COMPUTER SCIENCE AND INFORMATION SYSTEMS (CSIS)

CSIS 1 - Computer Information Systems (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This course offers an examination of information systems and their role in business. Focus is on information systems, database management systems, networking, e-commerce, ethics and security, computer systems hardware, and software components. Application of these concepts and methods is achieved through hands-on projects developing computer-based solutions to business problems. Portions of instruction may be offered online; may also be offered fully online. [C-ID ITIS 120]

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU & UC
GE Credit: MPC A2 Communication and Analytical Thinking

CSIS 9 - Programming Fundamentals: Python (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This course introduces the fundamental ideas in computer science using Python, an interpreted, object-oriented programming language known for its ease of use. Students develop skills in the design and implementation of algorithms while working with numerical computation, text processing, graphics, image processing, and networking applications. This is the recommended first course for computer science majors. Portions of instruction may be offered online; may also be offered fully online. [C-ID COMP 112]

Advisory: CSIS 1; completion of or concurrent enrollment in ENGL 1A
Credit transferable: Transfers to CSU & UC
GE Credit: MPC A2 Communication and Analytical Thinking

CSIS 10A - Programming Methods I: Java (4 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 68 hours lecture; 17 hours lab
This Java programming course introduces the discipline of computer science utilizing practical hands-on problem solving. Content includes principles of algorithm design, representation of data, objects and classes, arrays, effective programming style, and use of a debugger. Portions of instruction may be offered online; may also be offered fully online. [C-ID COMP 122]

Advisory: CSIS 9; completion of or concurrent enrollment in ENGL 1A or ENGL 1AE; MATH 263
Credit transferable: Transfers to CSU & UC
GE Credit: MPC A2 Communication and Analytical Thinking

CSIS 10B - Programming Methods II: Java (4 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab
This course covers the application of software engineering techniques to the design and development of large programs, grounding students in the use of data abstraction, data structures, and associated algorithms. Coverage includes vectors, linked lists, stacks, queues, trees, maps and hash tables, graphs, sorting, searching, and a significant project. Portions of instruction may be offered online; may also be offered fully online. [C-ID COMP 132]

Prerequisite(s): CSIS 10A or CSIS 10C
Advisory: CSIS 12; Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU & UC

CSIS 10C - Programming Methods I.5: C and C++ (4 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 51 hours lab
This intermediate C and C++ programming course provides deeper coverage of computer science while introducing the interface of software with the physical world. Coverage includes basic syntax, user-defined classes, arrays and STL, and the development of simple linked data structures. Can be taken before or after Computer Science and Information Systems 10B. Portions of instruction may be offered online; may also be offered fully online. [C-ID COMP 122]

Prerequisite(s): CSIS 9; or CSIS 10A; or ENGR 17
Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU & UC

CSIS 11 - Computer Architecture and Organization (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This course provides an introduction to the organization and structure of computer systems, machine architectures, elemental computer circuits and systems, and assembly language programming. It explores the mapping of statements and constructs from a high-level language into sequences of machine instructions, as well as the internal representation of simple data types and structures. [C-ID COMP 142]

Advisory: CSIS 10A; completion of or concurrent enrollment in ENGL 1A; MATH 263
Credit transferable: Transfers to CSU & UC

CSIS 12 - Discrete Structures (3 units)
Letter Grade (LG) Only • Total hours: 51 hours lecture; 17 hours lab
This course is an introduction to the discrete structures used in computer science with an emphasis on their applications. Topics covered include functions, relations and sets; basic logic; proof techniques; basics of counting; graphs and trees; and discrete probability. Portions of instruction may be offered online; may also be offered fully online. [C-ID COMP 152]

Prerequisite(s): CSIS 10A and MATH 13
Credit transferable: Transfers to CSU & UC

CSIS 50 - MS Office Applications (2 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture
This course is an introduction to office applications as supported by integrated software, both Web-based and MS Office Suite of applications programs - MS Word, Excel, Access and PowerPoint. Portions of instruction may be offered online; may also be offered fully online.

