CARPENTRY

**CAR 110 Introduction to Carpentry (2-0-2)**
This course introduces the student to the carpentry trade. Topics include duties of a carpenter, hand and power tools, building materials, construction methods, and safety. Upon completion, students should be able to identify hand and power tools, common building materials, and basic construction methods.

**CAR 111 Carpentry I (3-15-8)**
Prerequisites: CAR 111
This course introduces the theory and construction methods associated with the building industry, including framing, materials, tools, and equipment. Topics include safety, hand/power tool use, site preparation, measurement and layout, footings and foundations, construction framing, and other related topics. Upon completion, students should be able to safely lay out and perform basic framing skills with supervision.

**CAR 112 Carpentry II (3-15-8)**
Prerequisites: CAR 111
This course covers the advanced theory and construction methods associated with the building
industry including framing and exterior finishes. Topics include safety, hand/power tool use, measurement and layout, construction framing, exterior trim and finish, and other related topics. Upon completion, students should be able to safely frame and apply exterior finishes to a residential building with supervision.

**CAR 113 Carpentry III (3-9-6)**
*Prerequisites: CAR 111*
This course covers interior trim and finishes. Topics include safety, hand/power tool use, measurement and layout, specialty framing, interior trim and finishes, cabinetry, and other related topics. Upon completion, students should be able to safely install various interior trim and finishes in a residential building with supervision.

**CAR 115 Residential Planning/Estimating (3-0-3)**
*Prerequisites: BPR 130*
This course covers project planning, management, and estimating for residential or light commercial buildings. Topics include planning and scheduling, interpretation of working drawings and specifications, estimating practices, and other related topics. Upon completion, students should be able to perform quantity take-offs and cost estimates.

**CYBER CRIME**

Note: Click on the title to view the course outline

**CCT 110 Introduction to Cyber Crime (3-0-3)**
This course introduces and explains the various types of offenses that qualify as cyber crime activity. Emphasis is placed on identifying cyber crime activity and the response to these problems from both the private and public domains. Upon completion, students should be able to accurately describe and define cyber crime activities and select an appropriate response to deal with the problem.

**CCT 112 Ethics & High Technology (3-0-3)**
This course covers ethical considerations and accepted standard practices applicable to technological investigations and computer privacy issues relative to the cyber crime investigator. Topics include illegal and unethical investigative activities, end-justifying-the-means issues, and privacy issues of massive personal database information gathered by governmental sources. Upon completion, students should be able to examine their own value system and apply ethical considerations in identifiable cyber crime investigations.

**CCT 121 Computer Crime Investigation (3-2-4)**
This course introduces the fundamental principles of computer crime investigation processes. Topics include crime scene/incident processing, information gathering techniques, data retrieval, collection and preservation of evidence, preparation of reports and court presentations. Upon completion, students should be able to identify cyber crime activity and demonstrate proper investigative techniques to process the scene and assist in case prosecution.

**CCT 220 Forensic Accounting (3-3-4)**
This course introduces the basic principles and procedures of investigative accounting and analysis of financial evidence. Emphasis is placed on collecting data and evidence, evaluation of internal control systems, accounting systems, concealed income analysis and fraud detection. Upon completion, students should be able to apply generally accepted accounting standards and procedures for conducting a criminal investigation audit for financial information.

**CCT 231 Technology Crimes & Law (3-0-3)**
This course covers the applicable technological laws dealing with the regulation of cyber security and criminal activity. Topics include an examination of state, federal and international laws regarding cyber crime with an emphasis on both general and North Carolina statutes. Upon completion, students should be able to identify the elements of cyber crime activity and discuss the trends of evolving laws.

**CCT 240 Data Recovery Techniques (2-3-3)**
This course introduces the unique skills and methodologies necessary to assist in the investigation and prosecution of cyber crimes. Topics include hardware and software issues, recovering erased files, overcoming encryption, advanced imaging, transient data, Internet issues and testimony considerations. Upon completion, students should be able to recover digital evidence, extract information for criminal investigation and legally seize criminal evidence.

**CCT 289 Capstone Project (1-6-3)**
*Prerequisites: CCT 231 or CCT 220*
This course provides experience in cyber crime investigations or technology security audits in either the public or private domain. Emphasis is placed on student involvement with businesses or agencies dealing with technology security issues or computer crime activities. Upon completion, students should be able to successfully analyze, retrieve erased evidence and testify in mock proceedings against these criminal entrepreneurs.

