

COLLEGE OF FORESTRY

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2023–2024 UNDERGRADUATE

# ADVISING GUIDE

FORESTRY



Oregon State  
University

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## Forestry Careers

Congratulations on selecting the Forestry program at Oregon State University! The Bachelor of Science (B.S.) in Forestry is intended to broadly educate and train forest land managers in the biological, physical, and socioeconomic factors that influence forest policies and management actions. Our graduates will be prepared to work for the forest industry, non-industrial landowners, federal and state agencies, non-profits and non-governmental organizations.

The successful forester must understand the biological and physical processes of forest ecosystems, as well as the social, economic, and operational forces that influence forest policies and management actions. The forestry core curriculum includes basic courses in the biological, physical, social sciences, and six months of work experience as well as professional courses designed to prepare students to manage forest resources.

One of the first decisions that you must make as you begin the program is which option to pursue.

The **Forest Management** option is a classical forestry program aimed at active land management from an industrial forest land management perspective.

The **Forest Operations Management** option provides a strong foundation in classical forestry, and includes coursework from the engineering program that is specific to managing forest operations. It also meets additional College of Business requirements for a transcript-visible Business minor that fits with ownership and management of a forestry service business.

The **Forest Restoration and Fire** option includes the same foundation as the Forest Management option, but goes on to provide a stronger scientific focus on basic physical and biological processes that operate in the forest regardless of management objectives.

Graduates from all three options play key roles in helping meet the world's appetite for wood products and the benefits of the broad array of resources from forest such as soils, water, fish and wildlife habitat, and recreation.

Oregon State's Forestry program has a long tradition of excellence in undergraduate education. The Bachelor of Science in Forestry curriculum is accredited by the Society of American Foresters (SAF).

## **B.S. Forestry Learning Outcomes**

The expected learning outcomes of the program include: emphasis on verbal, written and interpersonal communication skills, and development of critical thinking and problem-solving skills. Students will be expected to gain an awareness and understanding of differing viewpoints, and to demonstrate knowledge of international forestry, sustainable forest management, certification processes, and broad ecosystems services.

Learning outcomes for the B.S. in Forestry program:

1. Demonstrate knowledge of forest ecology and silviculture principles to understand how forests and forested watersheds respond to natural disturbances or management activities.
2. Develop skills in geospatial analysis, basic surveying, mapping, and GIS.
3. Demonstrate ability to measure and inventory forest vegetation with precision and accuracy.
4. Develop an understanding of forestry investment analysis and be able to evaluate typical financial investments in forestry.
5. Demonstrate an understanding of the development and execution of strategic, tactical and operational forest plans that support achievement of desired future stand conditions and strategic goals.
6. Demonstrate an understanding of the social and political context of forestry and be able to describe current policies, laws, and regulations governing the management of forest lands.

## **Forest Management Option**

Forest Managers must understand natural resource systems and how to organize the management of forest resources for multiple uses and multiple values. Successful Forest Managers must be able to communicate with the full spectrum of forest users and those who value forest resources. They must be able to propose management solutions that are compatible with the biological and ecological processes of the forest yet are sensitive to the cultural, social and economic forces that shape forest policies.

### **Forest Management Option Learning Outcomes**

As a graduate of the Forestry – Forestry Management Option, you will:

1. Demonstrate knowledge of forest vegetation modeling and the ability to forecast its development over time using models of forest growth.
2. Demonstrate an understanding of the importance of communication in both planning and practice settings, and be able to communicate effectively with coworkers and stakeholders on forest resource issues and practices.
3. Demonstrate understanding of interaction of vegetation, wildlife, insects, and disease on forested landscapes.
4. Demonstrate ability to identify major forest ecosystems of the PNW and describe their changes over time, with and without human influence/management.
5. Demonstrate knowledge of inter-temporal management and planning at the forest and landscape levels, and the ability to develop alternative management scenarios for forest lands for an array of objectives including forest products, environmental services, social amenities cultural and other resource values.

The core curriculum in the Forest Management Option is a broad-based education, including basic courses in mathematics, statistics, biology and ecology, the physical and social sciences, professional courses in forest biology and ecology and forest management, and at least 6 months of work experience.

Entry-level positions for graduates can include duties that span the full range of forest resource uses and management activities, including: fire control and prevention, watershed protection, wildlife habitat management, forest roads and trails, timber management and regeneration, forest health assessment and insect/disease control measures, community-based forestry, ecosystem services markets and carbon offset sales, and management consulting. Graduates are employed by private and public organizations. Private sector employers include the forest timber and wood products industries, forestry consulting firms, Non-Government Organizations (NGOs) and environmental organizations, and self-employment. Public employers include federal, state, and local government agencies such as the U.S. Forest Service, Bureau of Land Management, National Park Service, Peace Corps, and state departments of forestry and natural resources.

## Forest Management Option

**Degree requirements:** To earn the B.S. in Forestry with the Forestry Management Option, students must complete:

- All Pre-Forestry and Pro-School courses with grades of C or higher
- All courses for the Forest Management option with grades of C or higher
- All courses for OSU's Baccalaureate Core
- Any additional electives necessary to achieve 180 total credits
- Complete at least 6 months of relevant work experience

**Pre-Forestry Courses:** these courses must be completed with grades of C or higher before students enter the professional program. Courses in regular font are required for the Forestry major and *courses in italics are required for the Forest Management option*. \* indicates courses that also fulfill Bacc Core.

