



# ENGINEERING

MECHANICAL ▪ CIVIL ▪ INDUSTRIAL  
AERONAUTICAL ▪ MATERIAL SCIENCE  
ASSOCIATE OF SCIENCE DEGREE

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The first two years of a bachelor's degree in **Mechanical, Civil, Industrial, Aeronautical or Material Sci. Engineering** may be completed at Tacoma Community College. Completing the courses in the schedule below will satisfy the Associate of Science Degree. Upon completion of this degree, students will be able to transfer to most four-year colleges and universities as juniors. Entry into many engineering programs is competitive. Completion of this degree does not guarantee admission into a specific engineering program. Although members of the Science and Engineering Department make every effort to consult with various colleges and universities regarding requirements, students are encouraged to consult catalogs, websites and advisors at their chosen four-year institutions during their freshman year.

**Preparation:** While in high school, students should pursue all of the available courses in mathematics, chemistry, biology, computer programming and physics.

**Program Planning:** Students should meet with an engineering advisor as soon as they are admitted. Students may also refer to the Associate of Science degree description located in the Tacoma Community College catalog or on the TCC website at <http://www.tacomacc.edu/academics/areasofstudy/engineering/>. Many courses have prerequisites, are offered only once or twice a year and are sequential. Careful selection of classes each quarter is necessary to complete the program without delay. **The following schedule is intended as one possible order of classes and is not the only method or even a preferred method to complete the degree.** Each student's schedule will vary based on his/her level of preparation and intended major and university.

## Pre-engineering Year

### Fall

MATH 96/140 ■▲  
Humanities ▲  
Social Science ▲

### Winter

MATH& 141 ■  
ENGR& 104 ▲  
CHEM& 110 ■▲

### Spring

MATH& 142 ■  
ENGL& 101 ▲  
CHEM& 121 ■▲

## First Year

### Fall

CHEM& 161  
MATH& 151  
ENGL& 235 ▲

### Winter

CHEM& 162  
MATH& 152  
ENGR& 114 ▲

### Spring

PHYS& 221  
MATH& 153  
ENGR& 224●

## Second Year

### Fall

ENGR& 214 ●  
MATH 220 ♣  
PHYS& 222

### Winter

ENGR& 215 ●  
MATH 238 ♣  
ENGR& 225 ●

### Spring

PHYS& 223  
MATH& 254  
CS 142 or ENGR& 204● or 240●

- Class does not count in the AS in Engineering degree but is a prerequisite for some degree classes.
- ▲ Class requires few prerequisites and may be taken early, during the pre-engineering year.
- Class typically only offered once a year in the quarter shown.
- ♣ Class typically only offered twice a year, one of which is the quarter shown.



## Mechanical, Civil, Aeronautical, Industrial and Material Science Engineering (108 credits)

### 1. Basic Requirements (15 credits)

- ENGL& 101
- MATH& 151, 152

### 2. Humanities & Social Sciences (15 credits)

- Humanities course from approved list – ENGR& 114\* recommended
- Social Science course from approved list – ENGR& 104\* recommended
- Humanities or Social Science course

*At least one course must be designated a multicultural course.*

### 3. Required Specialization Courses (58 credits)\*\*

- MATH& 153, MATH 220, 238
- PHYS& 221, 222, 223
- CHEM& 161, 162
- ENGR& 214, 215, 225

### 4. Additional Specialization Courses (20 credits)

**Select four** of the following classes as appropriate for intended major and bachelor's institution:

CS 142  
MATH& 254  
ENGR& 104\*, 114\*, 204, 224, 240  
ENGL& 235

\*Engr& 104 and/or 114 may be taken either to meet Humanities & Social Science requirements OR to meet Additional Specialization Course requirements, not both. (ie. No double counting.)

Note: Most classes on this list have prerequisites. Students who are not ready for MATH& 151 and ENGL& 101, and those who have not taken high school chemistry will require additional classes.

*This degree requires 108 credit hours (longer degree implemented on a state-wide level.) Some students may need to take additional prerequisite courses. See catalog for prerequisite information. The Humanities and Social Science courses must total 15 credits taken from the distribution course lists including at least one course from the multicultural list. While more than one class may be acceptable for the Associate of Science degree, four-year institutions may require a specific class for a specific engineering major. Financial aid recipients can receive aid for up to 125% of the required college level credits to complete the program. This includes college level prerequisites. Detailed information is available from the Financial Aid Office.*