

COMPUTER INFORMATION SYSTEMS (CIS)

CIS A090 1.5 Units (18 lecture hours; 27 lab hours)

Beginning Computer Keyboarding 1

Grading Mode: Pass/No Pass

The student will develop basic keyboarding skills on a computer keyboard using correct stroking techniques on letter, number, and symbol keys. Emphasis on developing accuracy and speed. No credit will be given to students who can already type 30 words per minute. This course may also be offered online. Offered on a pass-no pass basis only.

CIS A091 1.5 Units (18 lecture hours; 27 lab hours)

Keyboarding Speed and Accuracy

Prerequisite(s): CIS A090.

Grading Mode: Pass/No Pass

Development of keyboarding skill on a microcomputer for students who know how to type by touch. Speed and accuracy development using a variety of learning aids and software for diagnostic, prescriptive drills. May be taken concurrently with another typing course if desired. Offered on a pass-no pass basis only. This course may also be offered online.

CIS A092 1.5 Units (18 lecture hours; 27 lab hours)

Beginning Computer Keyboarding 2

Prerequisite(s): CIS A090.

Grading Mode: Pass/No Pass

Keyboarding on the computer for students who can type by touch control and know alphabetic, numeric, and symbolic keys presented in Computer Information Systems A090. Emphasis on speed and accuracy on straight copy material, introduction to MS Word, formatting of memos, personal letters, business letters, one-page reports, and simple tables. This course may also be offered online. Offered on a pass-no pass basis only.

CIS A100 3 Units (54 lecture hours)

Introduction to Computer Applications

Advisory: CIS A090 or equivalent.

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

Introductory computer course for MS Windows and applications. Students learn about the computer operating system and software applications for word processing, spreadsheets, databases, multimedia presentations, the Internet, and social networking tools. Provides preparation for students seeking Microsoft Certified Application Specialist (MCAS) certification. This course may also be offered online.

CIS A106 3 Units (45 lecture hours; 27 lab hours)

Introduction to Linux: LPI Certification

Advisory: CIS A110 or IT A110.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

This course provides an overview of the Linux operating system through the basic administration level. The student will be introduced to the configuration of Linux software and hardware, User and Group creation and management, process management, Linux rights and security. This course prepares the student for the Linux Professional Institute Linux Server Professional Server Certification.

CIS A110 4 Units (54 lecture hours; 36 lab hours)

PC Concepts: A+ Certification Preparation

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Introduces the hardware and operating system concepts of a personal computer and the broad range of hardware and software technologies. Provides preparation for students seeking A+ Certification sponsored by the Computing Technology Industry Association and certifies the competency of entry-level service technicians in the computer industry. May be taken for grades or on a pass-no pass basis.

CIS A111 3 Units (54 lecture hours; 18 lab hours)

Introduction to Computer Information Systems

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

Introductory course in the applications of information systems in business. Students will learn about Information Systems, hardware and software components, networks, ethics and security issues, ecommerce, and Web page design. Use of spreadsheet and database management software to create computer-based solutions to business problems. Meets the lower division computer requirement for business majors at some CSU and UC campuses. This course may also be offered online. **C-ID:** BUS 140, IT IS 120.

CIS A112 2 Units (36 lecture hours)

Educational Applications of Technology

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Provides the student with the educational applications of technology, including multimedia, Internet skills, graphics, research, video, audio, presentation and computer skills, basic networking processes, downloads, software resources, basic troubleshooting skills, digital cameras, scanners, and basic hardware and software evaluations. May be taken for grades or on a pass-no pass basis.

