

ENVIRONMENTAL ENGINEERING EMPHASIS, AS - WITH OREGON STATE UNIVERSITY

Program Code: AS.OSUENVIRENGR

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, Oregon Tech (Oregon Institute of Technology) or George Fox University.

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 technical solutions to an audience through oral, written, and graphical communication.

Requirements

Course	Title	Credits
First Year		
Fall Term		
ENGR-111	Introduction to Engineering	3
MTH-251	Calculus I	5
WR-121	English Composition	4
Social Processes Elective (p. 1)		4
Credits		16
Winter Term		
CH-221	General Chemistry	5
ENGR-112	Engineering Programming	3
MTH-252	Calculus II	5
WR-227	Technical Report Writing	4
Credits		17
Spring Term		
CH-222	General Chemistry	5
ENGR-115	Engineering Graphics	3
MTH-254	Vector Calculus	5
Western Culture Elective (p. 1)		4
Credits		17

Course	Title	Credits
Summer Term		
CH-223	General Chemistry	5
COMM-111	Public Speaking	4
MTH-256	Differential Equations	4
Credits		13
Second Year		
Fall Term		
CH-241	Organic Chemistry I	5
ENGR-211	Statics	4
PH-211	General Physics With Calculus	5
Credits		14
Winter Term		
CH-242	Organic Chemistry II	5
ENGR-212	Dynamics	4
PH-212	General Physics With Calculus	5
Credits		14
Spring Term		
CH-243	Organic Chemistry III	5
ENGR-213	Strength of Materials	4
MTH-253	Calculus III	5
PH-213	General Physics With Calculus	5
Credits		19
Total Credits		110

Social Processes Electives

Code	Title	Credits
ANT-103	Cultural Anthropology	4
EC-201	Principles of Economics: MICRO	4
EC-202	Principles of Economics: MACRO	4
HST-101	History of Western Civilization	4
HST-102	History of Western Civilization	4
HST-103	History of Western Civilization	4
PS-201	American Government and Politics	4
PS-204	Introduction to Comparative Politics	4
PS-205	International Relations	4
PS-225	Introduction to Political Ideologies	4
PSY-110	Psychology: An Overview	4
PSY-200	Psychology As A Natural Science	4
PSY-205	Psychology As a Social Science	4
PSY-219	Introduction to Abnormal Psychology	4
PSY-231	Introduction to Human Sexuality	4
SOC-204	Introduction to Sociology	4
SOC-205	Social Stratification & Social Systems	4
SOC-206	Institutions & Social Change	4

Western Culture Electives

Code	Title	Credits
ART-204	History of Art/Ancient Through Medieval	4
ART-205	History of Art/Romanesque Through Baroque	4
ART-206	History of Art/Enlightenment Through Contemporary	4

Code	Title	Credits	Code	Title	Credits
ENG-107	World Literature: Ancient Through Classical Times	4	ENG-107	World Literature: Ancient Through Classical Times	4
ENG-108	World Literature: Early Middle Ages through the 18th Century	4	ENG-108	World Literature: Early Middle Ages through the 18th Century	4
ENG-109	World Literature: The 19th through 21st Centuries	4	ENG-109	World Literature: The 19th through 21st Centuries	4
ENG-201	Shakespeare	4	ENG-194	Introduction to Film	4
ENG-202	Shakespeare	4	ENG-195	American Film	4
ENG-204	British Literature: Ancient to Enlightenment	4	ENG-201	Shakespeare	4
ENG-205	British Literature: Romantic to Contemporary	4	ENG-202	Shakespeare	4
ENG-250	Greek Mythology	4	ENG-204	British Literature: Ancient to Enlightenment	4
ENG-251	Celtic Mythology	4	ENG-205	British Literature: Romantic to Contemporary	4
ENG-253	American Literature: Pre-Columbian to Civil War	4	ENG-213	U.S. Latino Literature	4
ENG-254	American Literature: 1865 to Present	4	ENG-250	Greek Mythology	4
ENG-255	American Literature: Topics in American Literature	4	ENG-251	Celtic Mythology	4
GEO-208	Geography of the United States & Canada	4	ENG-252	Hindu Mythology	4
HST-101	History of Western Civilization	4	ENG-253	American Literature: Pre-Columbian to Civil War	4
HST-102	History of Western Civilization	4	ENG-254	American Literature: 1865 to Present	4
HST-103	History of Western Civilization	4	ENG-255	American Literature: Topics in American Literature	4
HST-132	History of Language and the Written Word in Western Civilization	4	ENG-260	Introduction to Women Writers	4
HST-201	History of the United States	4	MUS-105	Music Appreciation	3
HST-202	History of the United States	4	MUS-205	Music Literature: History of Jazz	4
HST-203	History of the United States	4	MUS-206	Music Literature: History of Rock	4
PHL-102	Ethics	4			
R-204	History of Christianity	4			

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 Oregon State University. The Bachelor of Science degree requires the completion of one course from the category below.

Cultural Diversity Electives

Code	Title	Credits
ANT-231	Native Americans of the Pacific Northwest	4
ANT-232	Native Americans of North America	4
ENG-213	U.S. Latino Literature	4
ENG-252	Hindu Mythology	4
R-101	Judaism and Foundations of Religion	4
R-102	Christianity and Islam	4
R-103	Asian Religions	4
R-210	World Religions	4

Literature and the Arts Electives

Code	Title	Credits
ART-101	Art Appreciation	3
ART-204	History of Art/Ancient Through Medieval	4
ART-205	History of Art/Romanesque Through Baroque	4
ART-206	History of Art/Enlightenment Through Contemporary	4
ENG-104	Introduction to Literature: Fiction	4
ENG-105	Introduction to Literature: Drama	4
ENG-106	Introduction to Literature: Poetry	4

Difference, Power, and Discrimination Electives

Code	Title	Credits
HST-201	History of the United States	4
HST-202	History of the United States	4
HST-203	History of the United States	4
SOC-225	Social Problems	4

Biological Science Electives

Code	Title	Credits
BI-101	General Biology; Cellular Biology	4
BI-102	General Biology; Animal Systems	4
BI-103	General Biology; Plants & the Ecosystem	4
BI-175	Integrated Science Inquiry	4
BI-176	Integrated Science Inquiry	4
BI-177	Integrated Science Inquiry	4
BI-204	Elementary Microbiology	4
BI-211	General Biology for Science Majors (Cellular Biology)	5
BI-212	General Biology for Science Majors (Animal Biology)	5
BI-213	General Biology for Science Majors (Plant Biology & Ecology)	5
BI-234	Introductory Microbiology	4
ESR-171	Environmental Science	4
ESR-172	Environmental Science	4
ESR-173	Environmental Science	4
Z-201	General Zoology	4

Code	Title	Credits
Z-202	General Zoology	4
Z-203	General Zoology	4

Physical Education Electives

Code	Title	Credits
HPE-295	Health & Fitness for Life	3