COMPUTER SCIENCE, AS-T

Program Description

Computer science courses provide a combination of theoretical study and practical application. Core areas include hardware, software, algorithms, operating systems, languages, and data structures. Specialized topics include mobile apps, graphics programming, open source, networking, and quantum computation.

The Associate in Science in Computer Science for Transfer degree will prepare students for transfer to California State Universities (CSUs). Students who complete the Associate in Science in Computer Science for Transfer degree will be ensured preferential transfer status to CSUs as Computer Science majors and/or majors in related disciplines. The Associate in Science in Computer Science for Transfer degree requirements will fulfill the lower division major requirements at many CSUs. Students are advised, however, to meet with a counselor to assess the course requirements for specific local CSUs.

Learn more about the program on the Computer Science website.

Program Learning Outcomes

- Use of standard software engineering tools to create reusable code.
- Design of large programs that take advantage of existing code libraries.
- Organization of complex programs in a logical way, enabling the extension of the program.
- Comprehension of user requirements, and production of code and documentation in an industry-accepted style that satisfies those requirements.
- Development of software that solves problems in a variety of fields, including math, physics, chemistry, biology, astronomy, business, and the internet.

Units Required

- Major: 50

Associate Degree Requirements

Associate in Science in Computer Science for Transfer requires completion of a minimum of 90 units to include:

- CSU General Education Breadth Requirements **or** the Intersegmental General Education Transfer Curriculum (IGETC)[1] (49-58 units) (full certification is required)
- Core courses (50 units, of which 17 units may satisfy the GE requirement)
- Transferable electives necessary to meet the 90-unit minimum requirement

[1] **Important Note:** Although it is possible to fulfill the requirements for the Associate Degree for Transfer by completing the IGETC for UC pattern, admission to CSU requires completion of an Oral Communication course (IGETC Area 1C; CSU GE Area A-1); therefore, students who plan to transfer to CSU should complete this course as part of their GE or elective units.

Note: All courses pertaining to the major must be completed with a grade of "C" (or "P") or better. In addition, the student must obtain a minimum GPA of 2.0.

Core and Support Courses

Code	Title	Units
Core Courses		
C S 1A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN JAVA	4.5
or C S 2A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN C++	
or C S 3A	OBJECT-ORIENTED PROGRAMMING METHODOLOGIES IN PYTHON	
C S 1B & C S 1C	INTERMEDIATE SOFTWARE DESIGN IN JAVA and ADVANCED DATA STRUCTURES & ALGORITHMS IN JAVA	9
or C S 2B & C S 2C	INTERMEDIATE SOFTWARE DESIGN IN C++ and ADVANCED DATA STRUCTURES & ALGORITHMS IN C++	
or C S 3B & C S 3C	INTERMEDIATE SOFTWARE DESIGN IN PYTHON and ADVANCED DATA STRUCTURES & ALGORITHMS IN PYTHON	
C S 10	COMPUTER ARCHITECTURE & ORGANIZATION	4.5
C S 18	DISCRETE MATHEMATICS	5
or MATH 22	DISCRETE MATHEMATICS	
MATH 1A	CALCULUS	5
or MATH 1AH	HONORS CALCULUS I	
MATH 1B	CALCULUS	5
or MATH 1BH	HONORS CALCULUS II	
MATH 1C	CALCULUS	5
PHYS 4A	GENERAL PHYSICS (CALCULUS)	6
PHYS 4B	GENERAL PHYSICS (CALCULUS)	6
or BIOL 1A	PRINCIPLES OF CELL BIOLOGY	
Total Units		**50**