CIS A123 2 Units (36 lecture hours; 18 lab hours)

Web Page Design 1

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

This course will provide a practical understanding of HTML and CSS to design and format web pages. Text editors will be used to create and format Web pages incorporating various types of styles. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A128 **2 Units (36 lecture hours)**
Intro To Dreamweaver
Advisory: CIS A123.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Students will use the Dreamweaver program to effectively create, manage and maintain web sites. Students will work in an environment that integrates visual and code editing tools. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A129 **2 Units (36 lecture hours; 18 lab hours)**
Web Page Design 2
Advisory: CIS A123.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Intended for students who know how to create web pages using HTML. This course covers advanced Cascading Style Sheets (CSS) techniques such as designing responsive Web sites for tablets, mobile devices, and desktops. This course may also be offered online.

CIS A132 **2 Units (36 lecture hours)**
Business Multimedia and Graphics
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

The student will use Adobe Studio MX and Adobe PhotoShop to create, modify, implement and manage Web pages and sites that utilize multimedia interactivity and graphics for personal, business and educational use. May be taken for grades or on a pass-no pass basis.

CIS A133 **1 Unit (18 lecture hours)**
PowerPoint
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU

Demonstrates how proven, effective presentation techniques can blend with the technology of computer-generated graphics to create dynamic, colorful, and exciting multimedia presentations. Provides preparation for students seeking Microsoft Office Specialist (MOS) certification. May be taken for grades or on a pass-no pass basis. This course may also be offered online.

CIS A134 **2 Units (36 lecture hours)**
Excel 1
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Topics include spreadsheet concepts, model building, formula development, formula functions, charts, and list functions. Provides preparation for students seeking Microsoft Office Specialist (MOS) core certification. Same as Business A134. Students completing Computer Information Systems A134 may not receive credit for Business A134. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A135 **2 Units (36 lecture hours)**
Introduction to Microsoft Access
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

An introductory course in database management using Microsoft Access. Concepts include creating and managing tables, query techniques, creating forms and reports, and integrating Access with other programs. Provides preparation for students seeking Microsoft Office Specialist (MOS) certification. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A137 **2 Units (36 lecture hours)**
Microsoft Outlook
Advisory: Keyboarding competency of 25 words a minute for 3 minutes with no more than 1 error per minute.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU

The basics of communicating by email. Students will use basic computer concepts for learning Microsoft Outlook. Other topics include the use of the calendar, weather, management of contacts, tasks, notes, appointments, mail merge, scheduling, integrating Outlook with other applications, and working in the cloud. Provides preparation for students seeking Microsoft Office Specialist (MOS) certification. May be offered online. May be taken for grade or on a pass-no pass basis.

CIS A149 **2 Units (36 lecture hours)**
Office Procedures
Advisory: CIS A092.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Personal qualities and office skills required of an office assistant in a high tech, multicultural labor force. Office applications generated with Microsoft Office, enhanced verbal and written communications skills, reprographics, telephone and mail procedures, records management, time and stress management, office ethics, and career planning. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A160 **4 Units (63 lecture hours; 27 lab hours)**
Introduction to UAS Automation
Advisory: CIS A090, CIS A100, CIS A111, or CS A122.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course introduces students to the automation of Unmanned Aircraft Systems (UAS), including UAS flight control, camera and video capturing, telemetry data analysis and mission management. Throughout the semester, students will work in teams to plan, design and automate Unmanned Aircraft System missions by learning and using Software Development Kits (SDKs) of industry leading UAS providers. UAS projects will include behaviors such as path-following, random roaming with obstacle avoidance and telemetry data collection and analysis.

CIS A162 **3 Units (45 lecture hours; 27 lab hours)**
Fundamentals of Information Security
Advisory: CIS A110, IT A110, CIS A191, or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course provides the fundamental knowledge necessary for a student to become proficient in the field of Information Security. This course will prepare the student for a wide variety of security responsibilities. The curriculum covers a wide range of security concepts, including: General Security Concepts, Communication Security, Infrastructure Security, Basics of Cryptography, and Operational and Organizational Security. This course covers CompTIA's Security+ content and provides preparation for students seeking the CompTIA Security+ Certification.