**COMPUTER ENGINEERING TECHNOLOGY**
Note: Click on the title to view the course outline

**CET 110 Introduction to CET (0-3-1)**
This course introduces the basic skills required for computer technicians. Topics include career choices, safety practices, technical problem solving, scientific calculator usage, soldering/desoldering, keyboarding skills, engineering computer applications, and other related topics. Upon completion, students should be able to safely solder/desolder and use a scientific calculator and computer applications to solve technical problems.

**CET 111 Computer Upgrade/Repair I (2-3-3)**
This course is the first of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include safety practices, CPU/memory/bus identification, disk subsystem, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

**CET 211 Computer Upgrade/Repair II (2-3-3)**
*Prerequisites: CET 111*
This course is the second of two courses covering repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include resolving resource conflicts and system bus specifications, configuration and troubleshooting peripherals, operating system configuration and optimization, and other related topics. Upon completion, students should be able to identify and resolve system conflicts and optimize system performance.

**CET 222 Computer Architecture (2-0-2)**
This course introduces the organization and design philosophy of computer systems with respect to resource management, throughput, and operating system interaction. Topics include instruction sets, registers, data types, memory management, virtual memory, cache, storage management, multi-processing, and pipelining. Upon completion, students should be able to evaluate system hardware and resources for installation and configuration purposes.

**CET 225 Digital Signal Processing (2-2-3)**
This course covers the theory and use of digital signal processing techniques. Topics include Fourier analysis, digital filtering, Z transforms, IIR, FIR, convolution, pulse methods, and DSP programming. Upon completion, students should be able to implement and troubleshoot DSP systems in hardware and software.

**CET 245 Internet Servers (2-3-3)**
*Prerequisites: CSC 134 or CSC 148*
This course covers the setup and management of Internet server hardware and software. Topics include TCP/IP, FTP, SMTP, and SNNP; installation and configuration of server software for WWW, FTP, DNS, news, mail, and listserv services; and other topics. Upon completion, students should be able to set up and maintain Internet servers.
**CET 251 Software Engineering Principles (3-3-4)**
This course introduces the methodology used to manage the development process for complex software systems. Topics include the software life cycle, resource allocation, team dynamics, design techniques, and tools that support these activities. Upon completion, students should be able to design and build robust software in a team setting.

**CHEMISTRY**

**CHM 090 Chemistry Concepts (4-0-4)**
This course provides a non-laboratory based introduction to basic concepts of chemistry. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts necessary for success in college-level science courses.

**CHM 131 Introduction to Chemistry (3-0-3)**
This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

**CHM 131A Introduction to Chemistry Lab (0-3-1)**
Corequisites: CHM 131
This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

**CHM 132 Organic and Biochemistry (3-3-4)**
**Prerequisites:** CHM 131 and CHM 131A or CHM 151
This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general*
education core requirement in natural sciences/mathematics.

**CHM 151 General Chemistry I (3-3-4)**  
Prerequisite: MAT 080  
This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

**CHM 152 General Chemistry II (3-3-4)**  
Prerequisites: CHM 151  
This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

**INFORMATION SYSTEMS**

**CIS 110 Introduction to Computers (2-2-3)**  
This course provides an introduction to computers and computing. Topics include the impact of computers on society, ethical issues, and hardware/software applications, including spreadsheets, databases, word processors, graphics, the Internet, and operating systems. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).

**CIS 111 Basic PC Literacy (1-2-2)**  
This course provides a brief overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and workplace use. Upon completion, students should be able to demonstrate basic personal computer skills.

**CIS 112 Windows™ (1-2-2)**
This course includes the fundamentals of the Windows™ software. Topics include graphical user interface, icons, directories, file management, accessories, and other applications. Upon completion, students should be able to use Windows™ software in an office environment.

**CIS 115 Introduction to Programming & Logic (2-2-3)**
*Prerequisites: MAT 070*
This course introduces computer programming and problem solving in a programming environment, including an introduction to operating systems, text editor, and a language translator. Topics include language syntax, data types, program organization, problem-solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics (Quantitative Option).*

**CIS 120 Spreadsheet I (2-2-3)**
*Prerequisites: CIS 110 or CIS 111 or OST 137*
This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts.