Course Number	Title	C r	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>First Year Courses</b>					
AEC 250* or ECON 201*	Intro to Environmental Economics and Policy	4	W,SP	F,W,SP,SU	MTH 111Z Rec.
	Intro to Microeconomics	4	F,W,SP	F,W,SP,SU	MTH 111Z Rec.
CH 231*	General Chemistry	4	F,W	SU	MTH 111Z Take with CH 261
CH 261*	Laboratory for CH 231	1	F,W,SU		Take with CH 231
COMM 111Z* or COMM 114*	Public Speaking	4	F,W,SP,SU	F,W,SP,SU	
	Argument and Critical Discourse	3	F,W,SP,SU	F,W,SP,SU	
FES 240*	Forest Biology	4	F,SP	F,SP,SU	
FOR 111	Intro to Forestry	3	F,SP	W,SU	
MTH 111Z*	College Algebra	4	F,W,SP,SU	F,W,SP,SU	
MTH 112Z*	Elementary Functions	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
MTH 241*	Calculus for Management and Social Science	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
WR 121Z*	English Composition	4	F,W,SP,SU	F,W,SP,SU	Alpha-sectioned
<i>FOR 112</i>	<i>Computing Applications in Forestry</i>	3	<i>W,SP</i>		
<b>Second Year Courses</b>					
BI 204* or BI 221*	Introductory Biology I	4		F,W	Ecampus only
	Principles of Biology: Cells	4	F,SU		CH231 & 261
FE 208	Forest Surveying	4	F	SP	MTH 112Z
FE 257	GIS and Forest Engineering Applications	3	W	F	
FES 241	Dendrology	3	F, SP	F,SP,SU	
PH 201*	General Physics I	5	F,SU	F	MTH 112Z
SOIL 205*	Soil Science	3	F,W,SP		
FOR 206*	Forest Soils Lab	1	SP		Take with SOIL 205
ST 243Z	Principles of Statistics	4	F,W,SP	F,W,SP,SU	
WR 227Z* or WR 362*	Technical Writing or Science Writing	4 3	F,W,SP	F,W,SP,SU F,W,SP,SU	WR 121Z WR 121Z
<i>TRAL 251</i>	<i>Recreation Resource Management</i>	4	<i>F</i>	<i>SP</i>	

Note: At the end of the sophomore year students must apply to be admitted to the Forestry Professional Program ("Pro-School"). The courses above must all be completed with grades of C or better and a GPA of 2.25 or higher in order to be admissible to Pro-School for fall of the junior year.



FOR 346. <i>Topics in Wildland Fire</i> (3)	SP	W,SP	Not offered
FOR 407. <i>Seminar: Sem/Fire Field Trip</i> (1)	SP		
FOR 417. <i>Advanced Forest Soils</i> (4)			Not in 23-24
FOR 431. <i>Economics and Policy of Disturbance Management</i> (3)		SP	
FOR 436. <i>Wildland Fire Science and Management</i> (4)	F	F,W	C- in GEOG 201 C- In GEOG 201
FOR 461. <i>Forest Policy Analysis</i> (3)			
FOR 499. <i>Special Topics (0 – 6) with pre-approval</i>	Varies	Varies	
GEOG 201. <i>Geospatial Science &amp; GIS</i> (4)	F,W,SP	F,SP,SU	
GEOG 370. <i>Geovisualization: Cartography</i> (4)	W	F,SP,SU	
GEOG 380. <i>Remote Sensing I: Principles &amp; Applications</i> (4)	F	W,SU	
TRAL 351. <i>Outdoor Recreation Management on Public Lands</i> (3)	W		
TRAL 352. <i>Wilderness Management</i> (3)		F,W,Sp,SU	
TRAL 357. <i>Parks and Protected Areas Management</i> (3)	F		
WSE 453. <i>^Forest Products Business</i> (3)	W		
WSE 470. <i>*Forest, Wood, and Civilization</i> (3)		W	
Pre-approved Study Abroad courses			

**Baccalaureate Core:** Students must complete one course in each Bacc Core category. Some Bacc Core categories can be fulfilled by courses from the Forestry major. The chart below shows the overlap between Forestry requirements and the Bacc Core. A full listing of Bacc Core requirements can be found in the OSU Catalog (<https://catalog.oregonstate.edu/earning-degrees/bcc/>).

Title	Course	Cr.
Writing I	Fulfilled by WR 121Z	4
Writing II	Fulfilled by WR 227Z or WR 362	3-4
Speech	Fulfilled by COMM 111Z or COMM 114	3-4
Lifetime Fitness for Health	HHS 231	2
Fitness Activity	HHS 24X or PAC	1
Mathematics	Fulfilled by MTH 111Z, 112Z, or 241	4
Physical Science w/ Lab	Fulfilled by PH 201	5
Biological Science w/ Lab	Fulfilled by FES 240	4
Add'l Physical or Biological Sci w/ Lab	Fulfilled by CH 231 & 261	5
Cultural Diversity	Choose a course	3
Literature & Arts	Choose a course	3
Western Culture	Choose a course	3
Social Processes & Institutions	Fulfilled by ECON 201 or AEC 250	4
Difference, Power, Discrimination	Choose a course	3
Contemporary Global Issues	Fulfilled by GEOG 300	3
Science, Technology, Society	Can be fulfilled by FES 485 for restricted elective	3
Writing Intensive Course	Fulfilled by FE 460 or FOR 460	4

## Sample Course Plan – Forest Management Option

This is a sample schedule. Actual schedules will vary from student to student based upon factors such as math placement and course availability. Students are strongly encouraged to create a personalized plan with their academic advisor. *Courses in italics also fulfill Bacc Core requirements.*

