

# ENGINEERING

Associate of Science (AS) Degree  
90 credits

COCC offers freshman and sophomore core science, engineering and general education courses needed for most engineering majors. Students earning an engineering degree choose from among the many branches of engineering available, such as: civil, mechanical, electrical, chemical, computer and OSU-Cascades' energy engineering management. Certain engineering majors and branches may require additional courses not offered at COCC.

Students who wish to complete lower-division science, engineering and general education courses while at COCC may choose either the Associate of Arts Oregon Transfer degree (which allows students to transfer to an Oregon public university having met all lower-division general education requirements) or an Associate of Science (which includes the science and engineering courses and some general education, more closely mirroring a university course of study). Students should work closely with an advisor to select the best degree option and review specific transfer requirements.

## GENERAL EDUCATION/ FOUNDATIONAL REQUIREMENTS

All courses must be completed with a "C" grade or better.

### Writing

WR 121	Academic Composition	4
WR 227	Technical Writing	4

### Oral communication

SP 111	Fundamentals of Public Speaking	4
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### Mathematics

MTH 251	Calculus I	4
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### Health

HHP 295	Health and Fitness	3
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## GENERAL EDUCATION/DISCIPLINE STUDIES

See the Discipline Studies list for options.

### Arts and Letters

Choose two (2) courses from the Discipline Studies list. 6-8

### Social Science

Choose two (2) courses from the Discipline Studies list. 6-8  
(EC 201 is recommended)

## PROGRAM REQUIREMENTS

CH 221	General Chemistry I	5
CH 222	General Chemistry II	5
ENGR 201	Electrical Fundamentals	4
ENGR 202	Electrical Fundamentals II	4
ENGR 211	Statics	4
ENGR 212	Dynamics	4
ENGR 213	Strength of Materials	4
GE 101	Engineering Orientation	3
GE 102	Engineering Problem Solving and Technology	3
MTH 252	Calculus II	4
MTH 253	Calculus III	4
MTH 254	Vector Calculus I	4
MTH 256	Applied Differential Equations	4
PH 211	General Physics I	5
PH 212	General Physics II	5
PH 213	General Physics III	5

## ELECTIVES<sup>1</sup>

Choose enough electives to reach a minimum total of 90 overall degree credits. Elective credits must number 100 or above with a maximum of 12 CTE credits and 15 credits of CWE/HHP performance courses.

## ADVISING NOTES

<sup>1</sup> Elective Notes: Most engineering majors have few, if any, true electives and students must sequence courses very intentionally. The elective category should be used to tailor the program toward a specific engineering major or branch. Following are some general guidelines. We recommend students research requirements directly.

**Chemical:** CH 223, MTH 253. Note that OSU requires a year-long sequence prior to the junior year that COCC does not offer.

**Energy Engineering Management:** BA 217, CS 161, EC 201, ENGR 202, ENGR 212, MTH 253.

**Mechanical:** CIS programming class (CIS 122, CIS 133JS, CIS 133P, CS 161, CS 162), CIS 125A1, CIS 125A2, ENGR 212, MFG 103, MFG 112, MFG 113.

**Civil:** ENGR 212.