**CIS 121 User Support & Software Evaluation (1-4-3)**
*Prerequisites: CIS 110 or CIS 111*
This course provides an opportunity to evaluate software and hardware and make recommendations to meet end-user needs. Emphasis is placed on software and hardware evaluation, installation, training, and support. Upon completion, students should be able to present proposals and make hardware and software recommendations based on their evaluations.

**CIS 126 Graphics Software Introduction (2-2-3)**
This course provides an introduction to graphic design and execution of pictorial graphics using a variety of software packages. Emphasis is placed on creation and manipulation of images using graphic design software. Upon completion, students should be able to create graphic designs and incorporate these designs into printed publications.

**CIS 130 Survey of Operating Systems (2-3-3)**
The course covers operating system concepts which are necessary for maintaining and using computer systems. Topics include disk, file, and directory structures; installation and setup; resource allocation, optimization, and configuration; system security; and other related topics. Upon completion, students should be able to install and configure operating systems and optimize performance.
CIS 152 Database Concepts & Apps (2-2-3)
Prerequisites: CIS 110, CIS 111, or CIS 115
This course introduces database design and creation using a DBMS product. Topics include database terminology, usage in industry, design theory, types of DBMS models, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to create simple database tables, queries, reports, and forms which follow acceptable design practices.

CIS 153 Database Applications (2-2-3)
Prerequisites: CIS 152
This course covers advanced database functions continued from CIS 152. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements.

CIS 157 Database Programming I (2-2-3)
This course is designed to develop programming proficiency in a selected DBMS. Emphasis is placed on the Data Definition Language (DDL) and Data Manipulation Language (DML) of the DBMS as well as on report generation. Upon completion, students should be able to write programs which create, update, and produce reports representative of industry requirements.

CIS 160 MM Resources Integration (2-2-3)
Prerequisites: CIS 110 or CIS 111
This course introduces the peripherals and attendant software needed to create stand-alone or networked interactive multimedia applications. Emphasis is placed on using audio, video, graphic, and network resources; using peripheral-specific software; and understanding file formats. Upon completion, students should be able to utilize multimedia peripherals to create various sound and visual files to create a multimedia application.

CIS 165 Desktop Publishing I (2-2-3)
This course provides an introduction to desktop publishing software capabilities. Emphasis is placed on efficient use of a page layout software package to create, design, and print publications; hardware/software compatibility; and integration of specialized peripherals. Upon completion, students should be able to prepare publications given design specifications.

CIS 166 Desktop Publishing II (2-2-3)
Prerequisites: CIS 165
This course provides advanced training in the use of a variety of desktop publishing software. Emphasis is placed on evaluation of software and hardware available for desktop publishing. Upon completion, students should be able to create and design complex publications using a variety of page layout software.
CIS 172 Introduction to the Internet (2-3-3)
This course introduces the various navigational tools and services of the Internet. Topics include using Internet protocols, search engines, file compression/decompression, FTP, e-mail, listservers, and other related topics. Upon completion, students should be able to use Internet resources, retrieve/decompress files, and use e-mail, FTP, and other Internet tools. A primary focus of this course is the development of HTML web content using manual coding techniques and software tools such as Macromedia Dreamweaver.

CIS 174 Network System Manager I (2-2-3)
This course covers effective network management. Topics include network file system design and security, login scripts and user menus, printing services, e-mail, and backup. Upon completion, students should be able to administer an office network system.

CIS 175 Network Management I (2-2-3)
This course covers fundamental network administration and system management. Topics include accessing and configuring basic network services, managing directory services, and using network management software. Upon completion, students should be able to apply system administrator skills in developing a network management strategy.

CIS 215 Hardware Installation/Maintenance (2-3-3)
Prerequisites: CIS 110, CIS 111 or CIS 115
This course covers the basic hardware of a personal computer, including operations and interactions with software. Topics include component identification, the memory system, peripheral installation and configuration, preventive maintenance, and diagnostics and repair. Upon completion, students should be able to select appropriate computer equipment, upgrade and maintain existing equipment, and troubleshoot and repair non-functioning personal computers.

CIS 216 Software Installation/Maintenance (1-2-2)
Prerequisites: CIS 130
This course introduces the installation and troubleshooting aspects of personal computer software. Emphasis is placed on initial installation and optimization of system software, commercial programs, system configuration files, and device drivers. Upon completion, students should be able to install, upgrade, uninstall, optimize, and troubleshoot personal computer software.

