

COMPUTER INFORMATION SYSTEMS (CIS)

CIS C100 3 Units (54 lecture hours; 14 lab hours)

Introduction to Information Systems

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Examination of information technologies and information systems used in business. This course prepares students with a non-programming introduction to information systems and personal computer applications including word processing, spreadsheets, database, and presentation software. Application of these concepts and methods through hands-on projects developing computer-based solutions to business problems. Graded or Pass/No Pass option.

CIS C105 3 Units (54 lecture hours; 14 lab hours)

Introduction to Business Office Technology

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will explore business applications and collaboration platforms to perform basic business tasks. Topics will include creating documents, spreadsheets, presentations, email and calendaring applications, ethics, and security. The practical application of these concepts and methods will be incorporated through hands-on projects to develop computer-based solutions to real-world business problems. Graded or Pass/No Pass option.

CIS C111 3 Units (54 lecture hours; 14 lab hours)

Information Systems, Programming, and Database Management

Advisory: CIS C100.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU; UC.

Student will explore information systems and their role in business. Topics include information systems, database management systems, computer networking devices, e-commerce, ethics and security, and computer systems hardware and software components. Application of these concepts and methods through hands-on projects developing computer-based solutions to business problems. Meets the lower division computer requirement for business majors at some California State University campuses. Graded or Pass/No Pass option. **C-ID:** BUS 140, ITIS 120.

CIS C155 3 Units (54 lecture hours; 14 lab hours)

Introduction to Java Programming

Advisory: CIS C111.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will learn structured programming techniques using Java, one of the most popular programming languages in the world. Hands-on assignments using Java emphasize control structures, procedures, simple data types, file input/output, and a general introduction to the principles of object-oriented programming. This course helps students prepare for careers such as Software Application Developer through the practical application of conditional statements, loops, and functions using the syntax of the Java programming language. Graded or Pass/No Pass option.

CIS C156 3 Units (54 lecture hours)

Web Development with JavaScript and Cloud Services

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

An introduction for aspiring web developers and programmers to the concepts and topics of the JavaScript language. Topics of the course include JavaScript for interactive web development, with flow control, interaction with hypertext markup language (HTML), variables, object-oriented programming, interaction with databases, and JavaScript Object Notation (JSON). Industry concepts dealing with application security are taught, including Identity and Access Management (IAM), third-party authentication (OAUTH), Web Identify Federation, and token-based security. Students will develop a portfolio site hosted publicly using cloud services to display their work. Graded or Pass/No Pass option.

CIS C157 3 Units (54 lecture hours)

Introduction to Python Programming

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Offers an overview of the Python programming language for students without prior programming experience. Variables, expressions, functions, looping, and flow control pertaining to Python is taught through hands-on exercises and guided demonstrations by the instructor. Graded or Pass/No Pass option.

CIS C190 3 Units (45 lecture hours; 27 lab hours)

Introduction to Geographic Information Systems and Techniques with Lab

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

An introduction to the concepts and use of Geographic Information Systems (GIS) and its role in analysis and decision making. Course work is based on the mapping and spatial analysis capabilities of GIS software programs. Students will be introduced to basic cartographic principles, maps, resolution, scale, coordinate systems, vector and raster systems, projections, and Global Positioning Systems (GPS). Through computer lab tutorials and case studies, students will learn to use GIS software to view relationships, patterns, or trends that are not possible to see with traditional charts, graphs, and spreadsheets. This course is identical to GEOG C155. Graded or Pass/No Pass option.

CIS C191 **3 Units (54 lecture hours; 18 lab hours)**
Intermediate Geographic Information Systems (GIS)
Advisory: CIS C190.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This intermediate course provides further study in ArcView; it is a continuation of the skills and concepts learned in CIS C190, Introduction to Geographic Information System (GIS). Course work is based on the mapping and spatial analysis capabilities of ArcView software. Students will be creating and editing spatial data and geocode data, perform spatial data processing, and conduct spatial analysis. Graded or Pass/No Pass option.

