

# COMPUTER INFO TECHNOLOGY (CIT)

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## **CIT 100 - Computers in Business-An Intro**

**Credit Hours: 3, Contact Hours: 3**

Division: Business

A first exposure to the world of computer applications in business, this course covers the hands-on use of word processing, spreadsheets, database, and presentation graphics programs. In addition, the Windows operating system, file and folder management, basic concepts, terminology and security threats will be covered. Group 2 course. Communications - Direct, Critical Thinking - Direct.

## **CIT 110 - Programming Logic and Design**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

The student is introduced to topics in programming logic and design in preparation for subsequent programming courses. The course lecture material is presented via readings and videos, with activities being largely focused on coding, testing, debugging, and documenting applications. Good coding practices and simple design pattern are emphasized. Topics covered include: Simple Data Types, Control Structures, Decisions and Conditionals, Arrays, Lists, Methods, Functions, Enums, Classes, and File I/O. Group 2 course. Critical Thinking - Direct.

## **CIT 112 - Scripting and Automation**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course introduces students to scripting and programming to achieve realizable goals in a networked environment. Students will write programs that will be reusable, scalable, and efficient for interfacing with a system, retrieving information from various networked resources, and performing routine tasks. Group 2 Course.

Required Prerequisites: CIT 110, may be taken concurrently.

## **CIT 118 - Microsoft Office - Word Intro**

**Credit Hours: 1, Contact Hours: 1**

Division: Business

This course is designed to provide students with an introduction to word processing using Microsoft Word. Skills students will learn include preparing documents, formatting characters and paragraphs, customizing paragraphs, and formatting pages. Group 2 course.

## **CIT 119 - Microsoft Office - Word**

**Credit Hours: 3, Contact Hours: 3**

Division: Business

This course teaches students how to use Microsoft Word and prepares them to pass the Microsoft Office Specialist (MOS) Word certification exam. Skills students will learn include navigating in a document, customizing and formatting text, paragraphs and pages, inserting objects, maintaining and proofing documents, performing mail merge operations, document sharing and management, tracking and referencing documents, and managing macros and forms. Students enrolling in this course will take the Microsoft Office certification exam. Group 2 course.

## **CIT 122A - Computer & Internet Basics I**

**Credit Hours: 1, Contact Hours: 1**

Division: Business

Students will learn the essential skills required to use a computer with the Microsoft Windows operating system. The student will learn to interact with the Windows desktop to access software and data. The course emphasizes the importance of file and folder maintenance. The course also includes introductions to the World Wide Web, e-mail and searching. Students completing this course will master skills required for online courses. This course requires a Windows PC or a Mac with a Windows partition. Group 2 course.

## **CIT 124 - Microsoft Office - PowerPoint**

**Credit Hours: 2, Contact Hours: 2**

Division: Business

This course teaches students how to use Microsoft PowerPoint and prepares them to pass the Microsoft Office Specialist (MOS) PowerPoint certification exam. Skills students will learn include preparing and modifying a presentation, using help, formatting slides and inserting elements in slides, creating tables, charts, and SmartArt graphics, using slide masters and action buttons, applying custom animation and setting up shows, and integrating, reviewing, protecting and saving presentations. Students enrolling in this course will take the certification exam. Group 2 course.

## **CIT 131 - Game Development and Design**

**Credit Hours: 3, Contact Hours: 3**

Division: Business

Introductory course exploring the concepts of game design before building fully functional, working prototypes after learning modern game development techniques within a 2D game engine. Game design investigates topics such as objective, narrative, genre, challenge and reward. Once students have developed a solid concept, the game development portion of the class will look at how to turn that into a working reality by creating sprite sheets, artwork, audio or other game assets before adding functionality. Completed games may be published to the web or for mobile devices for testing and feedback. Group 2 course. Communications - Direct, Critical Thinking - Direct.