CIS 225 Integrated Software (1-2-2)
Prerequisites: CIS 120, CIS 152, and OST 136 or CIS 125 and CIS 152
This course provides strategies to perform data transfer among software programs. Emphasis is placed on data interchange among word processors, spreadsheets, presentation graphics, databases, and communications products. Upon completion, students should be able to integrate data to produce documents using multiple technologies.
**CIS 226 Trends in Technology (1-2-2)**
This course introduces emerging information systems technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems.

**CIS 227 Microcomputer Sys Analysis (2-2-3)**  
*Prerequisites: CIS 115 and CIS 144, 145, 146, 147, 148, or 149*
This course covers use of a systems approach to planning and implementing business information systems in a microcomputer environment. Emphasis is placed on end-user applications, rather than centralized MIS, and development of strong analytical skills. Upon completion, students should be able to apply analytical and problem-solving skills to resolve typical microcomputer systems planning and implementation issues.

**CIS 246 Operating System - UNIX (2-3-3)**
This course includes operating systems concepts for UNIX operating systems. Topics include hardware management, file and memory management, system configuration/optimization, utilities, and other related topics. Upon completion, students should be able to effectively use the UNIX operating system and its utilities.

**CIS 257 Database Programming II (2-2-3)**  
*Prerequisites: CIS 157*
This course is designed to enhance programming skills developed in CIS 157. Topics include application development with GUI front ends and embedded programming. Upon completion, students should be able to develop a DBMS application which includes a GUI front end and report generation.

**CIS 260 Business Graphics Apps (2-2-3)**  
*Prerequisites: CIS 110 or CIS 111*
This course utilizes graphics software in a variety of business applications. Topics include terminology, design and evaluation, graphics formats and conversion, practical applications of graphics software, and integration of peripherals. Upon completion, students should be able to create and incorporate graphic designs to enhance business communications.

**CIS 267 Multimedia Applications (2-2-3)**  
*Prerequisites: CIS 260*
This course combines audio, video, text, and graphics technologies to create multimedia applications. Emphasis is placed on digitizing audio; compressing and digitizing video; and using animation, special effects, and technical media to enhance communication. Upon completion, students should be able to produce effective multimedia presentations for a variety of settings, including business, education, and training.
CIS 274 Network System Manager II (2-2-3)
Prerequisites: CIS 174
This course is a continuation of CIS 174 focusing on advanced network management, configuration, and installation. Emphasis is placed on server configuration files, startup procedures, server protocol support, memory and performance concepts, and management and maintenance. Upon completion, students should be able to install and upgrade networks and servers for optimal performance. This course is a unique concentration requirement in the Network Administration and Support concentration in the Information Systems program.

CIS 275 Network Management II (2-2-3)
Prerequisites: CIS 175
This course is a continuation of CIS 175 focusing on advanced enterprise networks. Topics include directory service tree planning, management distribution and protection, improving network security, auditing the network, printing, networking, and system administration of an Internet node. Upon completion, students should be able to manage client services and network features and optimize network performance. This course is a unique concentration requirement in the Network Administration and Support concentration in the Information Systems program.

CIS 277 Network Design & Implementation (2-2-3)
Prerequisites: CIS 275
This course focuses on the design, analysis, and integration of a network operating system. Topics include determination of a directory tree structure and object placement, creation of time synchronization strategy, security, and routing services. Upon completion, students should be able to implement a network design strategy, develop a migration strategy, and create a network implementation schedule.

CIS 279 UNIX System Administration (3-3-4)
Prerequisites: CIS 246
This course provides an advanced study of the UNIX operating system for maintaining UNIX systems. Topics include administering user accounts, using back-up utilities, installing and maintaining UNIX file systems, configuring devices, controlling processes, using advanced scripts, and other related topics. Upon completion, students should be able to set up, configure, maintain, and administer a UNIX system.