CIS C240 **3 Units (54 lecture hours)**
SQL Database Development
Advisory: CST C172.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Students will explore an introduction to relational database fundamentals and SQL programming skills in the Microsoft environment. Topics covered include relational database architecture, database design techniques, data retrieval, data integrity, and simple and complex query skills. This course is intended for students new to the SQL programming language. Careers and emerging trends in the field will be evaluated. Graded or Pass/No Pass option.

CIS C250 **3 Units (54 lecture hours)**
Introduction to Data Analytics
Advisory: CIS C111 and C240 and ENGL C100 and MATH C160.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Students will explore the topics of data analytic thinking and its applicability to the business world. The practical application of business intelligence and data analysis will be experienced in a hands-on project. The process of business decision-making will be applied with an emphasis on data mining. Careers and emerging trends in the field will be evaluated. Graded or Pass/No Pass option.

CIS C260 **3 Units (54 lecture hours; 18 lab hours)**
Systems Analysis and Design
Advisory: CIS C111 and C240 and C250 and ENGL C100 and MATH C160.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Students will explore the topics of systems analysis and design and its applicability to the business world. The practical application of systems analysis and design will be experienced in hands-on projects. The process of business decision-making will be applied with an emphasis on the systems development life cycle. Careers and emerging trends in the field will be evaluated. Graded or Pass/No Pass option.

CIS C270 **3 Units (54 lecture hours; 18 lab hours)**
Predictive Analytics
Advisory: CIS C240 and C250 and C260 and MATH C160 and PSYC C280 with a grade of C or better.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

in this course students will gain a fundamental understanding of the art and science of predictive analytics as it relates to improving business performance. This hands-on course will cover the key concepts necessary to extract stored data elements, understand what they mean from a business perspective, and transform their formats and derive new relationships among them to produce a dataset suitable for analytical modeling. After successful completion of the course, students will be able to use these skills to produce fully processed datasets that are compatible for building predictive models that can be deployed to increase organizational effectiveness. Graded or Pass/No Pass option.

CIS C275 **3 Units (54 lecture hours; 14 lab hours)**
Data Mining and Analytics (Data+)
Advisory: CIS 250 and C280.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

This course covers intermediate topics of data analytics and its applicability to the business world. The practical application of business intelligence and data analysis will be experienced through the manipulation of complex datasets, application of visualizing and reporting data, and the analysis of complex datasets while adhering to quality standards. The business decision-making process will be applied with an emphasis on data mining and manipulation. Critical thinking and performance-based exercises aligned with CompTIA Data+ exam help students develop skills to prepare for careers such as Data Analyst, Reporting Analyst, and Operations Analyst. Graded or Pass/No Pass option.

CIS C280 **3 Units (54 lecture hours)**
Data Visualization
Advisory: CIS C240 AND CIS C250.

Grading Mode: Standard Letter, Pass/No Pass
Transfer Credit: CSU.

Students will explore the topics, tools, and techniques of data visualization and their application across different industries. The practical application of data visualization will be experienced through hands-on projects and technical assignments using a variety of data visualization tools and techniques. In addition, careers and emerging trends in the field will also be presented and evaluated. Graded or Pass/No Pass option.

CIS C285 3 Units (54 lecture hours)**Prescriptive Analytics**

Advisory: MATH C160 and CIS C240 and CIS C250 and CIS C270.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will explore the fundamentals of prescriptive analytics as it relates to improving business decision-making and performance. This hands-on course will cover the key concepts necessary to develop optimization models and simulation models; support multi-criteria decision-making; understand the components of artificial intelligence, expert systems, and knowledge engineering; and emerging trends in data analytics. Upon successful completion of the course, students will be able to apply these skills to produce functional systems and develop techniques to enhance business decision-making. Graded or Pass/No Pass option.

CIS C290 3 Units (54 lecture hours)**Introduction to Data Science and Machine Learning**

Advisory: MATH C160 and CIS C240 and CIS C250 and CIS C260 and CIS C170.

Grading Mode: Standard Letter, Pass/No Pass

Transfer Credit: CSU.

Students will explore the topics, tools, and techniques of data science and machine learning and their application across different industries. The practical application of data science and machine learning will be experienced through hands-on projects and technical assignments using a variety of algorithm development tools and techniques. In addition, careers and emerging trends in the field will also be presented and evaluated. Graded or Pass/No Pass option.