

# Forest Management



## Undergraduate Studies 2009-2010

College of Forestry – Oregon State University – Corvallis, Oregon

Rev 6/16/2009

DISCLAIMER: Content in this guide is continually updated.  
Check the web frequently for current course information at <http://catalog.oregonstate.edu/>



## **Advising Rights and Responsibilities**

The College of Forestry is committed to helping students succeed. Each student is assigned an advisor within their academic department to assist with appropriate course selection, explain program options in line with student interests, and provide information about mentoring and other professional opportunities. In addition, advising personnel in the College Student Services office are a valuable resource for information and assistance regarding University rules and regulations, petitions, job placement, national and international exchange programs, and referrals to University programs and resources.

The advising effort is one of mutual respect and collaboration between you and your advisor. If the process is to be effective both you and your advisor must meet certain obligations. With that in mind, here are some key responsibilities for your relationship.

### **As an advisee, you should:**

- Understand and accept that you are ultimately responsible for your education and your own decisions.
- See your advisor each term to receive your registration PIN. You will need a new PIN each term.
- Be prepared when you come to advising sessions; be active in your advising session and ask questions when you have them.
- Provide accurate and truthful information when being advised.
- Initiate a purposeful relationship with your advisor and make appointments when necessary or when in need of assistance.
- Keep your local address and phone up to date in Student Online Services and utilize and regularly check your ONID account.
- Call to cancel appointments that cannot be kept.
- Learn and understand OSU's policies, procedures, and requirements as they relate to your academic success and/or degree completion.
- Follow through on plans-of-action identified during advising sessions.

### **Advisors should:**

- Develop a purposeful relationship with and be an advocate for their advisees.
- Inform students of the nature of the advisor/advisee relationship.
- Assist students in defining and developing educational, career, and life plans.
- Provide timely and accurate educational information.
- Promote learning opportunities that will help students define or meet personal goals.
- Assist students in preparing a program that is consistent with their abilities and interests.
- Monitor progress toward educational/career goals.
- Interpret and provide rationale for institutional policies, procedures and requirements.
- Inform students of campus resources that can enhance or supplement their academic or personal experience.

## Requirements for Graduation

In addition to the University and degree program requirements, students in the College of Forestry must also meet specific requirements to graduate. Unless noted, the following apply to all undergraduate programs in the College of Forestry.

- **S/U Grading** – Students majoring in any of the College of Forestry degree programs may not take for S/U grading (Satisfactory/Unsatisfactory) any course listed as a requirement for the major, or for a minor or option. This includes approved substitutions. Baccalaureate core courses may be taken S/U unless they are also being used to fulfill a program requirement.  
*Note: The Natural Resources Program allows up to two S/U graded courses in the core, breadth, or option. See your Advisor for approval.*
- **Writing III (Speech)** – As a College of Forestry student, COMM 111 or 114 is required to fulfill your Writing III (Speech) Baccalaureate Core requirement. COMM 111 or 114 cannot be taken as S/U grading (Satisfactory/Unsatisfactory).  
*Note: COMM 218 does not meet the College speech requirement. While strongly encouraged, the Natural Resources degree program does not require the Writing III be fulfilled with COMM 111 or 114.*
- **Grades of “C-” or better must be earned** in all required Forestry (FE, FOR, FS, WSE) courses (or approved substitutions) for majors, minors and options in College of Forestry degree programs.  
*Note: “C-” or better must be earned in upper-division core and breadth courses for Natural Resources majors.*
- **Approved Work Experience.** Six months of work experience is required in all College of Forestry undergraduate degree programs with the exception of Natural Resources and Tourism & Outdoor Leadership. See your advisor for information.

## **B.S. in Forest Management**

The Bachelor of Science degree in Forest Management carries the Society of American Foresters' accreditation of Professional Foresters. Approximately 60 undergraduate students are currently enrolled in the program and over a dozen faculty work directly with students in classes, field labs, and college activities.

The Forest Management profession requires an understanding of natural resource systems and the management of forest resources for multiple uses. The core curriculum is a broad-based education which includes basic courses in the biological, physical, social sciences, as well as professional courses and 6 months of work experience designed to prepare students to manage forest resources. Strength in a specific area is obtained by selecting an option in one of the following areas and serves to fulfill the 180 credits for graduation:

- Forest Ecosystem Science
- Forest Environmental Consultation
- Human-Forest Interactions
- International Forestry
- Plantation Silviculture
- Restoration of Forest Landscapes
- Wildland Fire Management

Graduates are employed by private and public organizations. The private sector includes the forest timber and products industry, forestry consulting firms, 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. Successful Forest Managers must communicate with others and make decisions based on the biological processes of the forest, as well as the social and economic forces that influence forest policies.

