

FOREST ECOSYSTEM MANAGEMENT, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Degree Requirements

For the Bachelor of Science degree in Forest Ecosystem Management, a minimum of 120 credits is required for the Forest Biology, Forest Management, and Watershed Management options, and a minimum of 123 credits for the Community and Urban Forest Management option:

Requirement	Credits
General Education	45
Electives	2-11
Requirements for the Major	88-100

21-24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 3-6 credits of GS courses; 0-3 credits of GA courses; 3 credits of GWS courses.

Students should be aware that, in most cases, completion of the Forest Ecosystem Management degree in four years requires enrollment at the University Park Campus beginning the fall semester of the sophomore year.

Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Common Requirements for the Major (All Options)

Code	Title	Credits
Prescribed Courses		
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
FOR 421	Silviculture: Applied Forest Ecology	3
SOILS 101	Introductory Soil Science	3
<i>Prescribed Courses: Require a grade of C or better</i>		
FOR 200	The Profession of Forestry	1
FOR 203	Field Dendrology	3
FOR 255	GPS and GIS Applications for Natural Resources Professionals	3
FOR 266	Forest Resources Measurements	4
FOR 308	Forest Ecology	3
Additional Courses		
Select one of the following:		3
AGBM 101	Economic Principles of Agribusiness Decision Making	
ECON 102	Introductory Microeconomic Analysis and Policy	
ECON 104	Introductory Macroeconomic Analysis and Policy	

Additional Courses: Require a grade of C or better

ENGL 202C	Effective Writing: Technical Writing	3
or ENGL 202D	Effective Writing: Business Writing	
Select one of the following:		3-4
STAT 200	Elementary Statistics	
STAT 240	Introduction to Biometry	
STAT 250	Introduction to Biostatistics	

Requirements for the Option

Select an option	55-66
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Requirements for the Option

Forest Biology Option (57-58 credits)

Code	Title	Credits
Prescribed Courses		
BIOL 110	Biology: Basic Concepts and Biodiversity	4
BIOL 220W	Biology: Populations and Communities	4
CHEM 202	Fundamentals of Organic Chemistry I	3
FOR 204	Silvics and Forest Dynamics	2
FOR 409	Tree Physiology	2
FOR 410	Elements of Forest Ecosystem Management	3
FOR 430	Conservation Biology	3
FOR 450W	Human Dimensions of Natural Resources	3
HORT 445	Plant Ecology	3
SOILS 102	Introductory Soil Science Laboratory	1
WFS 209N	Wildlife and Fisheries Conservation	3
<i>Prescribed Courses: Require a grade of C or better</i>		
FOR 350	Forest Ecosystem Monitoring and Data Analysis	3

Additional Courses

Select 4-5 credits from the following:		4-5
ENT 313	Introduction to Entomology	
FOR 403	Invasive Forest Plants: Identification, Ecology, and Management	
PPEM 318	Diseases of Forest and Shade Trees	

Additional Courses: Require a grade of C or better

MATH 110	Techniques of Calculus I	4
or MATH 140	Calculus With Analytic Geometry I	

Supporting Courses and Related Areas

Select 15 credits from department list in consultation with adviser	15
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Forest Management Option (57-60 credits)

Code	Title	Credits
Prescribed Courses		
ENT 313	Introduction to Entomology	2
FOR 204	Silvics and Forest Dynamics	2
FOR 440	Forest and Conservation Economics	3
FOR 470	Watershed Management	3
FOR 480	Policy and Administration	3
PPEM 318	Diseases of Forest and Shade Trees	2
WFS 209N	Wildlife and Fisheries Conservation	3
<i>Prescribed Courses: Require a grade of C or better</i>		
FOR 320	Forest Fire Management	2
FOR 350	Forest Ecosystem Monitoring and Data Analysis	3
FOR 455	Remote Sensing and Spatial Data Handling	3
FOR 466W	Forest Management and Planning	3
Additional Courses		

BIOL 110	Biology: Basic Concepts and Biodiversity	3-4
or BIOL 127	Introduction to Plant Biology	
FOR 401	Urban Forest Management	3
or FOR 450W	Human Dimensions of Natural Resources	
FOR 410	Elements of Forest Ecosystem Management	3
or FOR/WFS 430	Conservation Biology	
Select one of the following:		3
FOR 409 & SOILS 102	Tree Physiology and Introductory Soil Science Laboratory	
ERM 448	Rural Road Ecology and Maintenance	
FOR 439	Timber Sale Administration	
FOR 475	Principles of Forest Soils Management	

