ECOLOGICAL ENGINEERING, ASSOCIATE OF SCIENCE

The Associate of Science (AS) in Ecological Engineering program will provide the first two years of the engineering core curriculum for students pursuing ecological engineering as a transfer degree. The coursework is foundational to the upper division biological and ecological engineering courses o and provides the fundamental concepts needed for success and advancement in ecological or sustainable engineering professions. Write the entry requirements for the program.

STUDENT LEARNING OUTCOMES

- Identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics.
- Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- Communicate effectively with a range of audiences.
- Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.
- Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives.
- Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

PREREQUISITES

MTH112Z or placement into MTH251

WR90R or placement into WR121Z

Course	Title	Credits
First Year		
Fall		
CHEM221	General Chemistry I	5
ENGR111	Intro to Engineering	3
ENV235	Introduction to Soil Science	4
MTH251	Calculus I Differential Calculus	4
	Credits	**16**
Winter		
CHEM222	General Chemistry II	5
ENGR112	Engineering Computation	4
MTH252	Calculus II Integral Calculus	4
WR121Z	Composition I	4
	Credits	**17**
Spring		
CHEM223	General Chemistry III	5
DRFT112	Computer Assisted Drafting III	3
MTH264	Introduction to Matrix Algebra and Power Series	4
WR227Z	Technical Writing	4
	Credits	**16**
Summer		
PE231	Wellness for Life	3
PHL102	Ethics	3
	Credits	**6**
Second Year		
Fall		
ECON201	Microeconomics	4
ECON202	Macroeconomics	4
PH211	General Physics with Calculus I	5
ENGR211	Statics	3
MTH254	Vector Calculus I	4
	Credits	**20**
Winter		
COMM111Z	Public Speaking	4
CS161	Introduction to Computer Science I [2]	4
F222A	Elementary Forest Surveying	4
MTH256	Differential Equations	4
PH212	General Physics with Calculus II	5
	Credits	**21**
Spring		
PH213	General Physics with Calculus III	5
ENGR213	Strength of Materials	3
Cultural Diversity [3]		3
	Credits	**11**
	Total Credits	**107**

1. Arts and Letters Elective can be any course from the approved AAOT arts and letters distribution list.
2. Transfers to Oregon State are encouraged to become familiar with Python in addition to this CS course
3. Cultural Diversity elective must be a social science from the approved list.