All students pursuing the BS in Forest Management are required to earn a grade of "C-" or better in the required courses taught within the College of Forestry or their approved substitutes taught elsewhere.

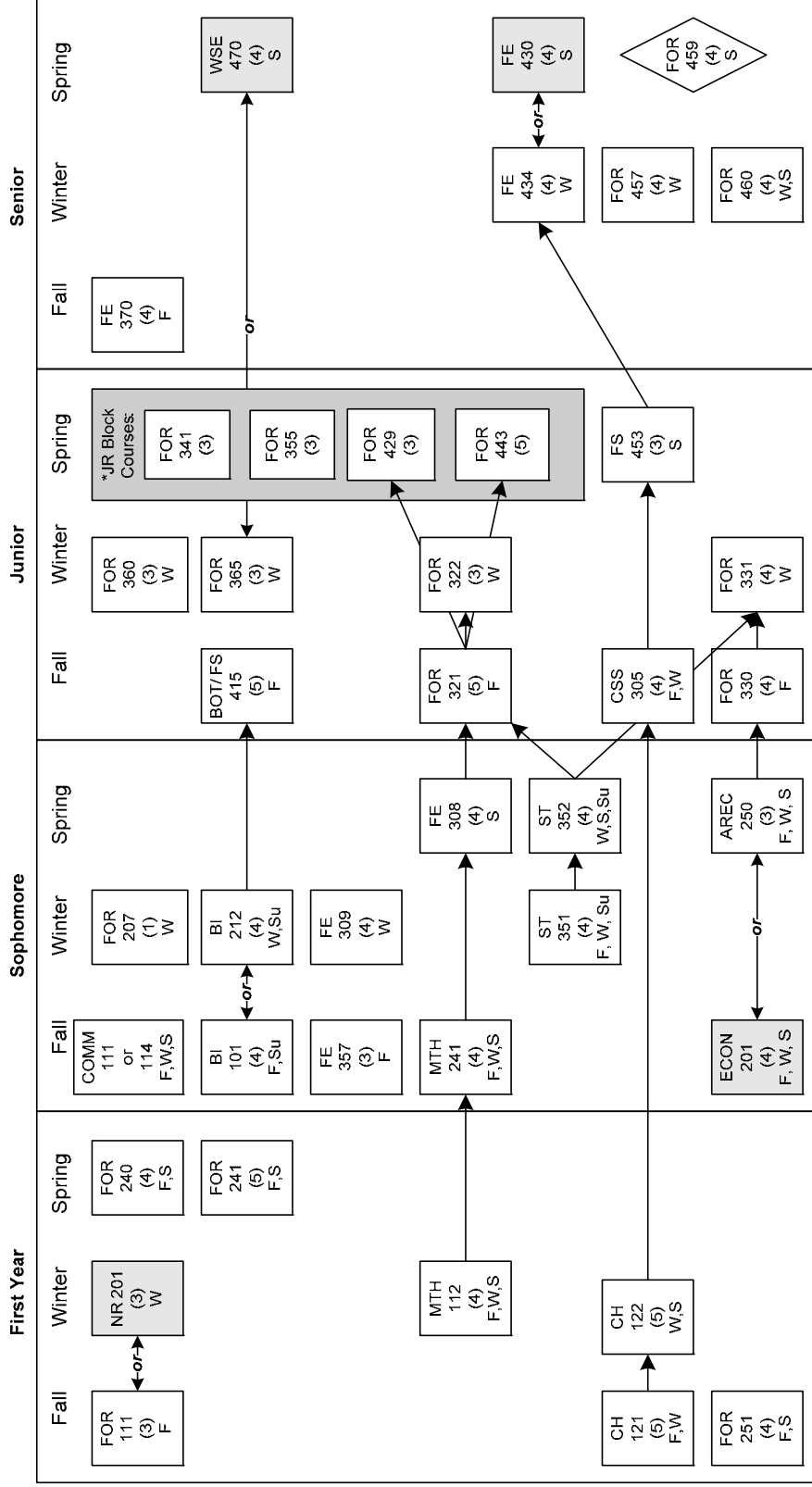
# Forest Management Curriculum 2009-2010 rev 6/2009