Additional Courses: Require a grade of C or better

Select one of the following:		4-6
MATH 22 & MATH 33	College Algebra With Analytic Geometry and Applications II and Mathematics for Sustainability	
MATH 22 & MATH 34	College Algebra With Analytic Geometry and Applications II and The Mathematics of Money	
MATH 22 & AGBM 106	College Algebra With Analytic Geometry and Applications II and Agribusiness Problem Solving	
MATH 110	Techniques of Calculus I	
MATH 140	Calculus With Analytic Geometry I	

Supporting Courses and Related Areas

In consultation with adviser, select 12 credits from department list approved for the option. Six credits must be 300-to 400-level. 12

Community and Urban Forest Management Option (62-66 credits)

Code	Title	Credits
Prescribed Courses		
ENT 313	Introduction to Entomology	2
ENT 314	Management of Insect Pests of Ornamentals	1
FOR 480	Policy and Administration	3
GEOG 430	Human Use of Environment	3
HORT 138	Ornamental Plant Materials	3
HORT 301	Principles of Arboriculture	3
HORT 408	Landscape Plant Establishment and Maintenance	4
PLANT 217	Landscape Soil and Water Management	3
PPEM 318	Diseases of Forest and Shade Trees	2
<i>Prescribed Courses: Require a grade of C or better</i>		
FOR 204	Silvics and Forest Dynamics	2
FOR 401	Urban Forest Management	3
FOR 450W	Human Dimensions of Natural Resources	3

Additional Courses

BIOL 110	Biology: Basic Concepts and Biodiversity	3-4
or BIOL 127	Introduction to Plant Biology	
Select one of the following:		3
ARCH 316	Analysis of Human Settlements: Cities	
LARCH 60	Cultural History of Designed Places	
LARCH 65	Built Environment and Culture: Examining the Modern City	

Select one of the following:		3
RPTM 320	Recreation Resource Planning and Management	
RPTM 325	Principles of Environmental Interpretation	
RPTM 435	Recreation Facilities Planning and Management	
RPTM 470	Recreation and Park Management	

Select one of the following:		3
FOR 455	Remote Sensing and Spatial Data Handling	
GEOG 363	Geographic Information Systems	
SOILS 450	Environmental Geographic Information Systems	

Select one of the following:		3
FOR 409 & SOILS 102	Tree Physiology and Introductory Soil Science Laboratory	
ERM 448	Rural Road Ecology and Maintenance	
FOR 439	Timber Sale Administration	
FOR 475	Principles of Forest Soils Management	

Additional Courses: Require a grade of C or better

FOR 495	Forestry Internship	3
or FOR 496	Independent Studies	

Select one of the following: 4-6

MATH 22 & MATH 33	College Algebra With Analytic Geometry and Applications II and Mathematics for Sustainability	
MATH 22 & MATH 34	College Algebra With Analytic Geometry and Applications II and The Mathematics of Money	
MATH 22 & AGBM 106	College Algebra With Analytic Geometry and Applications II and Agribusiness Problem Solving	
MATH 110	Techniques of Calculus I	
MATH 140	Calculus With Analytic Geometry I	

Supporting Courses and Related Areas

Select 8-9 credits from department list In consultation with adviser 8-9

Watershed Management Option (55-59 credits)

Code	Title	Credits
Prescribed Courses		
FOR 450W	Human Dimensions of Natural Resources	3
<i>Prescribed Courses: Require a grade of C or better</i>		
FOR 470	Watershed Management	3
FOR 471	Watershed Management Laboratory	1
Additional Courses		
MATH 111	Techniques of Calculus II	2-4
or MATH 141	Calculus with Analytic Geometry II	
Select one of the following:		3
FOR 409 & SOILS 102	Tree Physiology and Introductory Soil Science Laboratory	
ERM 448	Rural Road Ecology and Maintenance	
FOR 439	Timber Sale Administration	
FOR 475	Principles of Forest Soils Management	

Additional Courses: Require a grade of C or better

MATH 110	Techniques of Calculus I	4
or MATH 140	Calculus With Analytic Geometry I	

Supporting Courses and Related Areas

Select 6 credits of GS social sciences from the following: 6

- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN**, may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher: 6 credits

University Degree Requirements

First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.