

MECHANICAL ENGINEERING EMPHASIS, AS - WITH OREGON INSTITUTE OF TECHNOLOGY (OREGON TECH)

Program Code: AS.OITMECHENGR

The Associate of Science with an emphasis in Engineering is for students interested in transferring a bachelor's degree to Portland State University, Oregon State University, or Oregon Tech (Oregon Institute of Technology).

For information contact Eric Lee, 503-594-6163 or elee@clackamas.edu

Outcomes

Program Outcomes

Upon successful completion of this program, students should be able to:

- apply the fundamental elements of engineering design;
- employ mathematics, science, and computing techniques in a systematic and rigorous manner to support the study and solution of engineering problems;
- conduct and document laboratory experiments in the sciences and engineering, effectively communicating determined quantitative relationships using both graphs and equations;
- exhibit good teamwork skills and serve as effective members of laboratory and project teams;
- articulate and justify graphical, numerical, and analytical solutions to an audience through oral and written communication.

Requirements

First Year

Fall Term		Credits
CH-221	General Chemistry	5.00
ENGR-111	Introduction to Engineering	3.00
MTH-251Z	Differential Calculus	4.00
WR-121Z	Composition I	4.00
Credits		16

Winter Term

CH-222	General Chemistry	5.00
ENGR-231	Properties of Materials	4.00
MTH-252Z	Integral Calculus	4.00
Credits		13

Spring Term

COMM-111Z	Public Speaking	4.00
ENGR-112	Engineering Programming	3.00
MTH-254	Vector Calculus	5.00
WR-227Z	Technical Writing	4.00
Credits		16

Summer Term

MTH-256	Differential Equations	4.00
MTH-261	Linear Algebra	4.00
Credits		8

Second Year

Fall Term

ENGR-211	Statics	4.00
PH-211	General Physics With Calculus	5.00
Social Science Electives (p. 1)		3.00-4.00
Credits		12-13

Winter Term

CDT-103	Computer-Aided Drafting I	3.00
ENGR-212	Dynamics	4.00
PH-212	General Physics With Calculus	5.00
Humanities Elective (p. 1)		3.00-4.00
Credits		15-16

Spring Term

EC-201Z or EC-202Z	Principles of Microeconomics or Principles of Macroeconomics	4.00
ENGR-201	Electrical Fundamentals	4.00
ENGR-213	Strength of Materials	4.00
PH-213	General Physics With Calculus	5.00
Credits		17
Total Credits		97-99

Social Science Electives

Choose courses from the following

subjects: **ANT, EC, GEO, HST, PS, PSY, SOC, SSC, WS**

Humanities Electives

Choose courses from the following subjects: **ART, ASL** (200-level), **ENG, FR** (200-level), **GER** (200-level), **HUM, MUS, PHL, R, SPN** (200-level), **TA**

Optional

While not required for the AS degree, students may complete additional coursework at CCC that will meet requirements for the Bachelor of Science degree at Institute of Technology and is listed below.

Code	Title	Credits
COMM-219	Small Group Discussion	4.00
MFG-106	Advanced Applied Geometric Dimensioning and Tolerancing for Manufacturing	1.00
MTT-112	Manual Machining II	4.00
Additional Social Science Elective		3.00-4.00