<u>Year</u>	<u>Course</u>	<u>Title</u>	<u>Credits</u>
<b>Freshman</b>	CH 121, 122	General Chemistry (BCC: Perspectives-Physical Sci.)	10
	FOR 111 or NR 201	Intro. to Forestry or Managing Natural Resources for the Future (3)	3
	FOR 240	Forest Biology (BCC: Perspectives-Biological Sciences)	4
	FOR 241	Dendrology	5
	FOR 251	Recreation Resource Management	4
	MTH 112	Elementary Functions	4
		Lifetime Fitness for Health (BCC: Skills)	2
		Fitness Lab (BCC: Skills, various activities)	1
		Writing I, II (BCC: Skills)	6
		<b>Total</b>	<b>39</b>
	<b>Sophomore</b>	AREC 250 or ECON 201	Intro. to Environmental Economics & Policy or Intro. to Microeconomics (4) (BCC: Soc. Proc. & Inst.)
BI 101 or BI 212		General Biology (BCC: Perspectives-Biological Sciences) or Principles of Biology (4)	4
COMM 111 or COMM 114		Public Speaking or Argument & Critical Discourse (3) (BCC: Writing III)	3
FE 308		Forest Surveying	4
FE 309		Forest Photogrammetry	4
FE 357		GIS and Forest Engineering Applications	3
FOR 207		Career Development	1
MTH 241		Calculus for Management and Social Science	4
ST 351, 352		Intro. to Statistical Methods	8
		BCC Perspectives (Literature & Arts, Diversity, Power, & Discrim)	6
		BCC Perspectives (Science, Technology, & Society)	3
		Electives	3
		<b>Total</b>	<b>46</b>
<b>Junior</b>		BOT/FS 415	Forest Insect and Disease Management
	CSS 305	Principles of Soil Science	4
	FOR 321	Forest Mensuration	5
	FOR 322	Forest Models	3
	FOR 330, 331	Forest Resource Economics I, II	8
	FOR 341	Forest Ecology	3
	FOR 355	Management for Multiple Resource Values	3
	FOR 360	Collaboration and Conflict Management	3
	FOR 365 or WSE 470	Issues in NR Conservation or Forests, Wood & Civilization (3) (BCC: Synthesis)	3
	FOR 429	Integrated Prescriptions	3
	FOR 443	Silvicultural Practices	5
	FS/FW 453	Forest Management & Wildlife Conservation	3
		<b>Total</b>	<b>48</b>
<b>Senior</b>	FE 370	Harvesting Operations	4
	FE 434 or FE 430	Watershed Processes or Forest Watershed Mgmt. (4)	4
	FOR 457	Techniques for Forest Resource Analysis	4
	FOR 459	Forest Resource Planning and Decision Making	4
	FOR 460	Forest Policy (Writing Intensive Course)	4
		BCC Perspectives (Western Culture, Cultural Diversity)	6
		Selected Option	21
	<b>Total</b>	<b>47</b>	
	<i>Plus 6 months of work experience</i>		
	<b>Program Total</b>	<b>180</b>	

# FOREST MANAGEMENT CORE CURRICULUM 2009-2010 – Recommended Sequence

Hours: 180 (Baccalaureate Core Curriculum + FM Core Curriculum + Option)

Key: Arrows indicate Prerequisite Course (#) = Course Credits  
\* Junior Block courses are all corequisites



## BACCALAUREATE CORE CURRICULUM (Arrange around core courses above)

<b>Perspectives:</b> (27 credits)	Physical Science Including lab (4) (Satisfied by CH 122)	Biological Science Including lab (8) (BI 101/212/102/213, FOR 240)	Western Culture (3)	Cultural Diversity (3)	Literature & Arts (3)	Social Processes & Institutions (3) (ECON 201 or AREC 250)	Six months work experience required for FM majors, usually done over two summers.
<b>Skills:</b> (15 credits)	Writing 1 WR 121 (3)	Speech (3) (Satisfied by COMM 111 or 114)	Mathematics (3) (Satisfied by MTH 241)	Lifetime Fitness (3)			
<b>Synthesis:</b> (6 credits)	Contemporary Global Issues (3) (Satisfied by FOR 365/WSE 470)	Science, Technology, & Society (3)	Writing Intensive Course (WIC) (4) (Satisfied by FOR 460)				

OPTION (21 credits):