# B.S. in Forestry

## Forest Management Option | 2023-2024

	Fall		Winter		Spring	
<b>First Year</b>	FOR 111: Intro to Forestry <i>MTH 111Z: College Algebra</i> WR 121Z: English Composition I <i>Bacc Core—Western Culture</i>	3 4 4 3	FOR 112: Computing Applications MTH 112Z: Elementary Functions <i>CH 231 @ 261: General Chem with lab</i> <i>HHS 231: Fitness Lecture</i> <i>HHS 24X: Fitness Activity</i>	3 4 5 2 1-2	<i>FES 240: Forest Biology</i> MTH 241: Calc for Mgmt. & Social Sci. <i>ECON 201/AEC 250: Economics</i> TRAL 251: Rec Resource Mgmt Free elective, if needed	4 4 4 4 1
	Total Credits	14	Total Credits	15-16	Total Credits	17
<b>Second Year</b>	BI 221: Principles of Biology: Cells FE 208: Forest Surveying <i>PH 201: General Physics with lab</i> <i>COMM 111Z/114: Communication</i>	4 4 5 3-4	FE 257: GIS <i>WR 227Z: Technical Writing</i> <i>Bacc Core – Difference, Power, Disc.</i> <i>Bacc Core – Cultural Diversity</i> Free Elective	3 4 3 3 2	ST 243Z: Principles of Statistics SOIL 205: Soil Science FOR 206: Soil Science Lab FES 241: Dendrology <i>Bacc Core – Literature Arts</i>	4 3 1 3 3
	Total Credits	16-17	Total Credits	15	Total Credits	14
<b>Third Year</b>	FOR 321: Forest Mensuration FE 370: Harvesting Operations FE 434: Forest Watershed Mgmt. FES 341: Forest Ecology FOR 312: Forestry Field School	5 4 4 3 2	FES 452: Biodiversity Conservation FOR 322: Forest Models FOR 329: Forest Resource Economics I <i>Bacc Core – Science, Tech, Society</i> Free elective, if needed	3 3 4 3 1-2	FOR 442: Silviculture Reforestation FOR 443: Silvicultural Practices FOR 332: Forest Res Economics II <i>GEOG 300: Sus for the Common Good</i>	4 4 2 3
	Total Credits	18	Total Credits	14-15	Total Credits	13
<b>Fourth Year</b>	FOR 457: Tech. for. Res. Analysis FE 444: For Remote Sensing & Photo Restricted Elective Restricted Elective	4 4 3 3	FOR 413: Forest Pathology <i>FOR 460: Forest Policy</i> FOR 459: Forest Mgmt. Plan & Design I Restricted Elective	3 4 4 3	FOR 469: Forest Mgmt. Plan & Design II FES 412: Forest Entomology Restricted Elective Restricted Elective Free elective, if needed	4 3 3 3 5
	Total Credits	14	Total Credits	14	Total Credits	18



## Forest Operations Management Option

The Bachelor of Science in Forestry - Forest Operations Management Option is designed as a professional forestry degree that blends elements of forest engineering and forest management with business management and entrepreneurship. This unique option will prepare graduates to support the needs of an evolving forest sector in Oregon and globally. As they gain experience, graduates will have options to serve as project managers for logging or silvicultural contracting service firms, as consultants, or as company or agency contract administrators that supervise a growing contracting work force. Graduates will also be prepared to continue on to graduate school in a variety of disciplines that range from natural resources to business.

The educational objectives of the Forest Operations Management Option are an outgrowth of the Departmental Mission of developing science, engineering and technical solutions that promote sustainable management of forest, land and water resources to meet society's economic, environmental and social needs. This option is intended for students who have strong interest in the operational aspects of industrial forest management. More specifically, students who wish to own or manage a contracting business that provides silviculture, harvesting, or transportation system services to larger companies or agencies, or be employed by companies or agencies to administer contracts and manage operations, much like project managers do in the construction business.

This option meets the requirements for the Business minor from the College of Business. Students in the Forest Operations Management Option must apply to the College of Business to be admitted to the Business Minor.

- **Forestry Principles** - The Forest Operations Management Option will incorporate an adequate presentation of fundamental forestry principles so that graduates will be able to implement and manage forest operations to achieve silvicultural objectives.
- **Soil and Water Resources** - The Forest Operations Management Option will incorporate an adequate presentation of the physical and biological aspects of soil and water resources so that graduates will be able to implement and manage forest operations that appropriately protect these resources.
- **Surveying and Measurement** - The Forest Operations Management Option will incorporate adequate surveying and measurement of land and forest resources to implement and manage the tasks associated with forest land management.
- **Harvesting Operations** - The Forest Operations Management Option will incorporate adequate principles of harvesting operations so that graduates can manage safe, economic, and environmentally sound forest operations.
- **Planning, Economics, and Business** - The Forest Operations Management Option will incorporate adequate principles and techniques for forest land management, operational planning, and business in an environmental and economic context so that graduates can effectively manage operations and the forestry supply chain.

## **Forest Operations Management Option Learning Outcomes**

In addition to the learning outcomes defined for the OSU Baccalaureate Core classes, the specific learning outcomes for the Bachelor of Science in Forestry - Forest Operations Management Option are:

1. Demonstrate the knowledge of the potential effects of forest operations on soils, wildlife and water resources by being able to show the tradeoffs of various harvesting systems on soils, wildlife and water resources.
2. Demonstrate knowledge of business laws by being able to apply them to common business practices conducted in a contracting relationship.
3. Demonstrate the ability to apply appropriate knowledge of surveying and mapping tools to implement forest operations by being able to survey and map roads, critical habitat and other common forest features.
4. Demonstrate the ability to collect forest and financial data to analyze the profitability of various forest operations.
5. Develop expertise with technology, equipment, and systems by selecting the systems to be used in conducting forest operations to plan and conduct activities that achieve silvicultural objectives.
6. Demonstrate the ability to plan and administer safe working practices in a variety of forest operations.

