

# INFORMATION TECHNOLOGY (IT)

## IT 0015. Business Information Systems

*Units: 3*

Formerly known as CIS 62

Advisory: Eligibility for ENGL C1000

Hours: 72 (54 lecture, 18 laboratory)

Examination of information systems and their role in business. Focus on information systems, database management systems, networking, e-commerce, ethics and security, computer systems hardware and software components. Application of these concepts and methods through hands-on projects developing computer-based solutions to business problems. (C-ID ITIS 120) (CSU)

## IT 0028. Independent Study

*Units: 1-3*

Formerly known as CIS 28

Designed for students interested in furthering their knowledge at an independent study level in an area where no specific curriculum offering is currently available. Independent study might include, but is not limited to, research papers, special subject area projects, and research projects. See Independent Study page in catalog. (CSU)

## IT 0055. Database Management

*Units: 3*

Formerly known as CIS 90

Advisory: Completion of BUS 252 with grade of "C" or better or strong understanding of MS Office Application navigation

Hours: 72 (54 lecture, 18 laboratory)

Discover the intricacies of relational databases using the current version of Microsoft Access. Includes designing database structures: tables, queries, forms, reports, and macros. Also includes integrating with the Web, Excel and other programs. Emphasis on hands-on learning. (C-ID ITIS 180) (CSU)

## IT 0060. Project Management Concepts and Software

*Units: 3*

Formerly known as CIS 136

Advisory: Completion of BUS 252 and/or IT 55 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Explores Project Management concepts and terminologies along with the use of Microsoft Office Project and other project management tools through discussions, hands-on exercises and classroom learning experiences. Includes WBS, budgeting, and resource allocation and other important PM topics such as Scope and Project Team Development. Helps prepare students to use the software package in their daily duties as a project manager or project assistant. Helps prepare students to take the Certified Associate in Project Management - CAPM exam from PMI or the CompTIA Project+ exam. (not transferable)

## IT 0065. Data Analytics/Visualization Using Tableau

*Units: 3*

Formerly known as CIS 91

Advisory: Completion of BUS 252 and IT 55 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Learn how to use Tableau, a leading data analysis and visualization tool, to bring the world's data into views that everyone can use and understand. Go beyond basic charts by building powerful dashboards and drill down reports to support business decision makers or help explain visually the global impact of a single voice. (not transferable)

## IT 0075. Python for Many Uses

*Units: 3*

Advisory: Completion of IT 105 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Learn to use Python to manipulate data for analytics, to manage IoT devices and/or for creating scripts to improve network security. This course will start at a very basic level and work up to applied solutions for real world work environments. (CSU)

## IT 0080. IoT - Internet of Things

*Units: 3*

Advisory: Eligibility for ENGL C1000; Completion with grades of "C" or better or concurrent enrollment in IT 75 and IT 105 recommended

Hours: 72 (54 lecture, 18 laboratory)

Introduction to the Internet of Things (IoT), where people, processes, things, and data are connected via emerging Internet technologies. A variety of networking and computer hardware devices will be integrated into end-to-end systems to solve practical problems. (CSU)

## IT 0090. IT Fundamentals

*Unit: 1.5*

Hours: 36 (27 lecture, 9 laboratory)

Designed to prepare students to explain the basics of computing, IT infrastructure, software development, database use, installing software, establishing basic networking connectivity, and identifying/preventing basic security risks. This course is intended for students who are considering a career in IT and/or later considering the pursuit of completing the CompTIA Fundamentals+ (ITF+) certification exam. (not transferable)

## IT 0095. Internship in Information Technology

*Units: 0.5-4*

Designed for advanced students to work in an area related to their educational or occupational goal. Provides new on-the-job technical training under the direction of a worksite supervisor, allowing students to expand knowledge and skills in the chosen field. Mandatory orientation session and faculty approval to determine eligibility. One unit of credit is equal to 54 hours of work. Students may earn up to a total of 16 units in internship courses (any course numbered 95 and PDEV 94). (CSU-with unit limitation)