CIS 282 Network Technology (3-0-3)
This course examines concepts of network architecture. Topics include various network types, topologies, transmission methods, media and access control, the OSI model, and the protocols which operate at each level of the model. Upon completion, students should be able to design a network based on the requirements of a company.
**CIS 286 Systems Analysis & Design (3-0-3)**  
*Prerequisites: CIS 115*  
This course examines established and evolving methodologies for the analysis, design, and development of a business information system. Emphasis is placed on business systems characteristics, managing information systems projects, prototyping, CASE tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

**CIS 287 Network Support (2-2-3)**  
*Prerequisites: CIS 274 or CIS 275*  
This course provides experience using CD ROM and on-line research tools and hands-on experience for advanced hardware support and troubleshooting. Emphasis is placed on troubleshooting network adapter cards and cabling, network storage devices, the DOS workstation, and network printing. Upon completion, students should be able to analyze, diagnose, research, and fix network hardware problems. *This course is a unique concentration requirement in the Network Administration and Support concentration in the Information Systems program.*

**CIS 288 Systems Project (1-4-3)**  
*Prerequisites: CIS 227 or CIS 286*  
This course provides an opportunity to complete a significant systems project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation.

**CIVIL ENGINEERING**

**CIV 110 Statics/Strength of Materials (2-6-4)**  
*Prerequisites: MAT 121*  
This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.

**CIV 111 Soils and Foundations (2-3-3)**  
*Prerequisites: CIV 110*  
This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis,
compressibility, compaction, dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil.

**CIV 125 Civil/Surveying CAD (1-6-3)**
*Prerequisites: CIS 111, EGR 115, and SRV 110*
This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software.

**CIV 211 Hydraulics and Hydrology (2-3-3)**
*Prerequisites: CIV 110*
This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures.

**CIV 212 Environmental Planning (2-3-3)**
*Prerequisites: CIV 211*
This course covers water and wastewater technology, erosion and sedimentation control, and other related topics. Topics include collection, treatment, and distribution of water and wastewater and erosion and sedimentation control law. Upon completion, students should be able to demonstrate knowledge of water and wastewater systems and prepare erosion and sedimentation control plans.

**CIV 215 Highway Technology (1-3-2)**
*Prerequisites: SRV 111*
*Corequisites: CIV 211*
This course introduces the essential elements of roadway components and design. Topics include subgrade and pavement construction, roadway drawings and details, drainage, superelevation, and North Carolina Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details.

**CIV 230 Construction Estimating (2-3-3)**
*Prerequisites: CIS 110, CIS 111, or EGR 115*
This course covers quantity take-offs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project.
CRIMINAL JUSTICE
Note: Click on the title to view the course outline

CJC 100 Basic Law Enforcement Training (8-30-18)
This course covers the basic skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Topics are divided into general units of study: legal, patrol duties, law enforcement communications, investigations, practical application and sheriff-specific. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination. This is a certificate-level course.

CJC 111 Introduction to Criminal Justice (3-0-3)
This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

CJC 112 Criminology (3-0-3)
This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

CJC 113 Juvenile Justice (3-0-3)
This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition.

CJC 114 Investigative Photography (1-2-2)
This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques.

CJC 120 Interviews/Interrogations (1-2-2)
This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims.

**CJC 121 Law Enforcement Operations (3-0-3)**
This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

**CJC 122 Community Policing (3-0-3)**
This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing.

**CJC 131 Criminal Law (3-0-3)**
This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and apply the appropriate statutes/elements.

**CJC 132 Court Procedure & Evidence (3-0-3)**
This course covers judicial structure/process/procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence.

**CJC 141 Corrections (3-0-3)**
This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. *This course has been approved to satisfy the Comprehensive Articulation Agreement.*
Agreement for transferability as a premajor and/or elective course requirement.

**CJC 144 Crime Scene Processing (2-3-3)**
This course introduces the theories and practices of crime scene processing and investigating. Topics include legal considerations at the crime scene, processing indoor and outdoor scenes, recording, note taking, collection and preservation of evidence and submission to the crime laboratory. Upon completion, the student should be able to evaluate and search various crime scenes and demonstrate the appropriate techniques.

**CJC 146 Trace Evidence (2-3-3)**
This course provides a study of trace evidence as it relates to forensic science. Topics include collection, packaging, and preservation of trace evidence from crime scenes such as bombings, fires and other scenes. Upon completion, students should be able to demonstrate the fundamental concepts of trace evidence collection, preservation and submission to the crime laboratory.