CIS A163 **3 Units (45 lecture hours; 27 lab hours)**
Windows Desktop Administration
Advisory: CIS A110 or IT A110.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Provides students with the knowledge required to work in enterprise environments that use Microsoft Windows desktop operating systems. Students will learn to install, deploy, and upgrade the Windows operating system, including ensuring hardware and software compatibility, configure pre-installation and post-installation system settings, security features, network connectivity applications and mobile computing. Students will also be able to maintain systems, including monitoring for and resolving performance and reliability issues. Will help prepare students for the Microsoft Certified IT Professional (MCITP) exams. This course may also be offered online.

CIS A171 **2 Units (36 lecture hours; 18 lab hours)**
Introduction to JavaScript
Advisory: CIS A123.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

For students who already know how to create Web pages using HTML, this course introduces the fundamentals of JavaScript, a scripting language used to create interactive Web pages. Students will create dynamic Web pages using dialog boxes, forms, menus, rollover buttons, and image manipulation. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A176 **3 Units (45 lecture hours; 27 lab hours)**
Database Design and Data Warehousing
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Covers the terminology, technology and software used to design and implement a Microsoft SQL Server database. Student will learn to design, create and maintain a database to handle LOB (Line of Business) and DW (Data Warehousing) applications. May be taken for grades or on a pass-no pass basis.

CIS A177 **3 Units (45 lecture hours; 27 lab hours)**
Business Intelligence and Data Mining
Advisory: CIS A176 or IT A176.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Covers the terminology, technology and software used to build a data warehouse model and prepare that model for data mining. Students will learn how to design and process a data warehouse database using SSIS (SQL Server Integration Services), and format a cube in SSAS (SQL Server Analysis Services) in preparation for data mining operations. May be taken for grades or on a pass-no pass basis. This course may also be offered online.

CIS A191 **4 Units (72 lecture hours)**
Network and Communications Technologies
Advisory: CIS A110 or IT A110.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Provides an introduction to an overview of the field of networking, data communications and connectivity, with an emphasis on terminology, hardware, and software associated with the various components of a network. Provide preparation for students seeking the Network + Certification. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A192 **4 Units (63 lecture hours; 27 lab hours)**
Network Systems Administration
Advisory: CIS A110 or IT A110; and CIS A191 or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Covers terminology, technology, topologies and software used in the Microsoft Windows servers. Students will learn to create user accounts, implement different levels of security, apply diagnostics and back up and maintain the software. Will help prepare students for the Microsoft Certified Systems Engineer (MCSE) exams. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A193 **3 Units (45 lecture hours; 27 lab hours)**
Network Infrastructure Administration
Advisory: CIS A192 or IT A192.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Provides students with knowledge required to setup, configure, and support network infrastructures using the TCP/IP protocol. Topics include IP addresses, point-to-point tunneling protocols, DNS and DHCP services. Will help prepare students for the Microsoft Certified Systems Engineer (MCSE) exams. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A194 **3 Units (45 lecture hours; 27 lab hours)**
Network Directory Services Administration
Advisory: CIS A192 or IT A192.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Provides a study of the procedures necessary to plan, implement, and troubleshoot directory service infrastructures, including forests and domains, DNS, site topology and replication, and directory strategies. Will help prepare students for Microsoft Windows Microsoft Certified Systems Engineer (MCSE) exams. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A196 **4 Units (72 lecture hours)**
Network Enterprise Administration
Advisory: CIS A192 or IT A192.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Provides the knowledge and skills to design a security framework for small, medium, and enterprise networks. It focuses on providing secure access for local and remote users accessing resources using both public and private networks. Helps prepare students for Microsoft Windows Microsoft Certified Systems Engineer (MCSE) exams. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A197 **3 Units (45 lecture hours; 27 lab hours)**
Introduction to Networking (Cisco 1)
Advisory: CIS A191 or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamental of Ethernet concepts, media, 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 schemes. This course provides preparation for students seeking the Cisco CCENT/CCNA Certification. May be taken for grades or on a pass-no pass basis. **C-ID:** IT IS 150.

