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 of 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