## Forest Operations Management Option – Curriculum

**Degree requirements:** To earn the B.S. in Forestry with the Forestry Operations Management Option, students must complete:

- All Pre-Forestry and Pro-School courses with grades of C or higher
- All courses for the Forest Operations Management option with grades of C or higher
- All courses for OSU's Baccalaureate Core
- Any additional electives necessary to achieve 180 total credits
- Complete at least six months of relevant work experience

**Pre-Forestry Courses:** these courses must be completed with grades of C or higher before students enter the professional program. Courses in regular font are required for the Forestry major and *courses in italics are required for the Forest Operations Management option*. \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>First Year Courses</b>					
ECON 201*	Intro to Microeconomics	4	F,W,SP	F,W,SP,SU	MTH 111Z Rec.
CH 231*	General Chemistry	4	F,W	SU	MTH 111Z Take with CH 261
CH 261*	Laboratory for CH 231	1	F,W,SU		Take with CH 231
COMM 111Z* or COMM 114*	Public Speaking Argument and Critical Discourse	4 3	F,W,SP,SU F,W,SP	F,W,SP,SU F,W,SP,SU	
FES 240*	Forest Biology	4	F,SP	F,SP,SU	
FOR 111	Intro to Forestry	3	F,SP	W,SU	
MTH 111Z*	College Algebra	4	F,W,SP,SU	F,W,SP,SU	
MTH 112Z*	Elementary Functions	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
MTH 241*	Calculus for Management and Social Science	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
WR 121Z*	English Composition	4	F,W,SP,SU	F,W,SP,SU	Alpha-sectioned
<i>FE 102</i>	<i>Forest Engineering Problem-Solving and Technology</i>	3	W		
<b>Second Year Courses</b>					
BI 204* or BI 221*	Introductory Biology I Principles of Biology: Cells	4 4	 F,SU	F,W	 Ecampus only CH 231
FE 208	Forest Surveying	4	F	SP	MTH 112Z
FE 257	GIS and Forest Engineering Applications	3	W	F	
FES 241	Dendrology	3	F, SP	F,SP,SU	
PH 201*	General Physics I	5	F,SU	F	MTH 112Z
SOIL 205*	Soil Science	3	F,W,SP		
FOR 206*	Forest Soils Lab	1	SP		Take with SOIL 205
ST 243Z	Principles of Statistics	4	F,W,SP	F,W,SP,SU	
WR 227Z* or WR 362*	Technical Writing or Science Writing	4 3	F,W,SP	F,W,SP,SU F,W,SP,SU	WR 121Z WR 121Z
BA 315	<i>Accounting for Decision-Making</i>	4	W,SP	<i>F,W,Sp,SU</i>	<i>Soph Standing</i>
BA 330	<i>Legal Environment of Business</i>	4	W	<i>F,W,SP,SU</i>	<i>Soph Standing</i>
BA 260	<i>Introduction to Entrepreneurship</i>	4	F,W,SP	<i>F,W,Sp,SU</i>	<i>Soph Standing</i>

Note: At the end of the sophomore year students must apply to be admitted to the Forestry Professional Program (“Pro-School”). The courses above must all be completed with grades of C or better and a GPA of 2.25 or higher in order to be admissible to Pro-School for fall of the junior year.

Field School: Pro-School begins with the Forestry Field School prior to fall term of the junior year. It typically takes place in September – two weeks before the junior year begins.

**Pro-School Courses:** these courses must be completed with grades of C or higher. Courses in regular font are required for the Forestry major and *courses in italics are required for the Forest Management option*. \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>Third Year Courses</b>					
FE/FOR 312	Forestry Field School	2	F		Mid-September
FE 370	Harvesting Operations	4	F		C in PH 201
FE 434	Forest Watershed Management	4	F		Chem, Soil, Calc
FOR 321	Forest Mensuration	5	F		C in FES 241, FE 208, Calc, Stats
FOR 329	Forest Resource Economics I	4	W		ST 243Z, 314, or 351
FOR 332	Forest Resource Economics II	2	SP		FOR 329
FOR 442	Silviculture Reforestation	4	SP		Take with FOR 443
FOR 443	Silvicultural Practices	4	SP		Take with FOR 442
<i>FE 440</i>	<i>Forest Operations Analysis</i>	4	W		<i>FE 102 and FE 370</i>
<i>BA 351</i>	<i>Managing Organizations</i>	4	F,SP	F,W,SP,SU	
<i>BA 390</i>	<i>Principles of Marketing</i>	4	F,W,SP	F,W,Sp,SU	<i>Econ recommended</i>
<b>Fourth Year Courses</b>					
FE 444	Forestry Remote Sensing & Photogrammetry	4	F		FE 257, MTH 112Z, PH 201
FE/FOR 457	Techniques for Forest Resource Analysis	4	F		FOR 329, FOR 443
FE/FOR 459	Forest Management Planning & Design I	4	W		C in FOR 457
FOR 460^ or FE 460^	Forest Policy	4	W		
	Forest operations regulations & Policy Issues	3	F		
FOR 469	Forest Management Planning & Design I	4	SP		FOR 459
<i>BA 460 or</i> <i>BA 314</i>	<i>Venture Management</i>	4	F	W	<i>BA 260</i>
	<i>Sustainable Business Management</i>	4	SP	F,W,SP	
<i>FE 471</i>	<i>Harvesting Management</i>	3	SP		



**Baccalaureate Core:** Students must complete one course in each Bacc Core category. Some Bacc Core categories can be fulfilled by courses from the Forestry major. The chart below shows the overlap between Forestry requirements and the Bacc Core. A full listing of Bacc Core requirements can be found in the OSU Catalog (<https://catalog.oregonstate.edu/earning-degrees/bcc/>).