## **CIT 156 - CompTIA A+ Certification I**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course, in conjunction with CIT 157, covers the current objectives of the two CompTIA A+ Certification exams. Major topics areas include PC hardware, networking, laptops, printers, operational procedures, operating systems, security, mobile devices, troubleshooting, safety and professionalism. Group 2 course. Critical Thinking - Direct. Recommended Prerequisites: Recommended competency: Windows skills

## **CIT 157 - CompTIA A+ Certification II**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course, in conjunction with CIT 156, covers the current objectives of the two CompTIA A+ Certification exams. Major topic areas include PC hardware, networking, laptops, printers, operational procedures, operating systems, security, mobile devices, troubleshooting, safety and professionalism. Group 2 course. Critical Thinking - Direct.

Recommended Prerequisites: CIT 156

**CIT 160 - Cisco Internetworking I**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course, in conjunction with CIT 161 and CIT 260 provides the necessary preparation to pass the Cisco CCNA Routing & Switching Exam (Cisco Certified Network Associate). The following topics are covered in detail: router configuration, static and dynamic routing, VLANs, ACLs, DHCP, and NAT. This course utilizes the Cisco Networking Academy "CCNA Routing and Switching: Routing and Switching Essentials" curriculum and integrates online curriculum, classroom activities, hands-on lab exercises, and group projects. Group 2 course. Critical Thinking - Direct.

Recommended Prerequisites: CIT 213

**CIT 161 - Cisco Internetworking II**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course, in conjunction with CIT 160 and CIT 260, provides the necessary preparation to pass the Cisco CCNA Routing & Switching Exam (Cisco Certified Network Associate). The following topics are covered in detail: router and switch configuration, VLANs, inter-VLAN routing, EtherChannel, STP, DHCP, SLAAC, FHRP, WLAN concepts and configuration, routing concepts, LAN security concepts, and static routing. This course utilizes the Cisco Networking Academy "CCNA Routing and Switching: Switching, Routing, and Wireless Essentials" curriculum and integrates online curriculum, classroom activities, hands-on lab exercises, and group projects. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 160 may be taken concurrently

**CIT 170 - Microsoft Office - Access**

**Credit Hours: 3, Contact Hours: 3**

Division: Business

This course introduces database management using Microsoft Access. Students will design, construct, and administer databases. Students will create and modify database objects including tables, queries, forms and reports. Students will enter, delete, modify, import, and export data. Students will configure database features such as security and backup. Course content is mapped to the current Microsoft Office Specialist (MOS) Access learning objectives and students enrolled in this course will take the certification exam. Group 2 course. Critical Thinking - Direct.

**CIT 178 - Relational Databases**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course introduces students to core database concepts including data, data types, and relationships. Students will interpret and create relational data structures and use SQL language to perform basic create, read, update, and delete operations. Students will perform, administrative, backup and security functions. Students will recognize the value of optimized data and produce normalized designs. Course content is mapped to the MTA 98-364 Database Fundamentals learning objectives and students enrolled in this course will take the certification exam. Group 2 course. Critical Thinking - Direct.

**CIT 180 - Web Development**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

This course covers how to plan, develop and publish websites using industry standard software. Students will learn responsive web design using HTML5 (Hypertext Markup Language) and CSS3 (Cascading Style Sheets). Students will develop a wide variety of web projects, which include navigation menus, multimedia, forms, lists, tables and CSS animation. Interactivity will be achieved through CSS and beginning JavaScript. Emphasis will be placed on Industry standard coding practices, ADA compliance, semantic HTML5, beginning, intermediate and advanced CSS. Course content is mapped to the MTA 98-383 Introduction to Programming using HTML and CSS learning objectives and students enrolled in this course will take the certification exam. Group 2 course. Critical Thinking - Direct.