**CJC 212 Ethics & Comm Relations (3-0-3)**
This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to apply ethical considerations to the decision-making process in identifiable criminal justice situations.

**CJC 213 Substance Abuse (3-0-3)**
This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities.

**CJC 214 Victimology (3-0-3)**
This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims’ roles, and current victim assistance programs.

**CJC 215 Organization & Administration (3-0-3)**
This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.
CJC 221 Investigative Principles (3-2-4)
This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

CJC 222 Criminalistics (3-0-3)
This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence.

CJC 225 Crisis Intervention (3-0-3)
This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem-solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

CJC 231 Constitutional Law (3-0-3)
The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts.

CJC 232 Civil Liability (3-0-3)
This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues.

CJC 241 Community-Based Corrections (3-0-3)
This course covers programs for convicted offenders that are used both as alternatives to incarceration and in post-incarceration situations. Topics include offenders, diversion, house arrest, restitution, community service, probation and parole, including both public and private participation, and other related topics. Upon completion, students should be able to identify/discuss the various
programs from the perspective of the criminal justice professional, the offender, and the community.

**CJC 244 Footwear and Tire Imprints (2-3-3)**  
This course provides a study of the fundamental concepts of footwear and tire imprint evidence as related to forensic science. Topics include proper photographic recording, casting, recognition of wear patterns and imprint identification. Upon completion, the student should be able to recognize, record, photograph, and identify footwear and tire imprints.

**CJC 245 Friction Ridge Analysis (2-3-3)**  
This course introduces the basic elements of fingerprint technology and techniques applicable to the criminal justice field. Topics include the history and meaning of fingerprints, pattern types and classification, filing sequence, searching and referencing. Upon completion, students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology.

**CJC 246 Advanced Friction Ridge Analysis (2-3-3)**  
*Prerequisites: CJC 245*  
This course introduces the theories and processes of advanced friction ridge analysis. Topics include evaluation of friction ridges, chart preparation, comparative analysis for valued determination rendering proper identification, chemical enhancement and AFIS preparation and usage. Upon completion, students must show an understanding of proper procedures for friction ridge analysis through written testing and practical exercises.

**CJC 250 Forensic Biology I (1-2-2)**  
*Corequisites: BIO 110 or BIO 111*  
This course covers important biological principles that are applied in the crime laboratory. Topics include forensic toxicology, forensic serology, microscopy, and DNA typing analysis, with an overview of organic and inorganic analysis. Upon completion, students should be able to articulate how a crime laboratory processes physical evidence submitted by law enforcement agencies.

**CJC 293 Selected Topics in Criminal Justice (1-4-3)**  
This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

**CJC 251 Forensic Chemistry I (3-2-4)**  
This course provides a study of the fundamental concepts of chemistry as it relates to forensic science. Topics include physical and chemical properties of substances, metric measurements, chemical changes, elements, compounds, gases, and atomic structure. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of forensic chemistry.

**CJC 252 Forensic Chemistry II (3-2-4)**
Prerequisites: CJC 251
This course provides a study of specialized areas of chemistry specifically related to forensic science. Topics include properties of light, emission and absorption spectra, spectrophotometry, gas and liquid chromatography, and related topics in organic and biochemistry. Upon completion, students should be able to demonstrate an understanding of specialized concepts in forensic chemistry.

COOPERATIVE EDUCATION

COE 111 Co-op Work Experience I (0-0-10-1)
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 112 Co-op Work Experience I (0-0-20-2)
This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 114 Co-op Work Experience I (0-0-40-4)
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 115 Work Experience Seminar I (1-0-0-1)
Corequisites: COE 111, COE 112, COE 113, or COE 114
This course provides an opportunity to discuss clinical experiences with peers and faculty. Emphasis is placed on discussing application of concepts and principles from related course content to clinical placement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes required in human services clinical experiences.

COE 121 Co-op Work Experience II (0-0-10-1)
This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.
**COE 125 Work Experience Seminar II (1-0-0-1)**  
Corequisites: COE 121 or COE 122  
This course provides an opportunity to discuss clinical experiences with peers and faculty. Emphasis is placed on discussing application of concepts and principles from related course content to clinical placement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes required in human services clinical experiences.

**COMMUNICATION**

**COM 110 Introduction to Communication (3-0-3)**  
This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute).*

**COM 231 Public Speaking (3-0-3)**  
This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute).*

**COSMETOLOGY**

**COS 111 Cosmetology Concepts I (4-0-4)**  
Corequisites: COS 112  
This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting.

