ELECTRICAL ENGINEERING EMPHASIS, AS - WITH PORTLAND STATE UNIVERSITY

Program Code: AS.PSUELECTENGR

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-221Z & CH-227Z	General Chemistry I and General Chemistry I Laboratory	5.00
CS-161	Computer Science I	4.00
ENGR-111	Introduction to Engineering	3.00
MTH-251Z	Differential Calculus	4.00
	Credits	**16**
Winter Term		
CS-162	Computer Science II	4.00
ENGR-112	Engineering Programming	3.00
ENGR-171	Digital Logic	4.00
MTH-252Z	Integral Calculus	4.00
	Credits	**15**
Spring Term		
COMM-111Z	Public Speaking	4.00
ENGR-271	Digital Systems	4.00
MTH-261	Linear Algebra	4.00
WR-121Z	Composition I	4.00
	Credits	**16**
Summer Term		
MTH-256	Differential Equations	4.00
	Credits	**4**
Second Year		
Fall Term		
ENGR-221	Electrical Circuit Analysis I	4.00
MTH-254	Vector Calculus	5.00
PH-211	General Physics With Calculus	5.00
WR-227Z	Technical Writing	4.00
	Credits	**18**
Winter Term		
ENGR-222	Electrical Circuit Analysis II	4.00
MTH-253Z	Calculus: Sequences and Series	4.00
PH-212	General Physics With Calculus	5.00
Race and Ethnic Studies Electives (p. 1)		4.00
	Credits	**17**
Spring Term		
ENGR-223	Electrical Circuit Analysis III	4.00
PH-213	General Physics With Calculus	5.00
Arts & Letters Electives (p. 1)		4.00
Select one of the following:		3.00-4.00
Arts & Letters Electives (p. 1)		
Social Science Electives (p. 2)		
	Credits	**16-17**
	Total Credits	**102-103**

Arts & Letters Electives

All courses in ASL, COMM, ENG, FR, GER, HUM, PHL, SPN, WR. Note that native speakers should only take advanced (300 level or above) world language courses.

Non-performance based courses in art, journalism, music, and theater also meet this requirement:

Code	Title	Credits
ART-101	Art Appreciation	3.00
ART-204	History of Art/Ancient Through Medieval	4.00
ART-205	History of Art/Romanesque Through Baroque	4.00
ART-206	History of Art/Enlightenment Through Contemporary	4.00
J-211	Mass Media & Society	4.00
MUS-105	Music Appreciation	3.00
MUS-141	Introduction to the Music Business	3.00
MUS-205	Music Literature: History of Jazz	4.00
MUS-206	Music Literature: History of Rock	4.00
TA-101	Appreciation of Theatre	4.00
TA-102	Appreciation of Theatre	4.00

Race and Ethnic Studies Electives

Code	Title	Credits
ES-101	Introduction to Ethnic Studies	4.00
ES-211	Introduction to Latino/a/x Studies	4.00
ES-221	Introduction to Black Studies	4.00

Code	Title	Credits
ES-231	Introduction to Southeast Asian and South Pacific Island Diaspora Studies	4.00
ES-241	Introduction to Native American Studies	4.00

Social Science Electives

All courses in ANT, EC, ES, GEO, HST, PS, PSY, SOC, SSC, and WS