COMPUTER SCIENCE, ASSOCIATE IN SCIENCE DEGREE FOR TRANSFER

Banner Code: 2_AST_CSCI
Control Number: 42844
Financial Aid Eligible

The Associate in Science Degree in Computer Science for Transfer provides opportunities to study the computing environment for business and scientific solution automation. The degree facilitates transfer into the CSU system. An advanced degree such as a baccalaureate degree will prepare students for careers related to business and science programming solutions, and management. Computer science majors are introduced to computing history and evolution, software development, structures and procedures for data manipulation, object oriented methodology, symbolic logic tools for computational algorithms, and computing solutions at machine language level of implementation. Critical thinking and problem solving skills are acquired through individual and group project assignments. Students are encouraged to develop academic and programming skills enabling them to be successful in further study or employment. Students will be prepared for a baccalaureate degree in computer science.

Program Level Learning Outcomes

Upon completion of this program, students will be able to:

1. Design software components and specifications to satisfy small business and scientific problem requirements.
2. Implement algorithms that include basic computation techniques, simple I/O, conditional and iterative structures, and the definition of functions.
3. Utilize object oriented principles for class hierarchies and inheritance to create computing solutions of simple to moderate complexity.
4. Implement programs at machine language level using fundamental high-level programming constructs.
5. Describe formal tools of symbolic logic as they relate to real-life situations, program correctness, database queries, and algorithms.

Potential careers students may enter upon completion are as follows:

- Programmer Analyst
- Software Engineer
- Web Developer
- Networking Engineer
- IT Consultant
- Database Analyst
- Research
- Teaching in Secondary and Postsecondary Education

Associate Degree for Transfer Graduation Requirements

Associate Degrees for Transfer require students to meet the following requirements:

- Completion of 60 semester units or 90 quarter units of degree-applicable courses,
- Minimum overall grade point average of 2.0,
- Minimum grade of “C” (or “P”) for each course in the major, and
- Completion of Cal-GETC.

Students should consult a GWC counselor in order to select the best pathway to meet their educational goals. For students who intend to transfer, the choice of general education will be specific to both their major and transfer institution.

Academic Program Maps (https://programmap.goldenwestcollege.edu/academics/) are grouped by similar majors where students can view the pathway to earn the certificate and/or degree. Each pathway allows students to explore a semester-by-semester map, progressing from program entry to completion. Students will also find information about occupations commonly associated with each program, including typical wages and the labor market demand for California.

Course	Title	Units
Required Courses		
CS G153	Java Programming 1	3
or CS G175	C++ Programming 1	
or CS G131	Python Programming I	
CS G154	Java Programming 2	3
or CS G189	C++ Programming 2	
or CS G231	Python Programming 2	
CS G242	Computer Architecture and Organization	3
CS G262	Discrete Structures	3
MATH G180	Calculus 1	4
MATH G185	Calculus 2	4
PHYS G185	Calculus Based Physics: Mechanics	4
PHYS G280	Calculus Based Physics: Electricity/ Magnetism	4-5
or BIOL G180	Cell and Molecular Biology	
or BIOL G186	Diversity of Organisms	
or CHEM G180	General Chemistry A	
Major Total		**28-29**
GE Pattern (Cal-GETC)		**34**
Transferable Electives (as needed to reach 60 units)		
Total Units		**60**