## IT 0100. Information and Communication Technology Essentials

*Units: 4*

Formerly known as CIS 26

Hours: 90 (72 lecture, 18 laboratory)

Provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level Information Communication Technology (ICT) professionals. The fundamentals of computer hardware and software as well as advanced concepts such as security, networking, cloud computing, and the responsibilities of an ICT professional will be introduced. A special emphasis is placed on software, hardware, and network troubleshooting techniques. This course is intended to help students prepare for the CompTIA A+ certification exams. (C-ID ITIS 110) (CSU)

**IT 0105. Computer Network Fundamentals***Units: 3*

Formerly known as CIS 65

Advisory: Completion of IT 100 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. Students achieve a basic understanding of how networks operate and how to build simple local area networks (LAN), perform basic configurations for routers and switches, implement Internet Protocol (IP) and enterprise technologies, including cloud and virtualization. Students will apply the knowledge and skills required to troubleshoot, configure, and manage common network devices; establish basic network connectivity; and implement network security, standards, and protocols. Preparation for the CompTIA Network+ certification exam. (C-ID ITIS 150) (CSU)

**IT 0110. Installing, Configuring and Administering a Client OS***Units: 3*

Formerly known as CIS 141

Advisory: Completion of IT 105 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Setup and support for a desktop operating system using a current desktop operating system in a networked environment. Creation of local and domain-level accounts, creation of shared resources, use of network services, remote access, resource management and monitoring, and security considerations. (CSU)

**IT 0115. Server Systems Administration***Units: 3*

Formerly known as CIS 142

Prerequisite: Completion of IT 105 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Provides knowledge and skills required to build, maintain, troubleshoot and support Microsoft server OS technologies. Covers environmental issues, disaster recovery, physical/software security procedures, industry terminology and concepts, server roles, specializations, and interaction within the overall computing environment. (C-ID ITIS 155) (CSU)

**IT 0120. Introduction to Information Systems Security***Units: 3*

Formerly known as CIS 147

Prerequisite: Completion of IT 105 with grade of "C" or better

Advisory: Completion of IT 115 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Introduction to the fundamental principles and topics of Information Technology Security and Risk Management at the organizational level. Addresses hardware, software, processes, communications, applications, and policies and procedures with respect to organizational Cybersecurity and Risk Management. Preparation for the CompTIA Security+ certification exams. (C-ID ITIS 160) (CSU)

**IT 0125. Switching, Routing and Wireless Essentials***Units: 3*

Formerly known as CIS 66

Prerequisite: Completion of IT 105 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Focuses on switching technologies and router operations that support small-to-medium business networks and includes Wireless Local Area Networks (WLANs) and security concepts. Students learn key switching and routing concepts. Students will perform basic network configuration and troubleshooting, identify and mitigate Local Area Network (LAN) security threats, and configure and secure a basic WLAN. (CSU)

**IT 0130. Cisco CCNA 3 Enterprise Networking, Security and Automation***Units: 3*

Prerequisite: Completion of IT 125 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

This is the third of three courses that are aligned to the CCNA Certification Exam. In Enterprise Networking, Security, and Automation, students will take the skills and knowledge that they learned in the previous two courses and apply them to wide area networks (WANs). WANs are large, complex networks that require advanced understanding of network operation and security. This class also introduces students to two important areas of networking: virtualization and automation. By the end of this course, students will be able to configure, troubleshoot, and secure enterprise network devices. Students will be versed in application programming interfaces (APIs) and the configuration management tools that make network automation possible. When students have completed ENSA, they will have gained the practical experience they need to prepare for the CCNA certification exam. (CSU)

**IT 0140. Implementing Network Security and Firewalls***Units: 3*

Prerequisite: Completion of IT 120 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Firewalls are one of the primary tools used to prevent unauthorized access to corporate networks. Students will learn how to design and configure firewalls to allow access to key services while maintaining an organization's security, as well as how to implement firewall-to-firewall Virtual Private Networks (VPNs). (CSU)

