COMPUTER TECHNOLOGY (COMP)

101 Computer Literacy **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

Students will acquire and/or demonstrate proficiency understanding basic computer terminology, using basic operating system features, e-mail, Internet, word processing, spreadsheet, database and presentation software. **This course requires the use of software that students will either be required to purchase or the students will have to use the designated campus labs.**

103 Computer Logic **4 credit hours**
Four hours lecture and application a week. Fee: $50.00.

A first course in the study of computer logic and computational thinking. Topics covered include details of data storage concepts, computer arithmetic, Boolean logic, control structures, and software engineering. Major emphasis is given to computer logic, computer architecture, and logic circuits. Also included is an initial exposure to programming languages. This course is a prerequisite for all computer programming language courses.

Prerequisite: Computer Technology 101, or concurrent registration, or consent of instructor.

107 Introduction to Cybersecurity **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course provides a broad overview of computer security, ethical issues and information assurance. Students will gain an understanding of digital information security and threats related to the internet, malware, cryptography, intrusion detection, operating systems, networking, cloud computing and other security topics.

109 Emerging Technologies **3 credit hours**
Fee: $50.00.

This course is designed to introduce students to emerging technologies in both computer and information technology as well as challenges facing IT professionals implementing emerging technologies within their organizations. This course will help students keep pace with the latest cutting-edge technology and innovation in the field.

Prerequisites: Computer Technology 101 and Computer Technology 107, or instructor consent.

114 Mobile Application Development **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course introduces students to the design, development and programming technologies for mobile applications. Topics include an overview of mobile devices, industry standards and operating systems. Upon completion, students should be able to create basic applications for mobile devices.

Prerequisite: Computer Technology 103, or concurrent registration, or consent of instructor.

180 PC Architecture **3 credit hours**
Offered fall semester. Three hours lecture and application a week. Fee: $50.00.

This course is designed to teach the skills necessary to be a computer technician, preparing students for CompTIA's A+ Certification. The course will provide hands-on experience assembling, configuring, troubleshooting and maintaining computer systems.

Prerequisite: Computer Technology 101 or consent of instructor.

190 Computer Languages Survey **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

A survey course of current computer languages with an emphasis on object-based programming. An emphasis is given to new and emerging languages and languages that would not normally be defined in the traditional computer language paradigm. This course would be open to non-computer technology majors. A sound knowledge of the Windows operating system environment is required.

Prerequisite: Computer Technology 101.

191 Web Page Development **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

A practical study of the design and development of Web sites, covering principles and methods of designing and maintaining Web sites using HTML and current leading Web designing programs. Hands on approach to creating dynamic Web sites using latest Web technologies such as Cascading Style Sheets and animation. **This course requires the use of software that students will either be required to purchase or the students will have to use the designated campus labs.**

Prerequisite: Computer Technology 101, or concurrent registration, or consent of instructor.

201 Security + **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course provides foundational principles for securing a network and managing risk. Students will be taught access control, identity management, cryptography and preventative techniques to address network attacks and vulnerabilities. This course is intended to prepare students for the Computing Technology Industry Association's (CompTIA) Security+ certification exam.

Prerequisite: Computer Technology 107, Computer Technology 225, or consent of instructor.

202 Digital Forensics **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course will explore technical and legal aspects of collecting and handling digital evidence in both criminal and civil investigations. Students will learn how to utilize different tools to collect, acquire, and examine digital evidence. The course will also examine the technical and legal aspects of evidence recovery and processing as well as discuss reporting and testimony.

Prerequisites: Computer Technology 101 and 107 or consent of instructor.

216 Cyber Law (Criminal Justice 216) **3 credit hours**
Offered as Demand Warrants. Three hours online lecture and discussion a week.

The course explores the legal and policy issues associated with the Internet and cyberspace. The course will focus on cases, statutes, regulations, and constitutional provisions that affect people and businesses interacting through computers and the Internet. Topics include intellectual property, e-commerce, online contracts, cybercrimes, torts, and privacy issues.

