

Engineering

School of Mathematics, Science, and Engineering

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General Description

Engineering focuses on the application of scientific principles and knowledge of mathematics to create solutions for problems involving human, biological, and mechanical systems. Engineering is a broad discipline of related areas of study including civil, mechanical, electrical, computer, and industrial.

Career Options

Below is a sample of the career options available for the engineering major. A few of these require an associate degree, most require a bachelor's degree, and some require a graduate-level degree: technician, engineer's assistant, civil engineer, urban planner, biomedical engineer, electronics engineer, computer engineer, software designer, telecommunications specialist, computer architect, test engineer, environmental engineer, soil engineer, aerospace engineer, CADD specialist, product engineer, estimator, technical sales representative, construction manager, and general contractor.

Degree/Certificate Options

Associate in Science Degree: Transfer Preparation

Engineering

Major Code

01565

Consult with a counselor to develop a Student Education Plan (SEP), which lists the courses necessary to achieve your academic goal.

ASSOCIATE IN SCIENCE DEGREE

Engineering

Transfer Preparation * (Major Code: 01565)

Provides a student the opportunity to complete all of the lower-division courses required for transfer to a university to pursue a degree in engineering. Designed to prepare a student for a professional career in industry, business, or government. The core courses provide the technical knowledge and skills for students who are interested in aerospace, chemical, mechanical, or nuclear engineering.

Students entering the engineering program as freshmen will be building upon their high school mathematics and physical science background. High school preparation should include algebra, geometry and trigonometry, chemistry, physics, and a course in technical drafting.

First Semester

CHEM 200	General Chemistry I	5
ENGR 110	Engineering Design and Graphics	3
MATH 250	Analytic Geometry and Calculus I	5

Second Semester

ENGR 120C	Engineering Problem Analysis—C/C++ Language	3
MATH 251	Analytic Geometry and Calculus II	4
PHYS 270	Principles of Physics I	3

Third Semester

ENGR 250	Engineering Statics	3
MATH 252	Analytic Geometry and Calculus III	4
PHYS 272	Principles of Physics II	3
PHYS 273	Principles of Physics Laboratory II	1

Fourth Semester

ENGR 204	Engineering Dynamics for Electrical Engineers (1.5)	1.5–3
	OR	
ENGR 251	Engineering Dynamics (3)	
ENGR 270	Electrical Circuits	3
PHYS 274	Principles of Physics III	3
PHYS 275	Principles of Physics Laboratory III	1

Total units 42.5–44

Recommended Elective: ENGR 101.

To earn an associate degree, additional general education and graduation requirements must be completed. See page 51.

- * Students planning to transfer to a four-year college or university should complete courses specific to the transfer institution of choice. University requirements vary from institution to institution and are subject to change. Therefore, it is important to verify transfer major preparation and general education requirements through consultation with a counselor in either the Counseling Center or Transfer Center. **See catalog TRANSFER COURSES INFORMATION section on page 33 for further information.**

The program outlined fulfills the requirements for San Diego State University and the California State University system.



Some courses within this program may require additional coursework that must be completed prior to enrollment in those courses. Please consult the individual course listings for prerequisites and any other limitations on enrollment.