

INFORMATION TECHNOLOGY (IT)

IT A106 **3 Units (45 lecture hours; 27 lab hours)**

Introduction to Linux: LPI Certification

Advisory: IT A110 or CIS 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. Same as CIS A106. Students who have taken CIS A106 may not take IT A106.

IT 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. Same as CIS A110. Students who have taken CIS A110 may not take IT A110. May be taken for grades or on a pass-no pass basis.

IT A162 **3 Units (45 lecture hours; 27 lab hours)**

Fundamentals of Information Security

Advisory: IT A110, CIS A110, IT A191, or CIS 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. Same as CIS A162. Students who have taken CIS A162 may not take IT A162.

IT A163 **3 Units (45 lecture hours; 27 lab hours)**

Windows Desktop Administration

Advisory: IT A110 or CIS 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. Same as CIS A163. Students who have taken CIS A163 may not take IT A163.

IT 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. Students 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. Same as CIS A176. Students who have taken CIS A176 may not take IT A176.

IT A177 **3 Units (45 lecture hours; 27 lab hours)**

Business Intelligence and Data Mining

Advisory: IT A176 or CIS A176 or equivalent.

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. Same as CIS A177. Students who have taken CIS A177 may not take IT A177.

IT A191 **4 Units (72 lecture hours)**

Network and Communications Technologies

Advisory: IT A110 or CIS 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. May be taken for grades or on a pass-no pass basis. Same as CIS A191. Students who have taken CIS A191 may not take IT A191.

IT A192 **4 Units (63 lecture hours; 27 lab hours)**
Network Systems Administration
Advisory: IT A110 or CIS A110; and IT A191 or CIS 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. Same as CIS A192. Students who have taken CIS A192 may not take IT A192.

IT A193 **3 Units (45 lecture hours; 27 lab hours)**
Network Infrastructure Administration
Advisory: IT A192 or CIS 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. Same as CIS A193. Students who have taken CIS A193 may not take IT A193.

IT A194 **3 Units (45 lecture hours; 27 lab hours)**
Network Directory Services Administration
Advisory: IT A192 or CIS 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. Same as CIS A194. Students who have taken CIS A194 may not take IT A194.

IT A196 **4 Units (72 lecture hours)**
Network Enterprise Administration
Advisory: IT A192 or CIS 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. Same as CIS A196. Students who have taken CIS A196 may not take IT A196.

IT A197 **3 Units (45 lecture hours; 27 lab hours)**
Introduction to Networking (Cisco 1)
Advisory: IT A191 or CIS 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 fundamentals 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. Same as CIS A197. Students who have taken CIS A197 may not take IT A197.

IT A198 **3 Units (45 lecture hours; 27 lab hours)**
Routing and Switching Essentials (Cisco 2)
Advisory: IT A197 or CIS 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. Same as CIS A198. Students who have taken CIS A198 may not take IT A198.

IT A261 **3 Units (45 lecture hours; 27 lab hours)**
Fundamentals of Wireless Networking
Advisory: IT A197 or CIS A197; and IT A198 or CIS 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. Same as CIS A261. Students who have taken CIS A261 may not take IT A261.

IT 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. May be taken for grades or on a pass-no pass basis. Same as CIS A262. Students who have taken CIS A262 may not take IT A262.

IT A263 **3 Units (45 lecture hours; 27 lab hours)**
Introduction to the Internet of Things
Advisory: IT A110 or CIS A110; and IT A191 or CIS 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. Same as CIS A263. Students who have taken CIS A263 may not take IT A263.

IT A265 **3 Units (45 lecture hours; 27 lab hours)**
Enterprise Router Configurations 1
Advisory: IT A198 or CIS 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. Same as CIS A265. Students who have taken CIS A265 may not take IT A265.

IT A267 **3 Units (45 lecture hours; 27 lab hours)**
Scaling Networks- Cisco 3
Advisory: IT A198 or CIS 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. Same as CIS A267. Students who have taken CIS A267 may not take IT A267.

IT A268 **3 Units (45 lecture hours; 27 lab hours)**
Connecting Networks - Cisco 4
Advisory: IT A267 or CIS 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. Same as CIS A268. Students who have taken CIS A268 may not take IT A268.

IT A280 **3 Units (45 lecture hours; 27 lab hours)**
Information and Storage Management
Advisory: IT A110, CIS A110, IT A191, or CIS 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. Same as CIS A280. Students who have taken CIS A280 may not take IT A280.

IT A281 **3 Units (45 lecture hours; 27 lab hours)**
Cloud Infrastructure & Services
Advisory: IT A110, CIS A110, IT A191, or CIS 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. Same as CIS A281. Students who have taken CIS A281 may not take IT A281.

IT A282 **3 Units (45 lecture hours; 27 lab hours)**
Ethical Hacking and Network Defense
Advisory: IT A191 or CIS A191; and IT A261 or CIS A261.

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. Same as CIS A282. Students who have taken CIS A282 may not take IT A282.

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

VMware View: Installation, Configuration & Management

Advisory: IT A110, CIS A110, IT A191, or CIS 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. Same as CIS A285. Students who have taken CIS A285 may not take IT A285.

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

VMware vSphere: Installation, Configuration & Management

Advisory: IT A110 or CIS A110; and IT A191 or CIS 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. Same as CIS A286. Students who have taken CIS A286 may not take IT A286.

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

Small Office / Home Office: Case Study 1

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

Grading Mode: Standard Letter, Pass/No Pass

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. Same as CIS A290. Students who have taken CIS A290 may not take IT A290.