Prerequisite: Computer Technology 107 for students enrolled in the Computer Technology/ Cybersecurity/Information Systems Programs. Criminal Justice 101 and 103 for students enrolled in the Criminal Justice Program.

219 Operating Systems **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course provides a comprehensive study of operating systems. This course will review the history of computer operating systems and advanced operating system features. Concepts covered will include system utilities, file systems management, script file editing, hardware management, and windows products. The future of computer operating systems will be discussed. **This course requires the use of software**

that students will either be required to purchase or the students will have to use the designated campus labs.

Prerequisite: Computer Technology 101, or concurrent registration, or consent of instructor.

220 Linux Operating System **3 credit hours**
Fee: $50.00.

This course provides an introduction to the Linux operating system. The topics in this course align with the industry standard CompTIA Linux+ Certification Exam. The course will prepare students to pass this exam.

Prerequisite: Computer Technology 101, concurrent registration, or consent of instructor.

221 Office Applications I **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

An introduction to several of the more popular computer applications in use today. Students will have hands-on experience using Windows concepts, spreadsheet, database management, computer presentation, Internet, and business oriented software packages. **This course requires the use of software that students will either be required to purchase or the students will have to use the designated campus labs.**

Prerequisite: Computer Technology 101 or consent of instructor.

224 Advanced Web Page Development **3 credit hours**
Offered spring semester. Three hours lecture and application a week. Fee: $50.00.

An advanced study of web development concepts and technologies required to manage e-commerce and corporate intranet/internet web sites. Students will gain an understanding of advanced web server technologies including server side scripting, database connectivity, application frameworks and web protocols. Students will apply that knowledge using the latest web development and programming technologies. **This course requires the use of software that students will either be required to purchase or the students will have to use the designated campus labs.**

Prerequisite: Computer Technology 191 or consent of instructor.

225 Introduction to Networking **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing. This is the first course in a series designed to prepare students for the Cisco Certified Network Associate (CCNA) certification exam.

Prerequisite: Computer Technology 101 or consent of instructor.

229 Database Design and Implementation **3 credit hours**
Offered spring semester. Three hours lecture and application a week. Fee: $50.00.

An introduction to relational databases with an emphasis on designing end-user applications using integrated database programming languages and development tools (screen, report, menu, and SQL builders). Students will implement an end-user application utilizing Third Normal Database techniques, user menus, Structured Query Language reports, advanced screen and report design, and Event-Driven Programming.

Prerequisite: Computer Technology 103 or consent of instructor.

232 Wireless Network Security **3 credit hours**
Fee: $50.00.

This 3-credit course explores wireless network and mobile device security. Students will begin by reviewing the history of data networks and the evolution of wired and wireless networking, as well as the mobile revolution. They will explore wireless local area network (WLAN) design and the operation and behavior of wireless in general, particularly on 802.11 WLANs, along with associated threats and vulnerabilities, various topologies, and devices. The course then addresses basic security measures for small office/home office (SOHO) networks, as well as more-advanced wireless security concepts unique to the needs of larger organizations. Finally, students will examine risks and vulnerabilities of mobile devices, security models associated with the most common mobile operating systems, and mobile device fingerprinting techniques.

Prerequisite: Computer Technology 101, 225, or consent of instructor.

234 Computer Science Programming I **4 credit hours**
Offered fall semester. Four hours lecture and application a week. Fee: $50.00.

This course introduces the fundamental concepts of high level programming using the object oriented programming language Java. Students will learn fundamental concepts of the Software Development Cycle, Input/Output, simple data types, variables, operators, expressions, control structures, functions, arrays, strings, algorithms, objects, classes, testing and debugging. **This course requires the use of software that students will either be required to purchase or the students will have to use the designated campus labs.**

Prerequisite: Computer Technology 103.

236 Web Programming **3 credit hours**
Offered spring semester. Three hours lecture and application a week. Fee: $50.00.

This course focuses on the PHP scripting language and its application in building dynamic content for the web. Topics include PHP language basics, library functions, writing structured code, Object-Oriented features, and database connectivity. Integration with web servers and different operating systems will be addressed. Students will explore techniques for writing effective and maintainable dynamic content systems and will create a capstone project that integrates PHP, HTML, and a relational database into a real-world web application.

