DEGREES, CERTIFICATES, AND TRANSFER PREPARATION INFORMATION

ENGINEERING

The Engineering program provides students with a fundamental knowledge of engineering and familiarizes them with modern engineering design tools and skills. In addition, students will be prepared for engineering internship opportunities or entry-level industrial jobs, through developing skills in areas such as computer drafting, solid modeling, circuit build and design, and problem solving. Upon completion of this program, students will also have a strong academic foundation in the field and be prepared for upper division baccalaureate study.

For additional career possibilities, visit the Career Services Center on the main campus to utilize computerized career information systems and other valuable career resources.

Programs Offered

- Transfer Preparation

Degrees and Certificates

Associate Degree

- Engineering

Certificates of Achievement

- Engineering
- Introduction to Engineering

Associate Degree Requirements

An Associate degree is granted upon successful completion of a program of study with a minimum grade point average (GPA) of 2.0 (C) in degree applicable coursework and a minimum of **60 degree applicable semester units**, including:

- Completion of the area of emphasis with a grade of C or higher in each course, or with a P if the course was taken on a Pass/No Pass basis, and the P is equal to a C or higher;
- Completion of one of the following general education patterns: SMC GE, CSU GE, or IGETC;
- Completion of the SMC Global Citizenship graduation requirement.

Certificate of Achievement Requirements

A Certificate of Achievement is granted upon successful completion of a program of study with a minimum overall grade point average (GPA) of 2.0 (C) and a **designated minimum number of units**, including:

- Completion of the area of emphasis with a grade of C or higher in each course, or with a P if the course was taken on a Pass/No Pass basis, and the P is equal to a C or higher;
- Completion of at least 50% of area of emphasis units at Santa Monica College. Department Chairs have the discretion to waive the 50% minimum units required at SMC to meet the major or area of emphasis. All major coursework must be completed with a "C" or better grade.

Catalog Rights

A student may satisfy the requirements of a degree that were in effect at any time of the student's ***continuous*** enrollment. Continuous enrollment means attendance in at least one semester (Fall or Spring) in each academic year.

Transfer Preparation

Many colleges/universities offer baccalaureate degrees in this field. Students planning to transfer to a four-year college or university should complete the lower-division major requirements and the general education pattern for the specific transfer institution. SMC has articulation agreements with the many UC and CSU campuses, as well as several private and out-of-state institutions.

Exact major requirements for UC and CSU campuses can be found online at *assist.org*.

A listing of private, nonprofit California colleges and universities can be found online at *aiccu.edu*. For articulation agreements between SMC and some of these institutions see *smc.edu/articulation*.

The University of California system has a transfer pathway for any UC campus that offers Computer Science. For more information, visit UC Transfer Pathways Guide

SMC offers the Economics Associate Degree for Transfer. Students completing this degree are eligible for priority transfer admission consideration in the majors at the California State University campuses listed below. In addition, you will be required to complete no more than 60 semester/90 quarter CSU units of coursework after transfer to complete your baccalaureate degree.

NOTE: If you are considering transfer to a UC, private, or out-of-state school, please consult a counselor before applying to transfer, as the transfer requirements may be differentfrom those required for the Economics AA-T.

For the most current list of CSU campuses accepting this Transfer degree visit *calstate.edu/transfer/adt-search/search.shtml*.

Engineering, Associate Degree or Certificate of Achievement

The Engineering program provides students with a fundamental knowledge of engineering and familiarizes them with modern engineering design tools and skills. In addition, students will be prepared for engineering internship opportunities or entry-level industrial jobs, through developing skills in areas such as computer drafting, solid modeling, circuit build and design, and problem solving. Upon completion of this program, students will also have a strong academic foundation in the field and be prepared for upperdivision baccalaureate study.

Program Learning Outcomes: Upon completion of the program, students will demonstrate basic knowledge of engineering principles of design and analysis, and exhibit effective communication skills and ethical behavior as shown through their written work, teamwork, and lab work.

Area of Emphasis: (31 units)

Required Mathematics Courses: (10 units)
MATH 7, Calculus 1 (5)
MATH 8, Calculus 2 (5)
Select 2 Physics Courses: (10 units)
PHYSCS 21, Mechanics with Lab (5)
PHYSCS 22, Electricity and Magnetism with Lab (5)
PHYSCS 23, Fluids, Waves, Thermodynamics, Optics with Lab (5)

Select 1 Computer Science Course: (3 units)
CS 30, MATLAB Programming (3)
CS 50, C Programming (3)
Required Engineering Courses: (5 units)
ENGR 1, Introduction to Engineering (2)

ENGR 11, Engineering Graphics and Design (3)
or
ENGR 21, Circuit Analysis (3)
and
ENGR 22, Circuit Analysis Lab (1)
Elective Engineering Course: (3 units)
Select 1 course from the following if not used above:
ENGR 11, Engineering Graphics and Design (3)
ENGR 12, Statics (3)
ENGR 16, Dynamics (3)
ENGR 21, Circuit Analysis (3)

Introduction to Engineering, Certificate of Achievement

The Engineering Certificate program exposes students to the broad field of engineering and modern engineering design tools and skills. In addition, students will be prepared for engineering internship opportunities, through developing skills in areas such as solid modeling, engineering build and design, and problem solving.

Program Learning Outcomes: Upon completion of the program, students will demonstrate basic knowledge of engineering principles of design and analysis, and exhibit effective communication skills and ethical behavior as shown through their written work, teamwork, and lab work.

Required Mathematics Course: (5 units)
MATH 7, Calculus 1 (5)
Required Physics Course: (5 units)
PHYSCS 21, Mechanics with Lab (5)
Required Engineering Course: (2 units)
ENGR 1, Introduction to Engineering (2)
Elective Engineering Course: (3 units)
ENGR 11, Engineering Graphics and Design (3)
ENGR 12, Statics (3)
ENGR 16, Dynamics (3)
ENGR 21, Circuit Analysis (3)