Topics include: introduction to optical fiber principles, types of optical fiber, characteristics of optical fiber, factors contributing to fiber losses, fiber optic systems, installation and maintenance of fiber optic systems, fusion/quick connect splicing, and terminations.

TEL 122 – MICROCOMPUTER INSTALLATION AND MAINTENANCE
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 7
Prerequisite(s)/Corequisite(s): TEL 106 or ELC 107
Provides an introduction to the fundamentals of installing and maintaining microcomputers. Topics include: identifying components and their functions, safety, installation procedures, troubleshooting techniques, and preventive maintenance.

TEL 132 - NETWORKING CABBING AND FIBER OPTICS
Weekly Hours: Class - 5; Lab - 5; Credit Hours: 7
Prerequisite(s): Provisional Admission
Corequisite(s):
To equip technicians with the fundamental knowledge, skills and understanding that will enable them to install, troubleshoot and maintain today's networks. Topics include: familiarization with the graymark, a cabling tech cable installation trainer; network theory; network components and functions; installation of cabling systems; and network testing and troubleshooting.

TEL 160 – DIGITAL TRANSMISSION SYSTEMS
Weekly Hours: Class – 2; Lab – 3; Credit Hours: 3
Prerequisite(s): None
Corequisite: TEL 140
Introduction to digital transmission systems - Topics include: analog-to-digital conversion; digital signaling schemes employed; framing and formatting; the North American Digital Hierarchy; SONET. Upon completion the student will be able to identify the various digital hierarchies used in communications. The student will be able to test and identify the different framing formats found in TDM and understand the steps in analog to digital conversion Performed by codecs.

TEL 169 – CABLE TV FUNDAMENTALS
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisites: IFC 101, IFC 102
Corequisite(s): None
Upon completion of the course a student will understand the fundamentals of cable television systems and high-speed data and telephony over cable. This course provides the basis for further study of cable television and broadband systems. Topics include: general organization of cable TV systems; TV transmission plans and equipment; TV signal characteristics and processing; and basic analysis of TV picture quality and problems.

TEL 170 – BROADBAND CABLE INSTALLATION
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: TEL 169
Corequisite: TEL 170
Introduces the basics of coaxial cable installation from the initial site survey to installing cable and making connections. Through extensive laboratory activities, students will perform the basic tasks of a coaxial cable installer. Including but not limited to site survey, cable pulling, cable connections, cable distribution systems, and premise connections.

TEL 172 – BROADBAND SYSTEM INSTALLATION
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: TEL 170
Corequisite(s): None
Upon completion the student will understand and perform the following: the installation, testing, and repair of simple and complex broadband systems. The student will be involved in extensive laboratory activities give practical...
hands-on experience with various broadband equipment and systems. Topics include: installing customer drops; setting up and configuring cable access units (set-top boxes), TV sets, VCRs and other customer broadband and equipment.

TEL 174 – BROADBAND TROUBLESHOOTING AND REPAIR
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: TEL 172
Corequisite(s): None
Introduces students to procedures for troubleshooting cable TV equipment and lines. Upon completion the student will be able to perform proper testing techniques and test equipment used in troubleshooting cable systems and equipment including but not limited to cable drops, connectors, receivers and TVs. Topics include: troubleshooting procedures, test equipment, troubleshooting and repair of cable distribution systems, and troubleshooting and repair of CPE systems.

TEL 180 – S/W SYSTEM MAINTENANCE
Weekly Hours: Class – 2; Lab – 3; Credit Hours: 3
Prerequisite(s): TEL 167
Corequisite(s): None
This course will provide the student with the background, knowledge, and experience necessary to install software updates on the cell site equipment. The updating of computer software will be covered, but more important will be the updating of the software in the embedded computers controlling the operations of the cell site equipment.