**CIT 190 - JavaScript Programming**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

Students in this course develop web client scripting skills using JavaScript and jQuery. Students use variables, decisions, loops, functions, objects, and other programming concepts as they add robust and powerful interactivity to web pages. Students create responsive web solutions integrating HTML, CSS, JavaScript, jQuery, JSON, and Ajax technologies. Course content is mapped to the MTA 98-382 Introduction to Programming Using JavaScript learning objectives and students enrolled in this course will take the certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 180 with a grade of 2.0 or higher, or instructor permission

**CIT 195 - Application Development**

**Credit Hours: 3, Contact Hours: 4**

Division: Business

The student is introduced to .NET application and game development. Students use Visual Studio to develop applications and games featuring XAML-based and graphical interfaces, user devices such as game controllers, and database integration. Object-oriented concepts including encapsulation, inheritance, polymorphism, collections, delegates, and events are included. Application design patterns including 3-tier architecture and proper documentation are emphasized. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 110 with a grade of 2.0 or higher

**CIT 210 - Microsoft Office - Excel**

**Credit Hours: 3, Contact Hours: 3**

Division: Business

This course deals with a comprehensive study of Microsoft Office Excel spreadsheet software and the business applications which can be created and used with the software. The entry of data with different formats, formula creations, file transfer of data, graphing, data tables, solver programs, apply what-if scenarios and an introduction to macros will be covered. Course content is mapped to the current Microsoft Office Specialist (MOS) Excel learning objectives and students enrolled in this course will take the certification exam. Group 2 course. Quantitative Reasoning.

**CIT 211 - Intro to Data Analytics****Credit Hours: 3, Contact Hours: 3**

Division: Business

Introductory course exploring the practice of data analytics. Using current business intelligence tools, students will learn data modeling, visualization, and analytical techniques. Power Pivot and Power Query will be used to import, cleanse, and shape data. Data Analysis Expressions (DAX) are then used to create simple to complex calculations within Power BI before creating interactive visualizations that bring big data to life. Group 2 course. Quantitative Reasoning. Recommended Prerequisites: Familiarity with spreadsheets.

**CIT 213 - Networking Technologies****Credit Hours: 4, Contact Hours: 5**

Division: Business

This course covers the knowledge and skills needed to troubleshoot, configure, and manage wired and wireless networks. The OSI model will be studied and identified to better enhance the understanding of how various parts work together. Included is an in-depth study of TCP/IP and the characteristics for maintaining a network and ensuring its security. Cloud computing and virtualization technologies will also be introduced. This course maps to the CompTIA Network+ certification exam objectives. Group 2 course. Critical Thinking - Direct.

**CIT 215 - Windows Server Environment****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course students will learn about the latest Windows Server operating system. Students will install many server roles and features. Concepts studied include remote administration, storage, virtualization, Windows Containers, Windows Server Update Services, and high-availability. Students will have an opportunity to work with different types of server installations. Windows PowerShell and Hyper-V will also be introduced. This course maps to the Microsoft 70-740 Installation, Storage and Compute with Windows Server 2016 certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 213 or instructor permission.

**CIT 216 - Computerized Acctg Systems****Credit Hours: 3, Contact Hours: 3**

Division: Business

This course is designed to give the student experience with setting up an accounting system on the computer. QuickBooks software will be used. Accounts receivable, accounts payable, general ledger, inventory and payroll will be covered, with an emphasis on conversion from manual accounting systems to both desktop and/or cloud-based platforms. Group 2 course.

Required Prerequisites: ACC 121

**CIT 218 - Web Application Development****Credit Hours: 3, Contact Hours: 4**

Division: Business

The student will develop multi-tier web applications using client-server technologies in a variety of frameworks. Development will include design patterns such as MVC and MVVM with students writing client-side and server-side code to create a functional, consistent, and robust web application. As a capstone project, the students will develop and deploy a functional web application. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 190 with a grade of 2.0 or higher, CIT 195 with a grade of 2.0 or higher

Recommended Prerequisites: CIT 228, CIT 255

**CIT 228 - Advanced Database Systems****Credit Hours: 3, Contact Hours: 4**

Division: Business

This course builds upon database knowledge gained in CIT178 by extending into other data sources and connection technologies. Students will be able to identify and evaluate data options and access data via code. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 110, CIT 180 and either CIT 178 or CIT 248, all with a grade of 2.0 or higher.

