COMPUTER SCIENCE EDUCATION (CSED)

See Course Description Symbols and Terms (https://catalog.csuchico.edu/academic-standards-policies/course-description-symbols-terms/) for an explanation of course description terminology and symbols, the course numbering system, and course credit units.

CSED 500  Computational Thinking  3 Units
Typically Offered: Summer session only
This course explores broad concepts and applications of Computer Science including Human-Computer Interaction, problem solving, web design, programming, computing and data analysis, and robotics. The course introduces programming in a graphical, block-based development environment. Synchronous online activity; tablet, laptop, or desktop computer is required. 3 hours lecture. (022210)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division; Laptop required

CSED 501  Computing Practice and Programming  3 Units
Typically Offered: Summer session only
In a broad introduction to Computer Science, this course emphasizes problem solving by collaboratively designing, developing, and evaluating algorithms. The class explores creative development, abstraction, data representation, computer systems and networks, and impacts of computing while learning the fundamentals of high-level programming in Python. Synchronous online discussion and laboratory; laptop or desktop computer is required. 3 hours lecture. (022211)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 6 units
Course Attributes: Upper Division; Laptop required

CSED 510  Technology for Computer Science Education  2 Units
Prerequisite: CSED 500, CSED 501 or CSCI 111.
Typically Offered: Fall only
Hardware and software technologies evolve rapidly. This course provides an overview of components and integrated systems of computers and networking. Students complete a supervised project to plan and integrate educational technologies for Computer Science classrooms. The project explores technology for supporting evidence-based pedagogy to foster interactive, creative, and inclusive Computer Science education. Asynchronous online lecture and supervised project. 6 hours supervision. (022212)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 2 units
Course Attributes: Upper Division; Laptop required

CSED 511  Computing in Society  2 Units
Prerequisite: CSED 500, CSED 501, or CSCI 111.
Typically Offered: Spring only
Computers are ubiquitous and influential in shaping 21st century society. This course discusses the impacts of computers on individuals and on society. It also addresses issues of inclusion and equity in Computer Science pedagogy and relates contemporary social issues to the discipline. Students complete a supervised project to develop educational materials for Computer Science classrooms that contextualize computing in society. 6 hours supervision. (022280)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 2 units
Course Attributes: Upper Division

CSED 590  Software Design, Data Structures, and Algorithms  4 Units
Prerequisite: CSCI 111 or CSED 501.
Typically Offered: Summer session only
This course explores the design and construction of software applications by adopting the Agile software development process. Students practice the fundamentals Object-Oriented Programming with the Java programming language. Concepts include primitive types and operations, objects and classes, boolean expressions, decisions, iteration, single- and multi-dimensional arrays, inheritance, recursion, sorting, and searching. Projects involve software engineering practices and tools, including professional integrated development environments (IDE), to create real software applications. 4 hours lecture. (022284)
Grade Basis: Graded
Repeatability: You may take this course for a maximum of 4 units
Course Attributes: Upper Division; Laptop required