

# COMPUTER SCI/INFO SYSTEMS (CSIS)

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## **CSIS-101 Introduction to Computers and Data Processing** 3 Units (LEC 48-54)

This course provides a general introduction to computers and information technology. Students will explore the information processing cycle, with an emphasis on understanding the role of input, output, processing, and storage in modern information systems. Topics for this class include the history of computers, and contemporary issues in information technology. Students will learn to use word processing, spreadsheets, and database applications as a tool for improving personal productivity in an organizational setting.

**Transfers to both UC/CSU**  
**C-ID:** ITIS 120

## **CSIS-103 Introduction to the Internet** 3 Units (LEC 48-54)

This course provides an overview of the computing and networking technologies that support the Internet and the World Wide Web. Students will learn and use various web services and have the opportunity to create a simple web page.

**Transfers to CSU only**

## **CSIS-111B Fundamentals of Computer Programming** 3 Units (LEC 48-54)

This course will introduce students with no prior programming experience to the fundamentals of computer programming. These are foundation concepts for nearly all modern programming languages including Visual Basic, C++, C# and Java. Topics include sequence, repetition, and selection control structures. Advance topics include arrays, file I/O, and an introduction to the principles of object-oriented programming. One or more high-level programming languages will be used to reinforce the general concepts presented in this course.

**Transfers to both UC/CSU**  
**C-ID:** ITIS 130  
**AA/AS General Education:** AA/AS D2

## **CSIS-113A C++ Programming - Level 1** 3 Units (LEC 48-54)

This course introduces the basic principles of the C++ programming language. Students will investigate and evaluate various programming design methodologies and apply them to programming problems in C++. C++ features that will be covered include language syntax, class definitions, control structures, function definitions, and basic data structures. No prior programming experience required.

**Transfers to both UC/CSU**  
**C-ID:** COMP 122

## **CSIS-113B Java Programming - Level 1** 3 Units (LEC 48-54)

This course introduces the principles of object-oriented programming using the Java programming language. Students will investigate and evaluate various programming design methodologies and apply them to Java programming problems. Java features that will be covered include language syntax, class definitions, control structures, function definitions, and basic data structures. No prior programming experience required.

**Transfers to both UC/CSU**  
**C-ID:** COMP 122

## **CSIS-113C C# Programming - Level 1** 3 Units (LEC 48-54)

This course introduces the principles of object-oriented programming using the C# programming language. Students will investigate and evaluate various programming design methodologies and apply them to C# programming problems. C# features that will be covered include language syntax, class definitions, control structures, method definitions, and basic data structures. No prior programming experience required.

**Transfers to both UC/CSU**

## **CSIS-115A Web Development - Level 1** 3 Units (LEC 48-54)

This course teaches students the basic skills needed to create a Web page with an emphasis on the Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Students are also introduced to, the Hypertext Transfer Protocol (HTTP), Uniform Resource Locators (URLs), how to write code using an integrated development environment (IDE), and publishing to a Web server using the file transfer protocol (FTP).

**Transfers to CSU only**

## **CSIS-116E Python Programming - Level 1** 3 Units (LEC 48-54)

This course introduces the principles of object-oriented programming using the Python programming language. Students will investigate and evaluate various programming design methodologies and apply them to programming problems in Python. Python features that will be covered include language syntax, class definitions, control structures, function definitions, and basic data collections. No prior programming experience required.

**Transfers to both UC/CSU**  
**AA/AS General Education:** AA/AS D2

## **CSIS-118B Computer Organization & Assembly Language** 3 Units (LAB 48-54, LEC 32-36)

This course is an introduction to the hardware organization and assembly language of the Intel processor. Topics include memory hierarchy and design, CPU design, pipelining, addressing modes, subroutine linkage, polled input/output, interrupts, high level language interfacing and macros.

**Transfers to both UC/CSU**  
**C-ID:** COMP 142  
**AA/AS General Education:** AA/AS D2

**CSIS-123A C++ Programming - Level 2**  
**3 Units (LEC 48-54)**

This course presents advanced programming concepts in the C++ programming language. Advanced aspects of program design methodologies will be studied, evaluated, and applied in the design of complex C++ programs. C++ features that will be covered include classes and data abstraction, operator overloading, inheritance, polymorphism, templates, exception handling, and file structures.

**Prerequisite:** CSIS-113A (with a grade of C or better).  
**Transfers to both UC/CSU**

**CSIS-123B Java Programming - Level 2**  
**3 Units (LEC 48-54)**

This course introduces advanced concepts of object-oriented programming (OOP) using the Java programming language. Students will investigate and evaluate various program design methodologies and apply them to programming problems using Java. Java features that will be covered include language syntax, encapsulation, inheritance, polymorphism, advanced O-O design principles, and exception handling.