Prerequisite: Computer Technology 103 and 191 or consent of instructor.

238 Computer Science Programming II **4 credit hours**
Offered spring semester. Four hours lecture and application a week. Fee: $50.00.

This course is a continuation of Computer Science Programming I and will cover advanced concepts using the object oriented programming language Java. Students will learn the fundamentals of design and implementation of data structures, which includes linked lists, stacks, queues, sorting, searching, recursion, testing and debugging.

Prerequisite: Computer Technology 234.

239 Cisco Networking 2 **3 credit hours**
Three hours lecture and application a week. Fee: $50.00.

This course covers the architecture, components, and operations of routers and switches in a small network. Students will learn to configure routers and switches for basic functionality and troubleshooting. This is a second course designed to prepare students for the Cisco Certified Network Associate (CCNA) certification exam.

Prerequisite: Computer Technology 225 or consent of instructor.

240 Field Placement **3 credit hours**
One-hour lecture and eight hours internship a week (sixteen hours a week if offered in A or B-terms).

This course provides students on the job training with a local business. Students will complete worksite assignments in a structured environment

as determined by the instructor and the internship site supervisor. Attention will be given to resume writing, interviewing, communication and other applicable workplace skills.

Prerequisite: 2.75 GPA (or higher) and successful completion of two Computer Technology courses. Instructor consent required.

241 Python Programming I **3 credit hours**
Fee: $50.00.

This course is an introduction to the Python programming language. The Python programming language has an easy to understand syntax, and a powerful set of libraries. It is an interpreted language, with a rich programming environment, including a robust debugger and profiler. The course will cover such topics as data types, control flow, object-oriented programming techniques and concepts, and graphic user interface-driven applications.

Prerequisite: Computer Technology 101 and 103, or consent of instructor.

245 Ethical Hacking **3 credit hours**
Fee: $50.00.

This course is an introduction to hacking tools and incident handling. Areas of instruction include various tools and vulnerabilities of operating systems, software and networks used by hackers to access unauthorized information. This course also addresses incident handling methods used when information security is compromised.

Prerequisite: Computer Technology 225, or consent of instructor.

246 Python Programming II **3 credit hours**
Fee: $50.00.

This course is an advanced study of the Python programming language with a focus on enterprise development. Students learn how to leverage OS (Operating System) services, code graphical application interfaces, create modules and run unit tests, define classes, interact with network series, query databases, and process XML (Extensible Markup Language) data

Prerequisite: Computer Technology 241.

250 R Programming **3 credit hours**
Fee: $50.00.

In this course, students will learn about the programming language known as R. Students will use RStudio, the environment that allows them to work with R. This course will also cover the software applications and tools that are unique to R, such as R packages. Students will learn how R can clean, organize, analyze, visualize, and report data in new and more powerful ways.

Prerequisite: Computer Technology 103.

288 A+ Certification Exam Review **1 credit hour**
One-hour lecture and application a week. Fee: $22.00. Test Out PC Pro License Fee: $151.00.

This course is a final preparation for the Computing Technology Industry Association's (CompTIA) A+ Certification Exam. It is designed as a capstone review course for this industry certification. Students will use computer-based training modules to prepare for the CompTIA A+ Certification Exam.

Prerequisite: Computer Technology 180.

289 Security+ Certification Exam Review **1 credit hour**
One-hour lecture and application a week. Fee: $22.00.

This course is intended to prepare students for the Computing Technology Industry Association's (CompTIA) Security+ certification exam. This course presents foundational principles for securing a network and managing risk. Students will learn access control, identity management, cryptography, and preventive techniques to address network attacks and vulnerabilities.

Prerequisite: Computer Technology 201.

299 Independent Study **2-4 credit hours**
Fee: $50.00.

Study projects directly related to the Computer Technology curriculum under the supervision of the instructor.

Instructor consent required to take this course.

Prerequisite: Computer Technology 101, 103, and consent of the instructor.