Title	Course	Cr.
Writing I	Fulfilled by WR 121Z	4
Writing II	Fulfilled by WR 227Z or WR 362	3
Speech	Fulfilled by COMM 111Z or COMM 114	3-4
Lifetime Fitness for Health	HHS 231	2
Fitness Activity	HHS 24X or PAC	1
Mathematics	Fulfilled by MTH 111Z, 112Z, or 241	4
Physical Science w/ Lab	Fulfilled by PH 201	5
Biological Science w/ Lab	Fulfilled by FES 240	4
Add'l Physical or Biological Sci w/ Lab	Fulfilled by CH 231 & 261	5
Cultural Diversity	Choose a course	3
Literature & Arts	Choose a course	3
Western Culture	Choose a course	3
Social Processes & Institutions	Fulfilled by ECON 201	4
Difference, Power, Discrimination	Choose a course	3
Contemporary Global Issues	Choose a course	3
Science, Technology, Society	Choose a course	3
Writing Intensive Course	Fulfilled by FE 460 or FOR 460	3-4

## Sample Course Plan – Forest Operations Management Option

This is a sample schedule. Actual schedules will vary from student to student based upon factors such as math placement and course availability. Students are strongly encouraged to create a personalized plan with their academic advisor.

# B.S. in Forestry

## Forest Operations Management Option | 2023-2024

	Fall		Winter		Spring	
<b>First Year</b>	FOR 111: Intro to Forestry MTH 111Z: College Algebra WR 121Z: English Composition I *Bacc Core – Western Culture Free Elective	3 4 4 3 1	FE 102: Forest Engr Problem Solving *MTH 112Z: Elementary Functions *CH 231 & 261: Gen Chemistry with lab *HHS 231: Fitness Lecture *PAC/HHS 24X: Fitness Activity	3 4 5 2 1-2	*FES 240: Forest Biology *MTH 241: Calc for Mgmt. & Social Sci. *ECON 201: Intro to Microeconomics *COMM 111Z/114: Communication	4 4 4 3-4
	Total Credits	15	Total Credits	15-16	Total Credits	15-16
<b>Second Year</b>	FE 208: Forest Surveying *PH 201: General Physics with lab BA 260: Intro to Entrepreneurship *BI 221: Principles of Biology: Cells	4 5 4 4	FE 257: GIS *WR 227Z: Technical Writing BA 315: Accounting for Decision Making Bacc Core – Difference, Power, Disc	3 4 4 3	ST 243Z: Principles of Statistics *SOIL 205: Soil Science *FOR 206: Soil Science Lab BA 330: Legal Environment of Business FES 241: Dendrology	4 3 1 4 3
	Total Credits	17	Total Credits	14	Total Credits	15
<b>Third Year</b>	FOR 321: Forest Mensuration FE 370: Harvesting Operations FE 434: Forest Watershed Mgmt. FOR 312: Forestry Field School	5 4 4 2	FOR 329: Forest Resource Economics I FE 440: Forest Operations Analysis BA 390: Principles of Marketing *Bacc Core – Science, Tech, Society	4 4 4 3	FOR 442: Silviculture Reforestation FOR 443: Silvicultural Practices BA 351: Managing Organizations FOR 332: Forest Res Economics II	4 4 4 2
	Total Credits	15	Total Credits	15	Total Credits	14
<b>Fourth Year</b>	FOR 457: Tech. for For. Res. Analysis FE 444: For Remote Sens & Photo Free Electives, if needed	4 4 8	FOR 460: Forest Policy FOR 459: Forest Mgmt. Plan & Design I BA 460: Venture Management or BA 314: Sustainable Business Ops *Bacc Core – Literature Arts	3-4 4 4 4 3	FOR 469: Forest Mgmt. Plan & Design II FE 471: Harvesting Management *Bacc Core – Contemp Global Issues *Bacc Core – Cultural Diversity Free electives, if needed	4 3 3 3 2
	Total Credits	16	Total Credits	14-15	Total Credits	15

## **Forest Restoration and Fire Option**

The Forest Restoration and Fire Option emphasizes active management to accommodate, prevent, mitigate and/or use forest disturbance processes as part of a forest management plan. Disturbance processes, such as wildfire, insect or disease outbreak, landslides, and windthrow, are important considerations in any actively managed forest, regardless of the specific management objective. In forests managed primarily for wood production, where the predominant disturbance is harvest, “natural” disturbance may pose risk of damage to timber values and disturbance management is primarily preventative. Where management objectives include recreation, biodiversity, restoration to historical conditions, or other ecosystem services, these disturbances may have beneficial outcomes; hence, management may include use of disturbance as a management tool or simply as part of a renewal process in a resilient and diverse forested landscape.

The Forest Restoration and Fire option is intended to provide students with the knowledge and skillset to incorporate natural processes, including disturbance, explicitly into forest management planning (whether it be to prevent or mitigate damage resulting from disturbance or to use disturbance processes purposefully to achieve management objectives). This knowledge/skillset is particularly important for managing forests at the landscape scale and in the face of uncertainty and rapid change (e.g. in climate or in land use patterns).