**IT 0145. Introduction to Cybersecurity: Ethical Hacking***Units: 3*

Formerly known as CIS 152

Prerequisite: Completion of IT 120 with grade of "C" or better

Advisory: Completion of CSCI 50 with grade of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Immerses IT Professionals in hands-on intensive environment providing in-depth knowledge and experience with current essential security systems. Provides understanding of perimeter defenses and leads to scanning and attacking networks; no real networks are harmed. Students learn how intruders escalate privileges and the steps to be taken to secure a system. Also covers Intrusion Detection, Policy Creation, Social Engineering, DDoS Attacks, Buffer Overflows, and Virtual Creation. Focus includes legal and regulatory requirements, ethical issues, basic methodology and technical tools used for ethical hacking and penetration tests. Students establish a pre-test agreement with the enterprise, discover and exploit vulnerabilities, participate as a member of a pen test team and prepare a penetration test report. (CSU)

**IT 0150. Principles of Cybersecurity Analysis***Units: 3*

Formerly known as CIS 153

Prerequisite: Completion of IT 120 with grade of "C" or better or CompTIA Security+ certification as determined by the Information Technology Department Chair

Hours: 72 (54 lecture, 18 laboratory)

Learn how to configure and use threat detection tools, perform data analysis, and interpret the results to identify vulnerabilities, threats, and risks to an organization with the end goal of securing and protecting applications and systems within an organization. This course covers skills used by Information Security (IT) security analysts, vulnerability analysts, or threat intelligence analysts with a technical, "hands-on" focus on IT security analytics. Covers exam objectives relating to the CompTIA Cybersecurity Analyst (CSA+) industry certification. (CSU)

**IT 0165. Computer Forensics Fundamentals***Units: 3*

Also known as ADMJ 88

Advisory: Completion of ADMJ 54 and IT 120 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Introduction to the methods used to properly conduct a computer forensics investigation, beginning with a discussion of ethics, while mapping the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. Topics covered include an overview of computer forensics as a profession; the computer investigation process; understanding operating systems boot processes and disk structures; data acquisition and analysis; technical writing; and a review of familiar computer forensics tools. (C-ID ITIS 165) (CSU)

**IT 0170. AWS Cloud Foundations***Units: 3*

Hours: 72 (54 lecture, 18 laboratory)

Intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles. This course provides a detailed overview of cloud concepts, Amazon Web Services (AWS) core services, security, architecture, pricing, and support. Can be used to prepare for the AWS Cloud Practitioner exam. (CSU)

**IT 0171. CompTIA Cloud+ Computing Concepts and Practices***Units: 3*

Prerequisite: Completion of IT 105 with grade of "C" or better

Advisory: Completion of IT 110 and IT 115 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Introduces students to cloud management concepts including cloud architecture and design, cloud security, deployment, operations and support, and cloud troubleshooting. This course helps prepare students for the CompTIA Cloud+ CV0-003 exam and for entry into the workforce in the Cloud market. (CSU)

**IT 0175. AWS Cloud Architecting***Units: 3*

Prerequisite: Completion of IT 105 and IT 170 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Covers the fundamentals of building IT infrastructure on Amazon Web Services (AWS). The course is designed to teach solutions architects how to optimize their use of the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions. Although architectural solutions can differ depending on the industry, type of application, and size of the business, this course emphasizes best practices for the AWS Cloud that apply to all of them. It also recommends various design patterns to help you think through the process of architecting optimal IT solutions on AWS. Throughout the course, students will explore case studies that showcase how some AWS customers have designed their infrastructures and the strategies and services that they have implemented. Finally, this course provides opportunities for students to build a variety of infrastructures through a guided, hands-on approach. (CSU)

**IT 0176. Cloud Computing - Amazon Web Services System Operations***Units: 3*

Prerequisite: Completion of IT 115 and IT 175 with grades of "C" or better

Advisory: Completion of IT 170 and/or IT 171 with grades of "C" or better

Hours: 72 (54 lecture, 18 laboratory)

Helps students identify and develop the skills needed for implementing cloud initiatives. Students will gain experience deploying, managing, and operating workloads on the AWS cloud platform. This course helps prepare students for the AWS Certified SysOps Administrator - Associate industry certification exam. (CSU)