

# FOREST RENEWABLE MATERIALS/SCIENCE AND ENGINEERING, ASSOCIATE OF SCIENCE

Renewable Materials is a multidisciplinary program that prepares students to work with renewable, plant-based materials to solve challenging world problems. Renewable materials such as wood, bamboo, canes, and agricultural fibers are examined to understand their characteristics and how to make useful products. Students gain broad perspectives on current issues associated with the sustainable utilization of renewable materials, including global trade, business innovation, energy production, and environmental impacts.

The science and engineering option focuses on science, technology and engineering when it comes to working with wood products. Students gain a strong understanding of where wood products come from, and test renewable materials to determine how we can use them in new and innovative ways. Students learn in woodshops, labs and even test materials in our climate rooms and earthquake testing room.

This degree was designed to transfer to Oregon State University's College of Forestry. Other transfer options may be available, consult your advisor for details. Check out the Forestry/Natural Resources 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 101 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 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).

## PROGRAM STUDENT LEARNING OUTCOMES

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

- Demonstrate fundamental knowledge of wood and similar renewable materials that make them challenging to utilize as industrial and building materials.
- Demonstrate command of renewable material moisture content and specific gravity calculations.
- Demonstrate ability to find, compile, analyze, and communicate technical communication.

- Demonstrate familiarity with the diverse complexity of the Renewable Materials industry, and the challenges it faces with balancing business and environmental goals.
- Demonstrate a combination of technical and business acumen that allows effective management of process and people.
- Demonstrate ability to creatively self-direct learning outcomes within the classroom environment and/or through independent undergraduate research.
- Gain information and knowledge to become a better global citizen.

## 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 (or demonstrate proficiency)	2
WR90R	Academic Literacy (or placement in higher writing course)	4
MTH112	Trigonometry (or higher)	4

## PROGRAM GUIDE

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
CHEM221	General Chemistry I	5
F111	Introduction to Forestry	3
WR121	English Composition	4
ENGR111	Intro to Engineering	3
or ENGR211	or Statics	
Literature and the Arts <sup>1</sup>		3
		Credits
		18
<b>Winter</b>		
CHEM222	General Chemistry II	5
CIS125S	Spreadsheet Applications	3
F250	Forest Biology	4
BA212	Principles of Accounting II <sup>5</sup>	4
		Credits
		16
<b>Spring</b>		
SP111	Fundamentals of Public Speaking	3
WR227	Report Writing	4
PE231	Wellness for Life	3
CHEM223	General Chemistry III	5
BA213	Principles of Accounting III	4
		Credits
		19
<b>Second Year</b>		
<b>Fall</b>		
BA230	Business Law <sup>6</sup>	4
ECON201	Microeconomics	4
MTH251	Calculus I Differential Calculus	4
PH201	General Physics I: Mechanics	5
or PH211	or General Physics with Calculus I	
		Credits
		17

<b>Winter</b>		
ECON202	Macroeconomics	4
MTH252	Calculus II Integral Calculus	4
PH202	General Physics II: Heat, Waves, Relativity	5
or PH212	or General Physics with Calculus II	
Cultural Diversity <sup>3</sup>		3
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	Credits	16
<b>Spring</b>		
MTH254	Vector Calculus I	4
PH203	Gen Physics III: Elect & Magnetism	5
or PH213	or General Physics with Calculus III	
Western Culture <sup>4</sup>		3
Difference, Power, and Discrimination <sup>2</sup>		3
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	Credits	15
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	Total Credits	101

<sup>1</sup> Literature and the Arts: ART204, ART205, ART206, ENG104, ENG105, ENG106, ENG107, ENG108, ENG109, ENG201, ENG204, ENG205, ENG206, ENG262, MUS201, MUS202, MUS203.

<sup>2</sup> Difference, Power, and Discrimination: HST201, HST202, HST203, SOC206, SOC213

<sup>3</sup> Cultural Diversity: ANTH224, ANTH230, ANTH231, ANTH232, HST104, HUM204, HUM205, HUM206

<sup>4</sup> Western Culture: ART204, ART205, ART206, ENG107, ENG108, ENG109, ENG201, ENG204, ENG205, ENG206, HST101, HST102, HST103, HST201, HST202, HST203, MUS201, MUS202, MUS203, PHL101, PHL102.

<sup>5</sup> BA212 has a prerequisite of BA211 or BA111 or AC2764

<sup>6</sup> BA230 has a prerequisite of BA101

<sup>7</sup> NR201 may be substituted for F111.

\* All Honors courses may substitute for their equivalent requirements.