### **Forest Restoration and Fire Option Learning Outcomes**

Specific learning outcomes for the Forest Restoration and Fire option are:

1. Demonstrate ability to develop management responses to natural disturbance on forested landscapes such as wildland fire, insect infestation, windstorm, and disease and to use disturbance as an active management tool in an era of rapid change (e.g. climate change, land use change).
2. Demonstrate knowledge of natural processes in forests, including vegetation growth, wildfire, windthrow, insects and disease, and the ability to use these models of these processes correctly to forecast impacts of disturbance on forests and outcomes of management activities.
3. Demonstrate an understanding of the role of active adaptive management on forested landscapes when outcomes are uncertain.
4. Demonstrate ability to account for risk and uncertainty in forest management decision processes.
5. Demonstrate an understanding of the management of ecosystems in an era of rapid change including change in climate patterns, land use patterns, and political and social institutions.
6. Demonstrate an understanding of the institutional and economic context in which policy for managing forest disturbance has evolved in the U.S. and elsewhere.
7. Develop skills to facilitate negotiation among stakeholders for collaborative cooperation and management of natural disturbance on forested landscapes, particularly across institutions and property boundaries.

## Forest Restoration and Fire Option - Curriculum

**Degree requirements:** To earn the B.S. in Forestry with the Forestry Restoration & Fire Option, students must complete:

- All Pre-Forestry and Pro-School courses with grades of C or higher
- All courses for the Forest Restoration & Fire option with grades of C or higher
- All courses for OSU's Baccalaureate Core
- Any additional electives necessary to achieve 180 total credits
- Complete at least 6 months of relevant work experience

**Pre-Forestry Courses:** these courses must be completed with grades of C or higher before students enter the professional program. Courses in regular font are required for the Forestry major and *courses in italics are required for the Forest Restoration & Fire option*. \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>First Year Courses</b>					
AEC 250* or ECON 201*	Intro to Environmental Economics and Policy	4	W,SP	F,W,SP,SU	MTH 111Z Rec.
	Intro to Microeconomics	4	F,W,SP	F,W,SP,SU	MTH 111Z Rec.
CH 231*	General Chemistry	4	F,W	SU	MTH 111Z Take with CH 261
CH 261*	Laboratory for CH 231	1	F,W,SU		Take with CH 231
COMM 111Z* or COMM 114*	Public Speaking	4	F,W,SP,SU	F,W,SP,SU	
	Argument and Critical Discourse	3	F,W,SP	F,W,SP,SU	
FES 240*	Forest Biology	4	F,SP	F,SP,SU	
FOR 111	Intro to Forestry	3	F,SP	W,SU	
MTH 111Z*	College Algebra	4	F,W,SP,SU	F,W,SP,SU	
MTH 112Z*	Elementary Functions	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
MTH 241*	Calculus for Management and Social Science	4	F,W,SP,SU	F,W,SP,SU	MTH 111Z
WR 121Z*	English Composition	4	F,W,SP,SU	F,W,SP,SU	Alpha-sectioned
<i>FOR 112</i>	<i>Computing Applications in Forestry</i>	3	<i>W,SP</i>		
<b>Second Year Courses</b>					
BI 204* or BI 221*	Introductory Biology I	4		F,W	Ecampus only
	Principles of Biology: Cells	4	F,SU		CH 231
FE 208	Forest Surveying	4	F	SP	MTH 112Z
FE 257	GIS and Forest Engineering Applications	3	W	F	
FES 241	Dendrology	3	F, SP	F,SP,SU	
PH 201*	General Physics I	5	F,SU	F	MTH 112Z
SOIL 205*	Soil Science	3	F,W,SP		
FOR 206*	Forest Soils Lab	1	SP		Take w/ SOIL 205
ST 243Z	Principles of Statistics	4	F,W,SP	F,W,SP,SU	
WR 227Z* or WR 362*	Technical Writing or Science Writing	4	F,W,SP	F,W,SP,SU	WR 121Z
		3		F,W,SP,SU	WR 121Z
<i>ATS 201</i>	<i>Climate Science</i>	4	<i>F,W,SP</i>	<i>F,W,SP,SU</i>	
<i>FOR 346</i>	<i>Topics in Wildland Fire</i>	3	<i>SP</i>	<i>W,SP</i>	

Note: At the end of the sophomore year students must apply to be admitted to the Forestry Professional Program ("Pro-School"). The courses above must all be completed with grades of C or better and a GPA of 2.25 or higher in order to be admissible to Pro-School for fall of the junior year.

Field School: Pro-School begins with the Forestry Field School prior to fall term of the junior year. It typically takes place in September – two weeks before the junior year begins.