TEL 202 – PREPARATION FOR BICSI APPRENTICE CERTIFICATION
Weekly Hours: Class – 2; Lab – 3; Credit Hours: 3
Prerequisite(s)/Corequisite(s): None
This course is designed for the entry-level telecommunications technicians who need to understand the industry and be proficient in the basic practices used in a structured cabling and installation environment. Topics include identification of industry structure, standards, codes, and methodologies; media characteristics; preparation for installation, connectors, grounding and bonding; testing, pulling and termination of cable; cable splicing; fire stopping; administration; professionalism; selection and maintenance of tools; delivery and inventory of equipment; and interpretation of symbols and specifications.

TEL 211 – COMMUNICATION PLATFORMS
Weekly Hours: Class – 4; Lab – 6; Credit Hours: 6
Prerequisite: Tel 106 or ELC 107
Corequisite(s): None
Provides students an overview of the different types of communication platforms used primarily in the interconnects as well as the business systems component of service providers. Students will get detailed knowledge on system features, installation, and programming. The course will cover communication platforms including KSUs, PBXs, voicemail, and VoIP. The student will perform extensive hands-on lab exercises involving installation, programming, and troubleshooting of the various platforms.

VCM 136 - DIGITAL PHOTO EDITING
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s): VCM 121, VCM 124, VCM 127
Corequisite(s):
Provides hands-on experience with major photo editing software. Topics include: digital input (scanners, digital cameras), resolution, color modes, layering and masking, input levels, filters, retouching, special effects.

WLD 100 - INTRODUCTION TO WELDING TECHNOLOGY
Weekly Hours: Class - 4; Lab - 4; Credit Hours: 6
Prerequisite(s): Provisional Admission
Corequisite(s):
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, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards.

WLD 101 - OXYFUEL CUTTING
Weekly Hours: Class - 2; Lab - 6; Credit Hours: 4
Prerequisite(s)/Corequisite(s): WLD 100
Corequisite(s):
Introduces fundamental principles, safety practices, equipment, and techniques necessary for metal heating and oxyfuel cutting. Topics include: metal heating and cutting principles, safety procedures, use of cutting torches and apparatus, metal heating techniques, metal cutting techniques, manual and automatic oxyfuel cutting techniques, and oxyfuel pipe cutting. Practice in the laboratory is provided.

WLD 102 - OXYACETYLENE WELDING
Weekly Hours: Class - 1; Lab - 2; Credit Hours: 1
Prerequisite(s): WLD 100
Corequisite(s):
Introduces the fundamental theory, safety practices, equipment, and techniques necessary to perform basic oxyacetylene welding operations. Topics include: welding theory; oxyacetylene welding safety; use of gas cylinders and regulators; use of torches, tips, and apparatus; welding without filler rods; running beads with filler rods; butt, open
butt, and lap joints; and brazing and soldering. Practice in the laboratory is provided.

**WLD 103 - BLUEPRINT READING I**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s)/Corequisite(s): MAT 100
Corequisite(s):
Introduces the knowledge and skills necessary for reading welding and related blueprints and sketches. Topics include: basic lines; sketching; basic and sectional views; dimensions, notes, and specifications; isometrics; and detail and assembly of prints.

**WLD 104 - SHIELDED METAL ARC WELDING I**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): WLD 100
Corequisite(s):
Introduces the fundamental theory, safety practices, equipment, and techniques required for shielded metal arc welding (SMAW) in the flat position. Qualification tests, flat position, are used in the evaluation of student progress toward making industrial standard welds. Topics include: SMAW safety and health practices, fundamental SMAW theory, basic electrical principles, SMAW machines and setup, electrode identification and selection, materials selection and preparation, and production of beads and joints in the flat position.

**WLD 105 - SHIELDED METAL ARC WELDING II**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): WLD 104
Corequisite(s):
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.

**WLD 106 - SHIELDED METAL ARC WELDING III**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): WLD 104
Corequisite(s):
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.

**WLD 107 - SHIELDED METAL ARC WELDING IV**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): WLD 104
Corequisite(s):
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.

**WLD 108 - BLUEPRINT READING II**
Weekly Hours: Class - 1; Lab - 4; Credit Hours: 3
Prerequisite(s): WLD 103
Corequisite(s):
Emphasizes welding symbols and definitions through which the engineer or designer communicates with the welder. Welding symbols are considered an integral part of blueprint reading for the welder. Topics include: welding symbols and abbreviations; basic joints for weldment fabrications; surfacing back or backing, and melt-thru welds; and structural shapes and joint design.