**COS 112 Salon I (0-24-8)**  
Corequisites: COS 111  
This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing,
hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services.

**COS 113 Cosmetology Concepts II (4-0-4)**
*Prerequisites: COS 111
Corequisites: COS 114*
This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

**COS 114 Salon II (0-24-8)**
*Prerequisites: COS 112
Corequisites: COS 113*
This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

**COS 115 Cosmetology Concepts III (4-0-4)**
*Prerequisites: COS 111
Corequisites: COS 116*
This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

**COS 116 Salon III (0-12-4)**
*Prerequisites: COS 112
Corequisites: COS 115*
This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate-level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

**COS 117 Cosmetology Concepts IV (2-0-2)**
*Prerequisites: COS 111
Corequisites: COS 118*
This course covers advanced cosmetology concepts. Topics include chemistry and hair structure,
advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements.

**COS 118 Salon IV (0-21-7)**  
*Prerequisites: COS 112*  
*Corequisites: COS 117*  
This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements.

**COS 121 Manicure/Nail Technology I (4-6-6)**  
This course covers techniques of nail technology, hand and arm massage, and recognition of nail diseases and disorders. Topics include OSHA/safety, sanitation, bacteriology, product knowledge, salesmanship, manicures, artificial applications, pedicures, massage, and other related topics. Upon completion, students should be able to safely and competently perform nail care, including manicures, pedicures, massage, decorating, and artificial applications in a salon setting.

**COS 222 Manicure/Nail Technology II (4-6-6)**  
*Prerequisites: COS 121*  
This course covers advanced techniques of nail technology and hand and arm massage. Topics include OSHA/safety, product knowledge, customer service, salesmanship, artificial applications, nail art, and other related topics. Upon completion, students should be able to demonstrate competence necessary for the licensing examination, including advanced nail care, artificial enhancements, and decorations.

**COMPUTER SCIENCE**

**CSC 134 C++ Programming (2-3-3)**  
This course introduces object-oriented computer programming using the C++ programming language. Topics include input/output operations, iteration, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test, and debug C++ language programs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

**CSC 139 Visual BASIC Programming (2-3-3)**  
This course introduces event-driven computer programming using the Visual BASIC
programming language. Topics include input/output operations, sequence, selection, iteration, arithmetic operations, arrays, forms, sequential files, and other related topics. Upon completion, students should be able to design, code, test, and debug Visual BASIC language programs.

**CSC 148 JAVA Programming (2-3-3)**
This course introduces computer programming using the JAVA language. Topics include selection, iteration, arithmetic and logical operators, classes, inheritance, methods, arrays, user interfaces, basic applet creation and other related topics. Upon completion, students should be able to design, code, test, and debug JAVA language programs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

**CSC 160 Introduction to Internet Programming (2-2-3)**
This course introduces client-side Internet programming using HTML and Javascript. Topics include use of frames and tables, use of meta tags, Javascript techniques for site navigation. Upon completion, students should be able to write HTML documents that incorporate programming to provide web page organization and navigation functions.

**CSC 175 PHP Programming (2-3-3)**
This course introduces students to the server-side, HTML-embedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, debug, and create a dynamic web site using the PHP scripting language.

**CSC 239 Advanced Visual BASIC (2-3-3)**
*Prerequisites: CSC 139*
This course is a continuation of CSC 139 using Visual BASIC with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions.

**CSC 241 Advanced Visual C++ (2-3-3)**
*Prerequisites: CSC 141*
This course is a continuation of CSC 141 using Visual C++ with object-oriented programming principles. Emphasis is placed on advanced arrays, file management/processing techniques, data structures, sub-programs, interactive processing, algorithms, and libraries. Upon completion, students should be able to design, code, test, debug, and document programming solutions.

**CSC 248 Adv. Internet Programming (2-3-3)**
Prerequisites: CSC 134 or CSC 140 or CSC 141 or CSC 148 or CSC 160
This course covers advanced programming skills required to design Internet applications. Emphasis is placed on programming techniques required to support network applications. Upon completion, students should be able to design, code, debug, and document network-based programming solutions to various real-world problems using an appropriate programming language.