**Pro-School Courses:** these courses must be completed with grades of C or higher. Courses in regular font are required for the Forestry major and *courses in italics are required for the Forest Restoration @ Fire option.* \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>Third Year Courses</b>					
FE/FOR 312	Forestry Field School	2	F		Mid-September
FE 370	Harvesting Operations	4	F		PH 201
FE 434	Forest Watershed Management	4	F		Chem, Soil, Calc
FOR 321	Forest Mensuration	5	F		FES 241, FE 208, Calc, Stats
FOR 329	Forest Resource Economics I	4	W		ST 243Z
FOR 332	Forest Resource Economics II	2	SP		FOR 329
FOR 442	Silviculture Reforestation	4	SP		Take with FOR 443
FOR 443	Silvicultural Practices	4	SP		Take with FOR 442
<i>FES 341</i>	<i>Forest Ecology</i>	3	<i>F, W</i>	<i>F,W,SP</i>	<i>FES 240</i>
<i>FES 485*</i>	<i>Consensus @ Natural Resources</i>	3	<i>F, W</i>	<i>F,W,SP,SU</i>	
<i>FOR 322</i>	<i>Forest Models</i>	3	<i>W</i>		<i>FOR 321, MTH241, ST 243Z</i>
<i>FES/FW 445</i>	<i>Ecological Restoration</i>	4	<i>F,SP</i>	<i>F,W,SP,SU</i>	
<b>Fourth Year Courses</b>					
FE 444	Forestry Remote Sensing & Photogrammetry	4	F		FE 257, MTH 112Z, PH 201
FE/FOR 457	Techniques for Forest Resource Analysis	4	F		FOR 329, FOR 443
FE/FOR 459	Forest Management Planning & Design I	4	W		FOR 457
FOR 460^ or FE 460^	Forest Policy	4	W		
	Forest operations regulations & Policy Issues	3	F		
FOR 469	Forest Management Planning & Design I	4	SP		FOR 459
<i>FE 436</i>	<i>Forest Disturbance Hydrology</i>	3	<i>W</i>		<i>FE 434</i>
<i>FES 412</i>	<i>Forest Entomology</i>	3	<i>SP</i>		<i>BI 221</i>
<i>FES 440</i>	<i>Wildland Fire Ecology</i>	3	<i>W</i>	<i>W,SP</i>	
<i>FOR 413</i>	<i>Forest Pathology</i>	3	<i>W</i>		<i>BI 221</i>
<i>FOR 431</i>	<i>Economics @ Policy of Forest Wildland Fires</i>	3		<i>SP</i>	<i>AEC 250 or ECON 201</i>
<i>FOR 436</i>	<i>Wildland Fire Science @ Management</i>	4	<i>F</i>	<i>F,W</i>	

**Baccalaureate Core:** Students must complete one course in each Bacc Core category. Some Bacc Core categories can be fulfilled by courses from the Forestry major. The chart below shows the overlap between Forestry requirements and the Bacc Core. A full listing of Bacc Core requirements can be found in the OSU Catalog (<https://catalog.oregonstate.edu/earning-degrees/bcc/>).

Title	Course	Cr.
Writing I	Fulfilled by WR 121Z	4
Writing II	Fulfilled by WR 227Z or WR 362	3-4
Speech	Fulfilled by COMM 111Z or COMM 114	3-4
Lifetime Fitness for Health	HHS 231	2
Fitness Activity	HHS 24X or PAC	1
Mathematics	Fulfilled by MTH 111Z, 112Z, or 241	4
Physical Science w/ Lab	Fulfilled by PH 201	5
Biological Science w/ Lab	Fulfilled by FES 240	4
Add'l Physical or Biological Sci w/ Lab	Fulfilled by CH 231 & 261	5
Cultural Diversity	Choose a course	3
Literature & Arts	Choose a course	3
Western Culture	Choose a course	3
Social Processes & Institutions	Fulfilled by ECON 201 or AEC 250	4
Difference, Power, Discrimination	Choose a course	3
Contemporary Global Issues	Choose a course	3
Science, Technology, Society	Fulfilled by FES 485	3
Writing Intensive Course	Fulfilled by FE 460 or FOR 460	3-4

## Sample Course Plan – Forest Restoration & Fire Option

This is a sample schedule. Actual schedules will vary from student to student based upon factors such as math placement and course availability. Students are strongly encouraged to create a personalized plan with their academic advisor. *Courses in italics also fulfill Baccalaureate Core requirements.*

# B.S. in Forestry

## Forest Restoration & Fire Option | 2023-2024

	Fall		Winter		Spring	
<b>First Year</b>	FOR 111: Intro to Forestry	3	<i>FOR 112: Computing Applications</i>	3	*FES 240: Forest Biology	4
	MTH 111Z: College Algebra	4	*MTH 112Z: Elementary Functions	4	*MTH 241: Calc for Mgmt. & Social Sci.	4
	WR 121Z: English Composition I	4	*CH 231 & 261: Gen Chemistry with lab	5	*ECON 201/AEC 250: Economics	4
	*Bacc Core—Western Culture	3	*HHS 231: Fitness Lecture	2	*COMM 111Z/114: Communication	3-4
			*PAC/HHS 24X: Fitness Activity	1-2		
	Total Credits	14	Total Credits	15-16	Total Credits	15-16
<b>Second Year</b>	FE 208: Forest Surveying	4	FE 257: GIS	3	ST 243Z: Principles of Statistics	4
	*PH 201: General Physics with lab	5	*WR 227Z: Technical Writing	4	*SOIL 205: Soil Science	3
	*BI 221: Principles of Biology: Cells	4	<i>ATS 201: Climate Science</i>	4	*FOR 206: Soil Science Lab	1
	*Bacc Core: Cultural Diversity	3	*Bacc Core – Difference, Power, Disc.	3	<i>FOR 346: Topics in Wildland Fire</i>	3
			Free elective, if needed	1	FES 241: Dendrology	3
	Total Credits	16	Total Credits	15	Total Credits	14
<b>Third Year</b>	FOR 321: Forest Mensuration	5	<i>FOR 322: Forest Models</i>	3	FOR 442: Silviculture Reforestation	4
	FE 370: Harvesting Operations	4	FOR 329: Forest Resource Economics I	4	FOR 443: Silvicultural Practices	4
	FE 434: Forest Watershed Mgmt.	4	*FES 485: <i>Consensus @ Nat Resources</i>	3	<i>FES 445: Ecological Restoration</i>	4
	<i>FES 341: Forest Ecology</i>	3	*Bacc Core – Literature & Arts	3	FOR 332: Forest Res. Economics II	2
	FOR 312: Forestry Field School	2	Free elective, if needed	2	Free elective, if needed	1
	Total Credits	18	Total Credits	15	Total Credits	15
<b>Fourth Year</b>	FOR 457: Tech. for For. Res. Analysis	4	<i>FE 436: Forest Disturbance Hydrology</i>	3	FOR 469: For Mgmt. Plan & Design II	4
	FE 460: Forest Ops Regs & Policy	3	<i>FES 440: Wildland Fire Ecology</i>	3	<i>FOR 431: Econ @ Pol of Disturb Mgmt</i>	3
	<i>FOR 436: Wildland Fire Sci @ Mgmt</i>	4	<i>FOR 413: Forest Pathology</i>	3	<i>FES 412: Forest Entomology</i>	3
	FE 444: For Remote Sens & Photo	4	FOR 459: Forest Mgmt. Plan & Design I	4	*Bacc Core – Contemp Global Issues	3
			Free Elective, if needed	2	Free Elective, if needed	1
	Total Credits	15	Total Credits	15	Total Credits	14