Corequisite(s): CSIS 50L
Credit transferable: Transfers to CSU

CSIS 50L - MS Office Applications Lab (1 unit)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lab
This lab provides computer laboratory exercises and analysis of the topics presented in CSIS 50, including introduction to Windows OS, e-mail and Web access, and PC- and Internet-integrated software for word processing, electronic spreadsheets, relational databases, and presentation graphics. Portions of instruction may be offered online; may also be offered fully online.

Corequisite(s): CSIS 50
Credit transferable: Transfers to CSU

CSIS 51C - Database Processing (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This introductory course to database management and design provides a solid, modern foundation in the fundamentals of database processing. Students are introduced to relational database fundamentals, database planning, design methodology, optimization, and normalization. Students also learn Structured Query Language (SQL), relational algebra concepts related to databases, and database and transaction security. This course helps prepare students for the CIW Database Design Specialist certification. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU

CSIS 72A - Managing and Maintaining Windows Server (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 51 hours lab
This course presents terminology, concepts, and skills necessary to install, manage, and maintain a Windows Server environment, including active directories, server roles, user and group management, and security using group policy. This course prepares students for the Microsoft Server 70-740 certification exam. Portions of instruction may be offered online; may also be offered fully online.

Advisory: CSIS 83A
Credit transferable: Transfers to CSU

CSIS 75 - Introduction to Computer Hardware/A+ Prep (4 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 68 hours lecture; 17 hours lab
This course covers maintenance and installation of computer hardware and basic electronics to understand digital circuits. The class covers most of the A+ certification material. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU

CSIS 76A - Cisco Certified Network Associate (CCNA) 1 (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 68 hours lab
This course introduces networking concepts and builds basic networking skills. Students learn layered models (TCP/IP and OSI), Ethernet networking, basic routing, IPv4 and IPv6 addressing, and cabling. Students design and configure a basic network. This Cisco Academy course is the first of a three-part sequence to prepare for CCNA certification. Portions of instruction may be offered online; may also be offered fully online.

Advisory: CSIS 1; completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU

CSIS 76B - Cisco Certified Network Associate (CCNA) 2 (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 68 hours lab
This course 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. The course also covers configuring and troubleshooting routers and switches and resolving common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. This Cisco Academy course is the second of a three-part sequence to prepare for CCNA certification. Portions of instruction may be offered online; may also be offered fully online.

Prerequisite(s): CSIS 76A
Credit transferable: Transfers to CSU

CSIS 76C - Cisco Certified Network Associate (CCNA) 3 (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 68 hours lab
This course introduces Dynamic routing and Access Control list (ACL) concepts and configurations. Students configure NAT, VPN and evaluate techniques for QoS, network security, design, troubleshooting and virtualization. This Cisco Academy course is the last of a three-part sequence to prepare for CCNA certification. Portions of instruction may be offered online; may also be offered fully online.

Prerequisite(s): CSIS 76B (or CSIS 177A)
Credit transferable: Transfers to CSU

CSIS 77 - Web Design and Publishing (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This course reviews the Internet and the World Wide Web, including evaluation of methods, development tools, services, standards, and trends used in electronic publishing. Assignments introduce hands-on development of hypertext documents with multimedia links, use of XHTML editors and source-code design, and introduction to web-based graphics design. Efficient web design is emphasized using CSS and scripting. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE; high school algebra
Credit transferable: Transfers to CSU

CSIS 80 - Introduction to UNIX and Linux (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 17 hours lab
This course provides an introduction to the UNIX and Linux operating systems that includes file and directory manipulation, access permissions, process control, networking, security, shell commands and shell programming. Portions of instruction may be offered online; may also be offered fully online.

Advisory: CSIS 1
Credit transferable: Transfers to CSU & UC

CSIS 81 - ITIL Essentials (1 unit)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 17 hours lecture
This course provides students with a basic understanding of ITIL framework and how it can be used to enhance IT service management. Students learn to facilitate creation of value with customers and stakeholders. Material includes the guiding principles of ITIL, understanding of Lean, Agile, and DevOps and how they can deliver business value, and how to maintain this value and demand. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU
GE Credit: MPC E2 Career Exploration

CSIS 83A - Microsoft Client Operating System (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This course presents concepts and skills necessary to install, configure, and administer a Windows 10 client operating system environment. Topics include the skills and knowledge necessary to enable students to prepare for the Microsoft Client Operating System Windows 10 certification exam 70-679. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A
Credit transferable: Transfers to CSU

