

FOREST ENGINEERING, ASSOCIATE OF SCIENCE

Forest engineering prepares graduates to plan and implement complex forestry and natural resource operations that help meet global demands for wood products while sustaining water, habitat, and other forest resources.

Check out the Forestry/Natural Resources (<https://www.socc.edu/forestry>) program website!

The forestry field is projected to have many career opportunities coming up in the next decade as many forestry and natural resources professionals retire in the next few years. Students who enjoy working outdoors and want to have a career that focuses on managing our valuable forest lands to conserve and protect resources as well as produce valuable products for society should consider this degree.

Graduation Requirements

Students must complete a minimum of 96 credit hours with a cumulative Grade Point Average (GPA) of 2.0 or better. All courses must be completed with a grade of 'C' or better. Twenty-four (24) credits must be completed at Southwestern before the AS degree is awarded.

Courses that are developmental in nature, (designed to prepare students for college transfer courses), are not applicable to this degree.

Complete the graduation application process one term prior to the term of completion (e.g., spring term graduates must apply during winter term).

Pre-Program Courses

Students are required to take the following courses *prior* to the program courses, depending on students' college placement information. See advisor for details.

Code	Title	Credits
CIS90	Computer Basics	2
WR90R	Academic Literacy (or placement in higher writing course)	4
MTH95	Intermediate Algebra	4

Program Guide

Course	Title	Credits
First Year		
Fall		
ENV235	Introduction to Soil Science	4
F111	Introduction to Forestry	4
MTH251	Calculus I Differential Calculus	4
PH211	General Physics w/Calculus I	5
Credits		17
Winter		
F222A	Elementary Forest Surveying	4
F250	Forest Biology	4
MTH252	Calculus II Integral Calculus	4

PH212	General Physics w/Calculus II	5
Credits		17
Spring		
F241	Dendrology	5
MTH243	Intro to Probability and Statistics Statistics	4
PE231	Wellness for Life	3
Specific Elective ¹		3
Credits		15
Second Year		
Fall		
CHEM221	General Chemistry I	5
GEOG265	Intro to Geographical Info Systems	3
ENGR211	Statics	3
MTH254	Vector Calculus I	4
Credits		15
Winter		
ENGR212	Dynamics	3
MTH256	Differential Equations	4
SP111	Fundamentals of Public Speaking	3
WR121	English Composition	3
Specific Elective ²		3
Credits		16
Spring		
ECON201	Microeconomics	4
ENGR213	Strength of Materials	3
WR227	Report Writing	3
Specific Elective ³		3
Specific Elective ⁴		3
Credits		16
Total Credits		96

Footnotes

- Western Culture - Specific Elective options: SOC206 Social Problems and Issues, HST201 History of the United States, HST202 History of the United States OR HST203 History of the United States.
- Literature and the Arts - Specific Elective options: ENG104 Introduction to Literature Fiction, ENG105 Introduction to Literature Drama, ENG106 Introduction to Literature Poetry, ENG107 World Literature, ENG107H World Literature w/Honors, ENG108 World Literature, ENG201 Shakespeare, ENG204 Survey of English Literature, ENG205 Survey of English Literature, ENG206 Survey of English Literature, MUS201 Intro to Music and its Literature, ART101 Art Appreciation, ART204 History of Western Art: Introduction to Art History, ART205 History of Western Art: Introduction to Art History, or ART206 History of Western Art: Introduction to Art History.
- Cultural Diversity - Specific Elective options: ANTH230 Native North Americans: Oregon, ANTH231 Native North Americans: PNW, ANTH232 Native North Americans, or HST104 History of the Middle East.

- 4 Western Culture - Specific Elective options: PHL102 Ethics, MUS201 Intro to Music and its Literature, ENG201 Shakespeare, ENG204 Survey of English Literature, ENG205 Survey of English Literature, ENG206 Survey of English Literature, ART204 History of Western Art: Introduction to Art History, ART205 History of Western Art: Introduction to Art History, or ART206 History of Western Art: Introduction to Art History.

Program Student Learning Outcomes

Upon successful completion of this program, the student will be able to:

- Use techniques, skills, and modern engineering tools necessary for engineering practice.
- Develop engineered forest operations that achieve silvicultural objectives
- Develop engineered forest operations that appropriately protect soil and water resources.
- Survey and measure land and forest resources so that the engineering tasks associated with forest operations can be effectively completed.
- Provide designs and manage the forest transportation in a way that meets the needs of forest land management with societally acceptable environmental impact.
- Plan and manage safe, economic and environmentally sound forest operations.
- Incorporate long term forest land management and operational planning in an environmental and economic context into forest operation plans.