## Advising and Assistance

The College of Forestry is committed to helping students succeed. The Forestry Academic Advisor and the COF Head Advisor are your first points of contact when you have questions.

This advising guide provides details of the Forestry program not listed in the University Catalog, and helpful suggestions for your success as a student. Your advisor is also an invaluable resource for discussions about options to add extra value to your education through additional coursework, minors, additional degrees, or co-curricular experiences.

The most current advising information, and appointment scheduling, is available online:  
[forestry.oregonstate.edu/student-services/advising](https://forestry.oregonstate.edu/student-services/advising)

### Who:

 <p><b>Ruth Sterner</b> Academic Advisor Forestry Peavy 116 -J 541-737-6548 <a href="mailto:ruth.sterner@oregonstate.edu">ruth.sterner@oregonstate.edu</a></p>	 <p><b>Nicole Kent</b> Head Advisor College of Forestry Peavy 116 -H 541-737-1592 <a href="mailto:nicole.kent@oregonstate.edu">nicole.kent@oregonstate.edu</a></p>
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### What:

You can expect your advising appointments to be 30 minutes of one-on-one time with your academic advisor. You and your advisor will both prepare in advance—reviewing your MyDegrees, preparing questions, and looking ahead. During your appointment, you will review your progress to date, make course plans for the upcoming term(s), discuss opportunities and resources pertinent to your goals, and track your progress toward graduation. While your advisor is here to assist and guide you, your educational choices are yours to make. We advise and you decide.

### When:

COF students are required to meet with their academic advisor at least once per quarter, and are welcome to meet more often. It's always okay to call, email, or drop in with questions.

### How:

The easiest way to schedule your advising appointment is using your advisor's online calendar:  
[forestry.oregonstate.edu/student-services/advising](https://forestry.oregonstate.edu/student-services/advising)



## Forestry Program Structure

The Bachelor of Science in Forestry is offered through a two-phase curriculum that begins with two years of pre-professional coursework, followed by two years of professional coursework (“Pro-School”). Admission to the pro-school program is based on successful completion of all the pre-forestry coursework prior to fall term of the junior year. Enrollment in Forestry pro-school courses is restricted to those students who have been admitted to the professional program.



To be eligible for admission to Forestry Pro-School, students must earn:

1. a grade of C or better in all courses for the major required for entry into the professional program. Grade repeat (replacement) policy will follow OSU Academic Regulation #20.
2. a minimum GPA of 2.25 in the required courses (or transfer equivalents).

Application for the professional program will be available on the College of Forestry website in March. Applications will be due in early April, and applicants will be notified of their status by early May. The number of students admitted to the program is determined based on available resources. Students meeting the minimum pre-Forestry GPA of 2.25 may or may not be admitted depending on available resources.

## Requirements for Graduation

In addition to the University and degree program requirements, students in the College of Forestry (COF) professional forestry programs must also meet specific requirements to graduate.

All students pursuing the BS in Forestry:

1. must earn grades of C or better in all required professional forestry major courses and;
2. must maintain a 2.0 GPA in all major course work.
3. minimum credits required for graduation is 180.

**S/U Grading** — Students majoring in Forestry may not take for S/U (Satisfactory/Unsatisfactory) grading any course listed as a requirement for the major or option. This includes approved substitutions. Baccalaureate core courses (specifically *Western Culture, Cultural Diversity, Literature Arts, and Difference/Power/Discrimination*) may be taken S/U unless they are also being used to fulfill a program requirement.

**Speech** — College of Forestry students are required to take COMM 111Z or 114 to fulfill the Speech Baccalaureate Core requirement. COMM 111Z or 114 cannot be taken for S/U (Satisfactory/ Unsatisfactory) grading.

**Grades of C or better must be earned** in all required courses (or approved substitutions) for majors and options in forestry degree programs.

**Approved Work Experience.** Six months of work experience is required in all College of Forestry professional forestry undergraduate degree programs.

**Credit Hour Requirement** – A minimum of 180 credits are required to complete the Forestry degree. In addition to completing major requirements and Baccalaureate Core courses, students may need to complete additional elective courses to reach the 180 credit minimum.