**WLD 109 - GAS METAL ARC WELDING (GMAW/MIG)**
Weekly Hours: Class - 3; Lab - 7; Credit Hours: 6
Prerequisite(s): WLD 100
Corequisite(s):
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 setup; transfer modes; wire selection; shielded gas selection; and GMAW joints in all positions.

**WLD 110 - GAS TUNGSTEN ARC WELDING (GTAW/TIG)**
Weekly Hours: Class - 2; Lab - 5; Credit Hours: 4
Prerequisite(s): WLD 100
Corequisite(s):
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 evaluation of student progress toward making industrial standard welds. Topics include: GTAW safety and health practices; GTAW theory, machines, and setup; transfer modes; wire selection; shielding gases; metal cleaning procedures; GTAW machines and setup; selection of filler rods; GTAW
weld positions; and production of GTAW beads, bead patterns, and joints.

**WLD 112 - PREPARATION FOR INDUSTRIAL QUALIFICATION**

Weekly Hours: Class - 2; Lab - 6; Credit Hours: 4  
Prerequisite(s): WLD 101, WLD 105, WLD 106, WLD 107, WLD 108, WLD 109, WLD 110  
Corequisite(s):  
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.

**WLD 133 - METAL WELDING AND CUTTING TECHNIQUES**

Weekly Hours: Class - 2; Lab - 3; Credit Hours: 3  
Prerequisite(s): Provisional Admission  
Corequisite(s):  
Provides instruction in the fundamental use of the electric arc welder and the oxyacetylene cutting outfit. Emphasis is placed on safe setup and use of equipment. Topics include: arc welding, flame cutting, safety practices, and brazing.

**WLD 150 - ADVANCED GAS TUNGSTEN ARC WELDING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5  
Prerequisite(s): WLD 100, WLD 110  
Corequisite(s):  
Provides advanced 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 evaluation of student progress toward making advanced industrial standard welds. Topics include: 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 in all positions.

**WLD 151 - FABRICATION PRACTICES**

Weekly Hours: Class - 4; Lab - 2; Credit Hours: 5  
Prerequisite(s): WLD 107, WLD 108, WLD 109  
Corequisite(s):  
Presents practices common in the welding and metal fabrication industry. Topics include: metal fabrication safety and health practices and metal fabrication procedures.

**WLD 152 - PIPE WELDING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5  
Prerequisite(s): WLD 107, WLD 108  
Corequisite(s):  
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).

**WLD 153 - FLUX CORED ARC WELDING**

Weekly Hours: Class - 2; Lab - 8; Credit Hours: 5  
Prerequisite(s): WLD 100  
Corequisite(s):  
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.

**WLD 154 - PLASMA CUTTING**

Weekly Hours: Class - 4; Lab - 3; Credit Hours: 5  
Prerequisite(s): WLD 100  
Corequisite(s):  
Provides knowledge of theory, safety practices, equipment, and techniques required for plasma cutting. Topics include: safety practices; plasma torch and theory; plasma machine set up and operation; and plasma cutting techniques.

**WLD 160 - WELDING AND JOINING TECHNOLOGY HALF-TIME INTERNSHIP**

Weekly Hours: Class - 0; Lab - 15; Credit Hours: 5  
Prerequisite(s): Completion of two full quarters with a GPA of 3.0 or better.  
Corequisite(s):  
Provides additional skills application in an industrial setting through a cooperative agreement among industry, the Welding Joining Technology program, and the student to furnish employment in a variety of welding occupations. Emphasizes student opportunities to practice welding skills in a “hands on” situation and to work in an industrial environment under the supervision of a master welding technician. Supplements and complements the courses taught in the Welding and Joining Technology program. Topics include: application of welding and joining skills, appropriate employability skills, problem solving, adaptability to job equipment and technology, progressive productivity, and acceptable job performance.