**CIT 231 - Current Topics in IT****Credit Hours: 3, Contact Hours: 3**

Division: Business

The student is introduced to IT topics, each presented in five week modules, that are both timely and relevant to the IT industry. The course uses these modules to both present the new technologies and provide opportunity for the student to identify skills and resources relevant to profession development in the IT industry. Group 2 course. Critical Thinking - Direct.

**CIT 233 - Project Management****Credit Hours: 3, Contact Hours: 3**

Division: Business

This course is intended for CIT students and business professionals who need to manage project activities or resources on time, on budget, and according to performance standards. Students use a variety of project management tools to schedule tasks, and monitor resources, cost, and project progress. Group 2 course. Critical Thinking - Direct.

**CIT 240 - Network Security Management****Credit Hours: 3, Contact Hours: 4**

Division: Business

This course covers the knowledge and skills required to install and configure systems to secure applications, networks, and devices while supporting the principles of confidentiality, integrity, and availability. Additional topics include threat analysis and mitigation, risk assessments, and compliance. Course content is mapped to the CompTIA Security+ certification exam objective. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 213

**CIT 243 - Cloud Technologies****Credit Hours: 3, Contact Hours: 3**

Division: Business

Students will explore cloud topics including cloud concepts, virtualization, infrastructure, resource and security management, security, and cloud system management. Cloud concepts will be explored using Microsoft Azure, Amazon Web Services, and Google Cloud Services. This course will prepare students for the CompTIA Cloud+ certification exam. Group 2 course.

Required Prerequisites: CIT 213

**CIT 246 - Windows Server Infrastructure****Credit Hours: 3, Contact Hours: 4**

Division: Business

Students taking this course will learn how to setup, configure, and maintain a Windows Server Infrastructure. Topics covered include Dynamic Host Configuration Protocol (DHCP), Domain Name Systems (DNS), Distributed File Systems (DFS), and Virtual Private Networks. This course maps to the 70-741 Networking with Windows Server 2016 certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 213 or instructor permission

**CIT 247 - Enterprise Solutions****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course students will gain practical experience building enterprise systems using Identity solutions. Students will study Active Directory, Group Policy, Certificate Services and Federation and access solutions.

This course maps to the 70-742 Identity with Windows Server 2016 certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 213 or instructor permission

**CIT 255 - Object-Oriented Programming****Credit Hours: 3, Contact Hours: 4**

Division: Business

The student builds on object-oriented fundamentals learned in CIT 195, focusing on implementing SOLID Principles throughout the course.

Projects will explore design patterns, UI/UX considerations, multiple forms of desktop and online persistence, and the integration of various technologies to form a complete solution. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 178 with a grade of 2.0 or higher, CIT 195 with a grade of 2.0 or higher

**CIT 256 - Linux Administration****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course students will take an in-depth look at Linux, focusing on proper installation, command line usage, and administration of the Operating System. Students will examine the concepts common to all Linux systems. Exploration will take the form of a practical, hands-on approach, using a mix of hands-on projects as well as web resources. This course will prepare students for the CompTIA Linux+ Exam. Group 2 course.

Required Prerequisites: CIT 213

**CIT 257 - Linux Administration II****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course students will take an in-depth look at Linux, focusing on proper installation, command line usage, and administration of the operating system. Students will examine various server technologies, including BASH scripting, X11, display managers, localization settings, printing, and security. Exploration will take the form of a practical, hands-on approach, using a mix of hands-on projects as well as web resources. This course will prepare students for the second CompTIA Linux+ exam. Group 2 course.

