COMPUTER & OFFICE STUDIES, NETWORKING, & OS (COSN)

COSN 5 (C-ID ITIS 110) 4 units
Computer Hardware Fundamentals
72 hours lecture
Recommended Preparation: COSA 50.
Grading: letter grade or pass/no pass.
Formerly CBIS 200. This course provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level ICT professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, and the responsibilities of an ICT professional will be introduced. Preparation for the CompTIA A+ certification exams.
Transferable to CSU Only

COSN 10 (C-ID ITIS 150) 3 units
Networking Fundamentals
54 hours lecture
Grading: letter grade or pass/no pass.
Materials Fee: $10.
Formerly CBIS 41. In this class, the student will learn to install, configure, upgrade and troubleshoot a computer network. There will be discussions regarding local area networks, wide area networks, wireless networks, communications protocols, network topologies, transmission media, security, and assessment of career opportunities in networking. This class maps to the CompTIA Network+ certification. In addition, upon successful completion of this course, students will be given a voucher to sit for the Microsoft Technology Associate (MTA) industry certification exam.
Transferable to CSU Only

COSN 200 3 units
Wireless and Mobile Devices
54 hours lecture
Corequisite: COSN 10.
Grading: letter grade or pass/no pass.
Formerly CBIS 212. In this class the student will learn how to install, use, and manage popular wireless technologies such as WiFi, WiMax, and Bluetooth. They will build on the knowledge from COSN 10 to understand how mobile devices connect to the larger network infrastructure through various wireless technologies. Students will have hands on experience installing, trouble shooting, managing, securing, backing up and upgrading Android, IOS, Windows and other mobile devices.

COSN 205 4 units
UNIX/LINUX Fundamentals
72 hours lecture
Recommended Preparation: COSA 50.
Grading: letter grade or pass/no pass.
Formerly CBIS 223. This course trains students to use the Linux operating system as an alternative to other operating systems for managing files, running applications, and developing application procedures. Course topics include an overview of basic operating system concepts, a history of UNIX and its influence on modern operating systems, basic internal operating system structure, details of UNIX/Linus file system structures, pipes, filters and redirection, scripts, processes, shells, and UNIX/Linux utilities. Completion of this course qualifies students for COSN 210, Linux System Administration.

COSN 206 3 units
Scripting Fundamentals
54 hours lecture
Recommended Preparation: COSN 205.
Grading: letter grade or pass/no pass.
This course offers an in-depth introduction to scripting languages including basic data types, control structures, regular expressions, input/output, and textual analysis. Students will use popular scripting languages in a Windows and Linux environment.

COSN 210 4 units
LINUX Server Administration
72 hours lecture
Recommended Preparation: COSN 205.
Grading: letter grade or pass/no pass.
Formerly CBIS 235A and COSN 210AD. This course is an in-depth study of the Linux operating system. The focus is on Linux installation and administration. The course will also examine the theoretical concepts common to all Linux systems that have increased its popularity. The course will also take the form of a practical hands-on approach to Linux to prepare students for the CompTIA Linux+ or LPI certifications. Students should have already completed a foundation course in Linux.

COSN 215 4 units
LINUX Networking and Security
72 hours lecture
Recommended Preparation: COSN 205 or COSN 210.
Grading: letter grade or pass/no pass.
Formerly COSN 215AD. This is an advanced Linux operating system course. The focus is on Linux networking and security. The course covers networking technologies and protocols, network configuration and the use of command-line and graphical utilities. Network security issues such as firewalls, VPNs, and utilities such as nmap, ethereal, and the SAINT profiling tool will be presented.

COSN 225 3 units
Microsoft Windows Client
54 hours lecture
Recommended Preparation: COSN 10.
Grading: letter grade or pass/no pass.
Materials Fee: $10.
Formerly CBIS 226. In this class, students will install, configure and administer Windows OS. They will install and upgrade client systems, manage file systems and devices and perform system maintenance. The class will prepare the student to take the corresponding MTA Certification Exam.