**Prerequisite:** CSIS-113B (with a grade of C or better).  
**Transfers to both UC/CSU**

**CSIS-124A SQL Programming - Level 2**  
**3 Units (LEC 48-54)**

This course presents advanced concepts in the SQL programming language to cover multi-table database, and advanced query options. The data definition language (DDL) elements will be fully covered, including working with Entity-Relationship (ER) diagrams and options for implementing indexes.

**Prerequisite:** CSIS-514A (with a grade of C or better).  
**Transfers to both UC/CSU**

**AA/AS General Education:** AA/AS D2

**CSIS-126E Python Programming - Level 2**  
**3 Units (LEC 48-54)**

This course introduces advanced concepts of object-oriented programming (OOP) using the Python programming language. Students will investigate and evaluate various program design methodologies and apply them to programming problems using Python. Python features that will be covered include language syntax, encapsulation, inheritance, polymorphism, advanced O-O design principles, and exception handling.

**Prerequisite:** CSIS-116E (with a grade of C or better).  
**Transfers to both UC/CSU**

**AA/AS General Education:** AA/AS D2

**CSIS-160 Information Security Systems**  
**3 Units (LEC 48-54)**

This course is a survey of Network/Internet security. It will help prepare students for the CompTIA Security+ Exam. Topics will cover Authentication, Malicious Code, Web Security, Intrusion Detection, Cryptography, and Biometrics. The class will have lecture and hands-on components.

**Transfers to CSU only**

**CSIS-164 Cybersecurity: Ethical Hacking**  
**3 Units (LEC 48-54)**

This course is a survey of the ethical and legal issues pertaining to security testing. It demonstrates how to use tools that can be used to gain information about a computer network, how to recognize that the tools are being used, and how to defend a network against those attacks.

**Prerequisite:** CSIS-160 (with a grade of C or better).  
**Transfers to CSU only**

**CSIS-201 System Analysis and Design**  
**3 Units (LEC 48-54)**

This course introduces the basic concepts and principles of information systems analysis and design within the content of an enterprise information architecture. Various systems development lifecycles will be studied and students will apply a systems methodology in modeling an information system. Project management techniques specific to information technology projects will also be covered.

**Prerequisite:** CSIS-101 (with a grade of C or better).  
**Transfers to both UC/CSU**

**AA/AS General Education:** AA/AS D2

**CSIS-202 CCNA 1 Computer Networks (formerly Networks and Data Communications)**  
**3 Units (LEC 48-54)**

This course introduces students to the fundamentals of computer networking concepts including voice, data communications, networking hardware, the OSI model, and network design. Network management and security issues will also be discussed. This course is designed for the student who is interested in learning about data communications and networking, as well as, the career options that are available in this field.

**Transfers to CSU only**

**CSIS-211 Introduction to Data Structures and Algorithms**  
**3 Units (LEC 48-54)**

This course is intended to introduce students to the concept of data structures and algorithms. Basic topics in this course include arrays, lists, stacks and queues. Advanced topics such as dictionaries including binary search trees, hashing, priority queues, and heaps will also be covered. In addition, this course will introduce analysis of algorithms, sorting algorithms, and object-oriented programming techniques including abstract data types, inheritance, and polymorphism.

**Prerequisite:** CSIS-113A or CSIS-113B (with a grade of C or better).  
**Transfers to both UC/CSU**

**C-ID:** COMP 132

**CSIS-213 Discrete Structures**  
**3 Units (LEC 48-54)**

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.

**Prerequisite:** CSIS-113A or CSIS-113B (with a grade of C or better).  
**Transfers to both UC/CSU**

**C-ID:** COMP 152

**IGETC Area(s):** 2A

**CSU Area(s):** B4

**CSIS-282 Computer Forensics (formerly CSIS-182)**  
**3 Units (LEC 48-54)**

This course introduces students to the techniques and tools of computer forensics investigations. Students will receive step-by-step explanations on using the most popular forensic tools. Topics include coverage of the latest technology secondary devices including hard drives, cell phones, and thumb drives. (formerly CSIS 182)

**Prerequisite:** CSIS-580 (with a grade of C or better).

**Transfers to CSU only**

**CSIS-299 Special Projects: Computers**  
**1-3 Unit (IS 16-54)**

Students with previous course work in the program may do special projects that involve research and special study. The actual nature of the project must be determined in consultation with the supervising instructor.

**Prerequisite:** Two Computer classes must be completed prior to enrollment; a contract must be completed with the instructor prior to enrollment.