Required Prerequisites: CIT 256

**CIT 260 - Cisco Internetworking III****Credit Hours: 3, Contact Hours: 4**

Division: Business

This course, in conjunction with CIT 160 and CIT 161 prepares the student for the Cisco CCNA Exam (Cisco Certified Network Associate). Describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. Students will configure and troubleshoot routers and switches and resolve common issues with OSPF, ACLs, NAT, VPNs, and QoS for IPv4 and IPv6 networks, while also implementing network management, design, troubleshooting, virtualization, and automation techniques. This course utilizes the Cisco Networking Academy "CCNA Routing & Switching: Enterprise Networking, Security, and Automation" curriculum and integrates online curriculum, classroom activities, hands-on lab exercises and group projects. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 161

**CIT 263 - Security ASMT. and Compliance****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course, students will learn and practice current security assessment techniques. This includes the ability to plan/scope an assessment, understand legal/compliance requirements, perform vulnerability scanning/penetrations tests and analyze/report on their findings. This course aligns with the CompTIA Pentest+ certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 240, or instructor permission.

Recommended Prerequisites: Passing of CompTIA Security+ certification exam.

**CIT 264 - Security Analytics & Assurance****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course, students will learn how to employ data analytics to interpret and identify security vulnerabilities, threats, and risks to an organization. Students will configure and use various threat detection tools and learn how to secure and protect applications and systems within an organization. This course aligns with the CompTIA CySA+ certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 240, or instructor permission.

Recommended Prerequisites: Passing of CompTIA Security+ certification exam.

**CIT 266 - Advanced Enterprise Security****Credit Hours: 3, Contact Hours: 4**

Division: Business

In this course, students will work in small teams with realizable objectives in several areas including risk management, security architecture, security operations, security integration, and security collaboration. Students will conceptualize, engineer, and implement secure solutions across complex environments to create a resilient enterprise. This course aligns with the CompTIA CASP+ certification exam. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 263, CIT 264

Recommended Prerequisites: CIT 256

**CIT 280 - Systems Analysis and Design****Credit Hours: 4, Contact Hours: 5**

Division: Business

This is the capstone course in the CIT Developer AAS. Students will gain practical knowledge in systems analysis and design through participation in a team-based software/hardware project that follows the systems development life cycle using agile development with industry patterns and practices. A capstone project will be developed and presented to a review group. Students will conduct a feasibility study, perform requirements analysis, model objects and data, develop and test the solution, and communicate effectively. Group 2 course. Critical Thinking - Direct.

Required Prerequisites: CIT 255 with a grade of 2.0 or higher

Recommended Prerequisites: CIT 228

**CIT 290 - CIT Internship****Credit Hours: 3, Contact Hours: 3**

Division: Business

Work experience is an integral part of the CIT student's program. In this course, students are placed in settings that utilize their business and CIT skills. Students will work 150 hours during the semester in a supervised on-the-job training experience. Students must meet with their academic advisor and submit a resume for review before they will be allowed to enroll in this course. Group 2 course.

Required Prerequisites: 20 credits with a minimum of 3.0 GPA in CIT courses and instructor permission.

**CIT 291 - Web Developer Internship****Credit Hours: 3, Contact Hours: 3**

Division: Business

Work experience is an integral part of the Web Developer Certificate program. In this course, students are placed in settings that utilize their web installation and development skills as well as business and CIT skills. Students will work 150 hours during the semester in a supervised on-the-job training experience. In addition to the required 150 hours in the internship placement, students participate in semi-monthly seminars. Students must apply one month prior to the semester in which they will complete the internship. Group 2 course.

Required Prerequisites: Instructor permission

**CIT 292 - Support Specialist Internship****Credit Hours: 3, Contact Hours: 3**

Division: Business

Work experience is an integral part of the Support Specialist Certificate program. Students are placed in settings that utilize their technical, business applications, and interpersonal communications skills.

Students will work 150 hours during the semester in a supervised on-the-job training experience. Students must meet with their academic advisor and submit a resume for review before enrolling. Group 2 course.

Required Prerequisites: 27-30 hours in the Administrative Support Specialist Certificate and instructor permission.