CIS A198 **3 Units (45 lecture hours; 27 lab hours)**
Routing and Switching Essentials (Cisco 2)
Advisory: CIS A197 or IT A197.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPV1, RIPV2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. This course covers Cisco's CCNA content and provides preparation for students seeking the Cisco CCNA Certification. May be taken for grades or on a pass-no pass basis.

CIS A199 **1-4 Units (9-72 lecture hours; 0-54 lab hours)**
Current Topics in Computer Applications
Grading Mode: Standard Letter, Pass/No Pass

Covers topics currently receiving attention in the computer industry. Units vary according to topic selected, semester offered, and the number of meetings scheduled. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A223 **2 Units (36 lecture hours; 18 lab hours)**
JavaScript 2
Advisory: CIS A129 and CIS A171.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

For students who already know how to create web pages using HTML and understand JavaScript, this course covers advanced features of Front-End development. Topics include closures, advanced Javascript OOP patterns, utilizing jQuery, manipulating Document Object Model (DOM), and writing AJAX scripts.

CIS A227 **2 Units (36 lecture hours)**
JavaScript 3
Advisory: CIS A223.

Grading Mode: Standard Letter
Transfer Credit: CSU.

For students with advanced Javascript knowledge. The course will cover the latest technology to build complex Web apps. Topics include TypeScript foundations and AngularJS 2. This course may also be offered online.

CIS A232 **3 Units (45 lecture hours; 27 lab hours)**
Digital Video for Business: Adobe Premiere Pro
Advisory: CIS A100.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Using Adobe Premiere Pro, Photoshop and After Effects students will acquire practical and current knowledge to acquire, modify and implement digital video, audio, multimedia and graphics for business, educational personal use. Includes: video, audio and digital acquisition methods, hardware and software evaluation and output to varied media. May be taken for grades or on a pass-no pass basis.

CIS A234 **2 Units (36 lecture hours)**
Excel 2
Advisory: CIS A134 or BUS A134.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Create templates and macros using Visual Basic for Applications to automate Excel tasks, formula auditing, data validation, complex problem solving, importing data, routing changes, PivotCharts, PivotTables, and trendlines. Provides preparation for students seeking Microsoft Office Specialist (MOS) certification. Same as Business A234. Students completing Computer Information Systems A234 may not receive credit for Business A234. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A261 **3 Units (45 lecture hours; 27 lab hours)**
Fundamentals of Wireless Networking
Advisory: CIS A197 or IT A197; and CIS A198 or IT A198.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course provides a complete foundation of knowledge for entering into or advancing in the wireless networking industry. This course covers Cisco's Wireless LAN certification content and provides preparation for students seeking a Cisco Wireless certification. May be taken for grades or on a pass-no pass basis.

CIS A262 **3 Units (45 lecture hours; 27 lab hours)**
Fundamentals of Voice over IP Protocols
Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

An introduction to Voice over IP (VoIP). Topics include VoIP architecture, components and functionality. Additional focus will be given to VoIP signaling, call control, voice dial plans, configuring voice interfaces and dial-peers, and implementing quality of service technologies in a VoIP environment. This course may also be offered online. May be taken for grades or on a pass-no pass basis.

CIS A263 **3 Units (45 lecture hours; 27 lab hours)**
Introduction to the Internet of Things
Advisory: CIS A110 or IT A110; and CIS A191 or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU

The Internet of Things (IoT) is the network of physical objects or 'things' embedded with electronics, software, sensors and connectivity to enable it to achieve greater value and service by exchanging data with the manufacturer, operator and/or other connected devices. Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure. This course will prepare students to install, configure and maintain these devices. This course may also be offered online. Lecture/Lab.