(2-2-3)
Prerequisites: CIS 115
This course provides an opportunity to complete a significant Programming project form the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete a project from the definition phase through implementation.

CULINARY

CUL 110 Sanitation & Safety (2-0-2)
This course introduces the basic principles of sanitation and safety and their relationship to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of sanitation and safety procedures in the hospitality industry.

CUL 110A Sanitation & Safety Lab (0-2-1)
Corequisites: CUL 110
This course is a laboratory to accompany CUL 110. Emphasis is placed on practical experiences that enhance the materials presented in CUL 110. Upon completion, students should be able to demonstrate practical applications of sanitation and safety procedures in the hospitality industry.

CUL 112 Nutrition for Foodservice (3-0-3)
This course covers the principles of nutrition and its relationship to the foodservice industry. Topics include fundamentals of personal nutrition, nutrition over the life cycle, weight management and exercise, health aspects of nutrition, developing healthy recipes and menus, healthy cooking techniques and marketing nutrition in a foodservice operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

CUL 120 Purchasing (2-0-2)
This course covers purchasing for hotels and restaurants. Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost
controls, pricing, and foodservice ethics. Upon completion, students should be able to apply
effective purchasing techniques based on the end-use of the product.

**CUL 130 Menu Design (2-0-2)**
This course introduces menu design. Topics include development of standardized recipes, layout,
nutritional concerns, product utilization, demographics, and customer needs. Upon completion,
students should be able to write, lay out, and produce effective menus for a variety of hospitality
settings.

**CUL 135 Food & Beverage Service (2-0-2)**
This course covers the practical skills and knowledge for effective food and beverage service in a
variety of settings. Topics include reservations, greeting and service of guests, styles of service,
handling complaints, and sales and merchandising. Upon completion, students should be able to
demonstrate competence in human relations and technical skills required in the service of foods and
beverages.

**CUL 135A Food & Beverage Service Lab (0-2-1)**
*Corequisites: CUL 135*
This course is a laboratory to accompany CUL 135. Emphasis is placed on practical experiences that
enhance the materials presented in CUL 135. Upon completion, students should be able to
demonstrate practical applications of skills required in the service of foods and beverages.

**CUL 140 Basic Culinary Skills (2-6-5)**
This course introduces the fundamental concepts, skills, and techniques involved in basic cookery.
Emphasis is placed on recipe conversion, measurements, terminology, knife skills, safe food handling,
cooking methods, flavorings, seasonings, stocks/sauces/soups, and other related topics. Upon
completion, students should be able to exhibit the basic cooking skills used in the food service
industry.

**CUL 160 Baking I (1-4-3)**
This course covers basic ingredients, weights and measures, baking terminology, and formula
calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and
cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to
prepare and evaluate baked products.

**CUL 180 International & American Reg Cuisine (1-8-5)**
*Prerequisites: CUL 140*
This course provides practical experience in the planning, preparation, and service of representative
foods from different countries and regions of America. Emphasis is placed on eating habits,
indigenous foods and customs, nutritional concerns, and traditional equipment. Upon completion,
students should be able to research and execute international and domestic menus.
CUL 193 Selected Topics in Culinary (2-2-3)
This course provides an opportunity to explore areas of current interest in specific program or
discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon
completion, students should be able to demonstrate an understanding of the specific area of study.

CUL 240 Advanced Culinary Skills (1-8-5)
Prerequisites: CUL 140
This course is a continuation of CUL 140. Emphasis is placed on meat fabrication and butchery;
vegetable, starch, and protein cookery; compound sauces; plate presentation; breakfast cookery;
and quantity food preparation. Upon completion, students should be able to plan, execute, and
successfully serve entrees with complementary side items.

DEVELOPMENTAL DISABILITIES

DDT 110 Developmental Disabilities (3-0-0-3)
This course identifies the characteristics and causes of various disabilities. Topics include history of
service provision, human rights, legislation and litigation, advocacy, and accessing support services.
Upon completion, students should be able to demonstrate an understanding of current and historical
developmental disability definitions and support systems used throughout the life span.

DRAFTING

DFT 117 Technical Drafting (1-2-2)
This course introduces basic drafting practices for non-drafting majors. Emphasis is placed on
instrument use and care, shape and size description, sketching, and pictorials. Upon completion,
students should be able to produce drawings of assigned parts.