

Engineering Emphasis

Associate of Science

FOCUS AREA DESCRIPTION

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.

PROGRAM ENTRANCE REQUIREMENTS

None

PROGRAM PERFORMANCE STANDARDS

Academic Requirements

- Students must have a 2.0 cumulative GPA to earn a COCC certificate or degree.
- All courses in the program must be completed with a grade of C or higher.

PROGRAM COURSE REQUIREMENTS

General Education/Foundational

Health

HHP 295	Health and Fitness	3
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Mathematics

MTH 251	Calculus I	4
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Oral Communication

SP 111	Fundamentals Public Speaking	4
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Writing

WR 121	Academic Composition	4
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WR 227	Technical Writing	4
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General Education/Discipline Studies

Arts and Letters

Choose two courses from the Discipline Studies list	6-8
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Social Science

Choose two courses from the Discipline Studies list Recommend: EC 201	6-8
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PROGRAM REQUIREMENTS

CH 221	General Chemistry I	5
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CH 222	General Chemistry II	5
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ENGR 201	Electrical Fundamentals	4
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ENGR 202	Electrical Fundamentals II	4
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ENGR 211	Statics	4
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ENGR 212	Dynamics	4
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ENGR 213	Strength of Material	4
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GE 101	Engineering Orientation	3
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GE 102	Eng. Prob. Solv. & Technology	3
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MTH 252	Calculus II	4
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MTH 253	Calculus III	4
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MTH 254	Vector Calculus I	4
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MTH 256	Applied Differential Equations	4
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PH 211	General Physics I	5
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PH 212	General Physics II	5
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PH 213	General Physics III	5
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Total Credits 98-102

ADVISING 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 General Chemistry III, MTH 253 Calculus III. Note that OSU requires a year-long sequence prior to the junior year that COCC does not offer.

Civil: ENGR 212 Dynamics

Energy Engineering Management: BA 217 Accounting Fundamentals, CS 161 Computer Science I, EC 201 Microeconomics, ENGR 202 Electrical Fundamentals II, ENGR 212 Dynamics, MTH 253 Calculus III

Mechanical: CIS programming class (CIS 122 Introduction to Programming, CIS 133JS Introduction to JavaScript, CIS 133P Introduction to PHP, CS 161 Computer Science I, CS 162 Computer Science II), CIS 125A1 AutoCAD 1, CIS 125A2 AutoCAD 2, ENGR 212 Dynamics, MFG 103 Welding Technology I, MFG 112 Manufacturing Processes II.