CIS A265 **3 Units (45 lecture hours; 27 lab hours)**
Enterprise Router Configurations 1
Advisory: CIS A198 or IT A198.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

The course focuses on advanced installation, configuration, and troubleshooting routers. Student will be introduced to routing protocols using Juniper Networks routing platforms. Students develop real-world case studies. Significant time will be allocated for hands-on experience. Provides preparation for students seeking Juniper certification. This course may also be offered online.

CIS A267 **3 Units (45 lecture hours; 27 lab hours)**
Scaling Networks- Cisco 3
Advisory: CIS A198 or IT A198.

Grading Mode: Standard Letter, Pass/No Pass
 Describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement DHCP and DNS operations in a network. This course provides preparation for students seeking the Cisco CCENT/CCNA Certification. May be taken for grades or on a pass-no pass basis.

CIS A268 **3 Units (45 lecture hours; 27 lab hours)**
Connecting Networks (Cisco 4)
Advisory: CIS A267 or IT A267.

Grading Mode: Standard Letter, Pass/No Pass
 Discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and LAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network. This course provides preparation for students seeking the Cisco CCENT/CCNA Certification.

CIS A280 **3 Units (45 lecture hours; 27 lab hours)**
Information and Storage Management
Advisory: CIS A110, IT A110, CIS A191, or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

The course provides a comprehensive introduction to information storage technology which enables students to make more informed decisions in an increasingly complex IT environment. It builds a strong understanding of underlying storage technologies and prepares Student to learn advanced concepts, technologies and products. This course may also be offered online.

CIS A281 **3 Units (45 lecture hours; 27 lab hours)**
Cloud Infrastructure & Services
Advisory: CIS A110, IT A110, CIS A191, or IT A191.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course educates students about cloud deployment and service models, cloud infrastructure, and the key considerations in migrating to cloud computing. The course covers technologies required to build classic, virtualized, and cloud data center environments. These technologies include compute, storage, networking, desktop and application virtualization. Additional areas of focus are backup/recovery, business continuity, security, and management. Students will learn about the key considerations and steps involved in transitioning from the current state of a data center to a cloud computing environment.

CIS A282 3 Units (45 lecture hours; 27 lab hours)

Ethical Hacking and Network Defense

Advisory: CIS A261 or IT A261; and CIS A191 or IT A191.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will learn how hackers attack computers and networks, and how to protect Windows and Linux systems. Legal restrictions and ethical guidelines will be taught and enforced. Students will perform many hands-on labs; attacking and defending, using port scans, footprinting, buffer overflow exploits, SQL injection, privilege escalation, Trojans, and backdoors. This course may also be offered online.

CIS A285 3 Units (45 lecture hours; 27 lab hours)

VMware View: Installation, Configuration & Management

Advisory: CIS A110, IT A110, CIS A191, or IT A191.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will learn the concepts and capabilities of virtual desktops with a focus on the installation, configuration, and management of virtual desktops and thin clients using tools such as VMware. This course will provide applications-oriented administrators with the knowledge and skills to virtualize applications with VMware ThinApp, modify parameters to handle special circumstances, and choose the best deployment and updating processes for organizational environments.

CIS A286 3 Units (45 lecture hours; 27 lab hours)

VMware vSphere: Installation, Configuration & Management

Advisory: CIS A110, IT A110, CIS A191, or IT A191.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will learn the concepts and capabilities of virtual architecture with a focus on the installation, configuration, and management of virtual infrastructure using tools such as VMWare®. This course covers fundamentals of virtual network design and implementation, fundamentals of storage area networks, virtual switching, virtual system management, and engineering for high availability.

CIS A290 3 Units (45 lecture hours; 27 lab hours)

Small/Home Office: Case Study 1

Advisory: CIS A191, IT A191, CIS A261, or IT A261; and CIS A263 or IT A263.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Challenges students to apply network concepts learned in previous courses to a case-study based problem in Small Office / Home Office environments. Includes various responsibilities and tasks required for a service engineer to design and execute a successful implementation. Prepares individuals for careers as a Network Engineer in the IT industry.