

ENGINEERING, ASSOCIATE IN SCIENCE DEGREE

The Engineering Associate in Science is designed for students planning to transfer into an Engineering major at the university. This program provides the fundamental knowledge, theory, and principles of science and mathematics for an individual to successfully approach the solving of practical technical problems. Students will obtain a solid foundation in a comprehensive set of courses ranging from the disciplines of mathematics, physics, and introductory engineering courses with a variety of electives to tailor their interest and expose students to the many aspects of engineering, including discovery, creation of new technologies, and service to society.

Program Level Learning Outcomes

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

1. Identify, formulate, and solve engineering problems by applying engineering, science, and mathematics principles.
2. Analyze empirical data to provide a basis for solutions to engineering problems.
3. Create a collaborative and inclusive environment, establish goals, plan tasks, and meet technical objectives.
4. Communicate orally and in writing the results of experiments, projects, and data analysis independently and through group collaboration.

Review Graduation Requirements (<https://catalog.cccd.edu/golden-west/graduation-requirements/associate-degree/>), General Education (<https://catalog.cccd.edu/golden-west/general-education/>), and Program Maps (<https://programmap.goldenwestcollege.edu/academics/>).

Course	Title	Units
Required Courses		25-26
ENGR G101	Introduction to Engineering and Technology	2
ENGR G280 or ENGR G285	Statics Engineering Circuits	3
MATH G180	Calculus 1	4
MATH G280	Calculus 3	4
PHYS G185	Calculus Based Physics: Mechanics	4
PHYS G280	Calculus Based Physics: Electricity/ Magnetism	4
Select two NOT already taken above:		6-10
BIOL G100	Introduction to Biology	4
BIOL G210	General Microbiology	5
BIOL G225	Human Physiology	4
CHEM G180	General Chemistry A	5
CHEM G185	General Chemistry B	5
CS G153	Java Programming 1	3
CS G154	Java Programming 2	3
CS G175	C++ Programming 1	3
CS G189	C++ Programming 2	3
CS G262	Discrete Structures	3
DRAF G101	Introductory Computer Aided Design Drafting	3

Course	Title	Units
DRAF G105	Engineering Drafting I, Comoputer Aided Drafting	3
DRAF G110	Engineering Drafting II, Computer Aided Drafting	3
ENGR G220	Programming and Problem-Solving in MATLAB	4
ENGR G280	Statics	3
ENGR G285	Engineering Circuits	4
MATH G285	Introduction to Linear Algebra and Differential Equations	5
PHYS G285	Calculus Based Physics: Modern	4
Major Total		31-36
GE Pattern (Local or Cal-GETC)		24-34
Electives (as needed to reach 60 units)		
Total Units		60