CSIS 86 - Network Security Fundamentals/Security+ Prep (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 68 hours lab
This course covers the fundamentals of security, using simulators to give hands-on experience with servers, routers and other security devices. Students learn about different types of attacks, security policy, encryption, access control, PKI, authentication, and cryptography. This course covers material necessary to prepare for the CompTIA Security+ certification. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A
Credit transferable: Transfers to CSU

CSIS 87 - Computer Forensics (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 51 hours lecture; 17 hours lab
This is an introductory course in computer forensics. Students learn to collect and analyze data to uncover attacks and malware. Topics include forensic techniques, using tools based on fundamental understanding of data, security principles, and forensic data analysis to uncover computer crime and computer security incidents. Portions of instruction may be offered online; may also be offered fully online.

Pre/Corequisite(s): CSIS 86 (or CSIS 198)
Credit transferable: Transfers to CSU
GE Credit: MPC A2 Communication and Analytical Thinking

CSIS 88 - Security Practices: Penetration Testing and Discovery (3 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 34 hours lecture; 51 hours lab
This is an introductory course in developing penetration testing within the context of properly securing the network from attacks. It covers fundamental concepts of system vulnerability assessment, penetration testing, exploits, and countermeasures are covered. Students are exposed to many computer attack methodologies to enable them to recognize and prevent malicious activity through defense techniques designed to develop better organizational security. The course is designed with a number of hands-on labs to master skills in the topics covered.

Pre/Corequisite(s): CSIS 86
Advisory: CSIS 76A, CSIS 80, CSIS 83A, and completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU

CSIS 89 - Preparation for Cybersecurity Analyst Certification (CYSA+) (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 68 hours lab
This advanced cybersecurity course covers network security concepts, and techniques used in a Security Operations Center (SOC) to find threats on a network using a variety of popular security tools. The course covers the material required for students to take the COMPTIA CYSA+ certification exam. Portions of instruction may be offered online; may also be offered fully online.

Advisory: CSIS 86 and CSIS 76B; completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Transfers to CSU

CSIS 98 - Project Development (2 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 17 hours lecture; 51 hours lab
This course provides students experience in project development in a computer-related area of study. Students learn project conceptualization and selection strategies, assessing prior solutions, brainstorming, writing proposals, prototyping, schedule and resource allocation, overcoming obstacles, and assessing and reporting on final deliverables. Portions of instruction may be offered online; may also be offered fully online.

Credit transferable: Transfers to CSU

CSIS 114 - Game Programming: Behind the Scenes (1 unit)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 14 hours lecture; 10 hours lab
This class introduces game development in an easy-to-use environment. It covers 2D computer graphics, animation, sound and music as applied to the incremental development of a real video game that students can modify on their own. The class concludes with a final project of the student's design.

Advisory: Completion of or concurrent enrollment in ENGL 1A
Credit transferable: Non-transferable

CSIS 178A - Network Scaling Concepts (3 units)
Letter Grade (LG) Only • Total hours: 34 hours lecture; 51 hours lab
This course builds on the basic configuration concepts covered in CSIS 177A (or CSIS 177). Advanced concepts in routing and switching including dynamic routing protocols OSPF and EIGRP and STP are covered. Configuration and troubleshooting skills are developed in the course. Portions of instruction may be offered online.

Prerequisite(s): CSIS 76B (or CSIS 177A); or CSIS 177
Credit transferable: Non-transferable

CSIS 192 - Amazon Cloud Concepts (2 units)
Letter Grade (LG) or Pass/No Pass (P/NP) • Total hours: 25.5 hours lecture; 25.5 hours lab
The course provides the knowledge and hands-on experience for a basic understanding of the AWS platform. Topics include account and group creation and account security. Students work on storage buckets and virtual cloud instances and learn the cost associated with different aspects of the AWS cloud. This is an entry-level cloud-introduction course and will prepare the student for the AWS certified Cloud Practitioner exam. Portions of instruction may be offered online; may also be offered fully online.

Advisory: Completion of or concurrent enrollment in ENGL 1A or ENGL 1AE
Credit transferable: Non-transferable