

ENGINEERING - TRANSFER - DEGREE

Associate of Science in Engineering

Faculty Adviser

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The Engineering transfer curriculum offered at MHCC is designed to closely follow the pre-engineering program at regional universities and to meet the requirements for an Associate of Science degree. This course plan is tailored for civil and mechanical engineering majors. However, the student should meet with his or her adviser to create an educational plan that meets his or her specific needs.

Curricular Outcomes

At the completion of this curriculum, students should be able to:

- Apply mathematics, science and engineering skills
- Design and conduct experiments, as well as analyze and interpret data
- Design a system, component or process to meet desired needs within realistic constraints
- Function on multidisciplinary teams
- Identify, formulate and solve engineering problems
- Describe professional and ethical responsibility

Note: This plan is specifically designed for transfer to a four-year college, and is *not* intended for students who seek direct entry into the job market after completion of an associate degree. For the direct-to-job-market program, see: Engineering Technology (<https://catalog.mhcc.edu/programs-majors/engineering-technology-degree/>).

General education courses (such as math, writing, health, etc.) can be taken during any term, or before starting the program. Students are expected to meet the following course requirements before starting the first term courses:

- Placement into RD115+, or completion of RD090.
- Placement into WR121Z, or completion of WR115.
- Placement into MTH251Z+, or completion of MTH112Z with a grade of "C" or higher.

First Quarter

Fall		Credits
CH221Z	General Chemistry I	5
& CH227Z	and General Chemistry I Laboratory	
GE101	Engineering Orientation	4
MTH251Z	Differential Calculus	4
WR121Z	Composition I ★	4
	Credits	17

Second Quarter

Winter		Credits
CH222Z	General Chemistry II	5
& CH228Z	and General Chemistry II Laboratory	
COMM111Z	Public Speaking ★	4

GE115	Engineering Graphics	3
or ENGR248	or Engineering Graphics: Solidworks	
MTH252Z	Integral Calculus	4
	Credits	16

Third Quarter

Spring		Credits
GE102	Engineering Computations	3
MTH261	Linear Algebra	4
WR227Z	Technical Writing ★	4
	Arts and Letters requirement (https://catalog.mhcc.edu/degree-certificate-requirements/as-engineering/#arts-letters)	3
	Social Science requirement (https://catalog.mhcc.edu/degree-certificate-requirements/as-engineering/#social)	3
	Credits	17

Fourth Quarter

Fall		Credits
ENGR211	Statics	4
MTH254	Calculus IV: Multivariable/Vector Calculus Part 1	5
PH211	General Physics with Calculus I	5
	Credits	14

Fifth Quarter

Winter		Credits
ENGR213	Strength of Materials	4
ENGR201 (winter) for Mechanical Engineering transfer, or ET150 (spring) for Civil Engineering transfer		4-5
PH212	General Physics with Calculus II	5
	Social Science requirement (https://catalog.mhcc.edu/degree-certificate-requirements/as-engineering/#social)	3-4
	Health and Physical Education requirement (https://catalog.mhcc.edu/degree-certificate-requirements/as-engineering/#health)	3
	Credits	19-21

Sixth Quarter

Spring		Credits
ENGR212	Dynamics	4
ET150 (spring) for Civil Engineering transfer, or ENGR201 (winter) for Mechanical Engineering transfer		4-5
MTH256	Differential Equations	5
PH213	General Physics with Calculus III	5
	Arts and Letters requirement (https://catalog.mhcc.edu/degree-certificate-requirements/as-engineering/#arts-letters)	3
	Credits	17
	Total Credits	100-102

Note: Not every course required by different schools is offered at MHCC.

Transfer Schools

- Oregon State University (<http://engineering.oregonstate.edu/>)
- Oregon Institute of Technology (<http://www.oit.edu/academics/degrees/>)
- Portland State University (<http://www.pdx.edu/cecs/>)
- Washington State University (<http://www.vcea.wsu.edu/>)