**Transfers to CSU only**

**CSIS-514A SQL Programming - Level 1 (formerly CSIS-114A)**  
**3 Units (LEC 48-54)**

This course introduces the SQL programming language and covers all of the features of the language that are needed to create and maintain single-table database systems. SQL features that will be covered include: language syntax, data query language (DQL) elements, data manipulation language (DML) elements, and basic data definition language (DDL) elements. No prior programming experience required. (formerly CSIS-114A)

**Transfers to CSU only**

**AA/AS General Education:** AA/AS D2

**CSIS-523 Linux System Administration (formerly CSIS-223A)**  
**3 Units (LEC 48-54)**

This course provides a comprehensive introduction to Linux administration. Students will learn essential Linux concepts, installation and configuration, system maintenance, troubleshooting, and networking. The course will prepare students for the Linux+ certification exam, emphasizing practical skills and real-world scenarios. (formerly CSIS-223A)

**Recommended Preparation:** CSIS-581

**Transfers to CSU only**

**AA/AS General Education:** AA/AS D2

**CSIS-525 Web Development - Level 2 (formerly CSIS-125A)**  
**3 Units (LEC 48-54)**

This course covers client-side technologies used in Web application development. Its main focus is on how to write JavaScript software programs to create interactive front-end applications. Students will learn about the many facets of client-side programming including user agent objects, properties, events and behaviors, common programming tasks like defining variables, decision making, flow control, object-based programming and the Web-based resources which simplify common coding tasks like form validation, adding widgets and more. (formerly CSIS 125A)

**Prerequisite:** CSIS-115A (with a grade of C or better).

**Transfers to CSU only**

**CSIS-549 Work Experience Education: Computer/Information Systems**  
**0.5-8 Units WEE 24-432**

This experiential learning course places students in supervised internships related to their academic major or career interests. Through hands-on work experience, students will build upon classroom-based learning and develop transferable skills. Internship work sites must be approved by the college prior to enrollment.

**Other Enrollment Criteria:** Each student must be enrolled for the full semester and have completed one course in the discipline. A training agreement must be completed prior to registration. Please refer to the Work Experience Student Handbook for specific information.

**Transfers to CSU only**

**Offered as Pass/No Pass Only**

**CSIS-580 Computer Hardware - Level 1 (formerly CSIS-080)**  
**4 Units (LEC 64-72)**

This course introduces the basics of computing hardware technologies and the tear-down and assembly of a computer system. The features and functions of all major computing system hardware components are covered along with techniques for their installation and configuration. Operating system fundamentals are studied, especially in relation to hardware configuration and troubleshooting. (formerly CSIS 080)

**Transfers to CSU only**

**CSIS-581 OS Installation and Configuration (formerly CSIS-081)**  
**3 Units (LEC 48-54)**

This course is designed to prepare students to pass the Comptia A+ Operating Systems Installation and Configuration exam. Topics include installation and configuration of various operating systems, common features and functionality of the Mac and Linux operating systems, Identification of common security threats and vulnerabilities along with common security prevention methods. (formerly CSIS 081)

**Transfers to CSU only**

**CSIS-592 CCNA 3 Scaling Networks (formerly CSIS-092)**

**3 Units (LEC 48-54)**

This course provides a comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Students learn about the hierarchical network design model and how to select devices for each layer. The course explains how to configure a switch for basic functionality and how to implement Virtual LANs, VTP, and Inter-VLAN routing in a converged network. (formerly CSIS 092)

**Prerequisite:** CSIS-791 (with a grade of C or better).

**Transfers to CSU only**

**CSIS-594 Cyber Operations (formerly CSIS-094)**

**3 Units (LEC 48-54)**

This course provides students with basic principles, foundation knowledge and core skills to obtain an associate level career in Cyber Security analysis. In addition the course will prepare students to pass the Cisco Cyber Ops exams. (formerly CSIS 094)

**Transfers to CSU only**

**CSIS-786 Developing ASP.NET Web Applications (formerly CSIS-086)**

**3 Units (LEC 48-54)**

This course is an introduction to ASP.NET Web Development using the Microsoft .NET programming languages Visual Basic and C#. Students will utilize ASP.NET to deliver dynamic content to a Web Application. Topics include Web Forms, User Controls, Server Controls, and Database Integration. (formerly CSIS 086)

**Recommended Preparation:** CSIS-115A.

**Not transferable**

**CSIS-791 CCNA 2 Routing and Switching Essentials (formerly**

**CSIS-091)**

**3 Units (LAB 96-108, LEC 16-18)**

This course is designed to provide classroom and laboratory experience to help prepare for certification as a Cisco Certified Network Associate (CCNA). 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 OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. (formerly CSIS 091)

**Prerequisite:** CSIS-202 (with a grade of C or better).

**Not transferable**