

Biosystem Engineering — Forest Engineering Option (FOEN)

The Department of Biosystems Engineering (in conjunction with the Samuel Ginn College of Engineering and College of Forestry, Wildlife and Environment) offers an option in forest engineering as part of the Bachelor of Biosystems Engineering degree.

The Forest Engineering Option involves preparing graduates to apply engineering principles and techniques for the sustainable management and maintenance of trees, soil, water, and other natural resources within the forest ecosystem. Forest engineering is therefore a hybrid of engineering and forest management that is focused on the efficient, cost-effective, and environmentally friendly utilization of these resources. Therefore, this option prepares students for productive professional careers in the forest products industry and related natural resource and environmental systems sector.

Students are admitted to the professional Biosystems Engineering with Forest Engineering Option curriculum (FOEN) upon successful completion of the Pre-Forest Engineering (PFOE) program in the Samuel Ginn College of Engineering. Additional details on the Forest Engineering Option are available on the Samuel Ginn College of Engineering Biosystem (<https://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofbiosystemsengineering/>) page. Students pursuing the Forest Engineering Option must meet College of Forestry, Wildlife and Environment requirements for admission to the Forestry Summer Field Practicum and must attend the Forestry Practicum. This summer hands-on experience is scheduled for the summer term preceding the junior year and is held at the Solon Dixon Forestry Education Center near Andalusia, Alabama. Students should contact the College of Forestry, Wildlife and Environment Student Services Office at 334-844-1050 to notify your intent to apply to the Forestry Practicum.

Freshman

Fall	Hours	Spring	Hours
COMP 1220 Introduction to Computing with Python or 1230 Introduction to Computing with MATLAB	2	MATH 1620 Calculus II	4
MATH 1610 Calculus I	4	ENGL 1120 English Composition II	3
ENGL 1100 English Composition I	3	PHYS 1600 Engineering Physics I	4
ENGR 1100 Engineering Orientation	0	HIST 1220 Technology And Civilization II or 1020 World History II	3
CHEM 1030 Fundamentals Chemistry I	3	ENGR 1110 Introduction to Engineering	2
CHEM 1031 Fundamental Chemistry I Laboratory	1		
HIST 1210 Technology and Civilization I or 1010 World History I ¹	3		
	16		16

Sophomore

Fall	Hours	Spring	Hours	Summer	Hours
ENGR 2010 Thermodynamics	3	MATH 2650 Linear Differential Equations	3	FORY 3020 Forest Biology	3
ENGR 2050 Statics	3	ENGR 2350 Dynamics	3	FOEN 3040 Forest Surveying	2
MATH 2630 Calculus III	4	STAT 3010 Statistics for Engineers and Scientists or 2510 Statistics for Biological and Health Sciences	3	FORY 3050 Field Mensuration	4

BSEN 2210 Engineering Methods for Biological Systems	2	ENGR 2070 Mechanics of Materials	3	FORY 3060 Introduction to Forest Management Strategies	1
BIOL 1020 Principles of Biology	3	CHEM 1040 Fundamental Chemistry II	3		
BIOL 1021 Principles of Biology Laboratory	1	CHEM 1041 Fundamental Chemistry II Laboratory	1		
	16		16		10
Junior					
Fall	Hours	Spring	Hours		
BSEN 3210 Mechanical Power for Biosystems	3	BSEN 3230 Natural Resource Conservation Engineering	3		
FORY 3180 Forest Resource Sampling	3	CIVL 3310 Geotechnical Engineering I or 3230 Environmental Engineering	4		
FORY 3100 Dendrology	3	Fine Arts Core	3		
BSEN 3310 Hydraulic Transport in Biological Systems	4	Social Science Core ²	3		
	13		13		
Senior					
Fall	Hours	Spring	Hours		
BSEN 5220 Geospatial Technologies in Biosystems	3	BSEN 4310 Engineering Design for Biosystems	3		
BSEN 5560 Site Design for Biosystems	3	Forest Engineering Elective	3		
FOEN 5710 Systems Analysis for Forestry and Biological Operations	3	PHIL 1040 Business Ethics <i>or</i> 1020 Introduction to Ethics	3		
FORY 5230 Silviculture	4	Literature Core	3		
BSEN 4300 Professional Practice in Biosystems Engineering	2	UNIV 4AA0 Achieve the Creed	0		
	15		12		

Total Hours: 127

¹ The AU Bulletin lists the University Core Curriculum requirements for students in the College of Engineering. Students must complete a sequence in either Literature or History. Biosystems Engineering should complete the World History or Technology and Civilization course sequence to ensure that all SLOs are met by students by the time of graduation.

² ECON 2020 preferred.
Forest Engineering Elective: See adviser for approved course listing.