COSN 230 4 units
Microsoft Windows Server
72 hours lecture
Recommended Preparation: COSN 225.
Grading: letter grade or pass/no pass.
Materials Fee: $10.
Formerly CBIS 227. In this class, students will install, configure and administer Windows Server Operating System. The class will prepare the student to take the corresponding MTA Certification Exam.

COSN 250 3 units
Cloud Computing in Amazon Web Services
54 hours lecture
Recommended Preparation: COSA 50, COSN 10, or COSN 205.
Grading: letter grade or pass/no pass.
This course introduces cloud computing which shifts information systems from on-premises computing infrastructure to highly scalable internet architectures. The course provides a solid foundation of cloud computing technologies and provides students with the understanding required to effectively evaluate and assess the business and technical benefits of cloud computing and cloud applications. Students analyze a variety of cloud services (storage, servers and software applications) and cloud providers. Case studies will be used to examine various industry cloud practices and applications. The course also surveys cloud careers and discusses industry demand for cloud skills.

COSN 251 3 units
Database Essentials in Amazon Web Svcs
54 hours lecture
Recommended Preparation: COSN 250.
Grading: letter grade or pass/no pass.
This course addresses cloud database management which supports a number of different approaches for storing data. In the course, students define, operate and scale both SQL and noSQL data storage solutions. This course considers factors that should be balanced during the design of a storage solution. Principles are applied by performing exercises using Amazon RDS and SQL to create and fill tables, retrieve and manipulate data. Object-based APIs are used to serialize objects to Amazon DynamoDB for noSQL solutions. Topics include automated backups, transaction logs, restoration and retention.

COSN 252 3 units
App Development in Amazon Web Services
54 hours lecture
Recommended Preparation: COSN 250.
Grading: letter grade or pass/no pass.
In this course, students explore how cloud computing systems are built using a common set of core technologies, algorithms, and design principles centered around distributed systems. Students will use the Amazon Web Services (AWS) Management Console to provision, load-balance and scale their applications using the Elastic Compute Cloud (EC2) and the AWS Elastic Beanstalk. The course discusses, from a developer perspective, the most important reasons for using AWS and examines the underlying design principles of scalable cloud applications.

COSN 253 3 units
Security in Amazon Web Services
54 hours lecture
Recommended Preparation: COSN 250.
Grading: letter grade or pass/no pass.
This course focuses on protecting the confidentiality, integrity and availability of computing systems and data. Students learn how Amazon Web Service (AWS) uses redundant and layered controls, continuous validation and testing, and a substantial amount of automation to ensure the underlying infrastructure is continuously monitored and protected. Students examine the AWS Shared Responsibility Model and access the AWS Management Console to learn more about security tools and features provided by the AWS platform.

COSN 299 4 units
Security and Networking Capstone
72 hours lecture
Prerequisite: COSS 71 or COSN 225 or COSN 205.
Grading: letter grade or pass/no pass.
This capstone course focuses on tying together the skills, knowledge and abilities students have developed throughout the Associate of Science in Computer Security and Networking degree program. Students will build, configure, manage and secure a mock IT infrastructure including routers, switches, desktop computers, mobile devices, directory services, web services, database services, VPN services, and virtualization. Students will use Microsoft, UNIX-based and mobile operating systems to complete their project.

COSN 605 0 units
Computer Hardware Fundamentals
72 hours lecture
Recommended Preparation: COSA 650.
Grading: non graded.
This course provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level ICT professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, and the responsibilities of an ICT professional will be introduced. Preparation for the CompTIA A+ certification exams.

COSN 610 0 units
Networking Fundamentals
54 hours lecture
Grading: non graded.
Materials Fee: $10.
In this class, the student will learn to install, configure, upgrade and troubleshoot a computer network. There will be discussions regarding local area networks, wide area networks, wireless networks, communications protocols, network topologies, transmission media, security, and assessment of career opportunities in networking. This class maps to the CompTIA Network+ certification. In addition, upon successful completion of this course, students will be given a voucher to sit for the Microsoft Technology Associate (MTA) industry certification exam.