# Forest Management Checklist 2009-2010 rev 5/2009

Name: \_\_\_\_\_

Advisor: \_\_\_\_\_

OSU ID: \_\_\_\_\_

## Core Curriculum

<u>Grade</u>	<u>Term &amp; Year</u>	<u>Class</u>
_____	_____	AREC 250 (3)
_____	_____	or ECON 201 (4)
_____	_____	BI 101 (4)
_____	_____	or BI 212 (4)
_____	_____	BOT/FS 415 (5)
_____	_____	CH 121 (5)
_____	_____	CH 122 (5)
_____	_____	COMM 111 (3)
_____	_____	or COMM 114 (3)
_____	_____	CSS 305 (4)
_____	_____	FE 308 (4)
_____	_____	FE 309 (4)
_____	_____	FE 357 (3)
_____	_____	FE 370 (4)
_____	_____	FE 434 (4)
_____	_____	or FE 430 (4)
_____	_____	FOR 111 (3)
_____	_____	or NR 201 (3)
_____	_____	FOR 207 (1)
_____	_____	FOR 240 (4)
_____	_____	FOR 241 (5)
_____	_____	FOR 251 (4)
_____	_____	FOR 321 (5)
_____	_____	FOR 322 (3)
_____	_____	FOR 330 (4)
_____	_____	FOR 331 (4)
_____	_____	FOR 341 (3)
_____	_____	FOR 355 (3)
_____	_____	FOR 360 (3)
_____	_____	FOR 365 (3)
_____	_____	or WSE 470 (3)
_____	_____	FOR 429 (3)
_____	_____	FOR 443 (5)
_____	_____	FOR 457 (4)
_____	_____	FOR 459 (4)
_____	_____	FOR 460 (4)
_____	_____	FS/FW 453 (3)
_____	_____	MTH 112 (4)
_____	_____	MTH 241 (4)
_____	_____	ST 351 (4)
_____	_____	ST 352 (4)

## Baccalaureate Core

<u>Grade</u>	<u>Term &amp; Year</u>	<u>Class</u>
<b>SKILLS (15)</b>		
_____	_____	Writing I (3) (satisfied by WR 121)
_____	_____	Writing II (3)
_____	_____	Speech (3) (satisfied by COMM 111 or 114)
_____	_____	Math (3) (satisfied by MTH 241)
_____	_____	Lifetime Fitness (2)
_____	_____	Fitness Lab (1)
<b>PERSPECTIVES (28)</b>		
_____	_____	Physical Science (including lab) (5) (satisfied by CH 122)
_____	_____	Biological Science (including lab) (4) (satisfied by BI 101 or 212)
_____	_____	Physical/Biological Science (incl. lab) (4) (satisfied by FOR 240)
_____	_____	Western Culture (3)
_____	_____	Cultural Diversity (3)
_____	_____	Literature and the Arts (3)
_____	_____	Social Processes and Institutions (3) (satisfied by AREC 250 or ECON 201)
_____	_____	Difference, Power & Discrimination (3)
<b>SYNTHESIS (6)</b>		
_____	_____	Contemporary Global Issues (3) (satisfied by FOR 365 or WSE 470)
_____	_____	Science, Technology & Society (3)
<b>WIC (4)</b>		
_____	_____	Satisfied by FOR 460 (4)
<b>SELECTED OPTION</b>		
<b>ADDITIONAL REQUIREMENTS</b>		
_____	_____	Work Experience (3 months)
_____	_____	Work Experience (3 months)
<b>ELECTIVE COURSE (3)</b>		
_____	_____	_____

## Options for Forest Management rev 6/2009

Students are required to complete an option as part of your Forest Management degree program. Options in our curriculum are structured to help students develop expertise in a discipline related to forestry. Recent revisions have been made to meet the needs and challenges of the 21<sup>st</sup> century.

Options officially consist of a minimum of 21 designated quarter credits of related course work, 15 of which must be at the upper division level. Courses required for an option may not count towards a minor (not required). Students may not take an option and a minor from the same field of study.

The options listed in the following pages have been developed in cooperation with other academic departments. Courses required are in addition to the core curriculum. Some courses may require prerequisites not included in the core curriculum, and/or courses not listed for the option.

Students who wish to design their own option must present their proposal to the advisor for approval.

### *Forest Ecosystem Science*

The intent of this option is to increase a student's understanding of how forest ecosystems function. Students with approval from their academic advisor will select at least **21** credits from the following course list.

Course	Term	Title	Credit
ATS 210	F, W	Introduction to the Atmospheric Sciences	3
FOR/RNG 436	F	Wildland Fire Science and Management	4
or FOR/FW/RNG 446	W	or Wildland Fire Ecology	3
FOR/FW 445	S	Ecological Restoration <i>[BI 370 or instructor approval]</i>	4
FW 479	DE	Wetlands and Riparian Ecology <i>[BI 370 or BI 371]</i>	3
or RNG 455	S	or Riparian Ecology and Management <i>[RNG 355]</i>	3
<b>Select at least 8 credits from the following:</b>			
BOT 321	S	Plant Systematics <i>[BI 213]</i>	4
BOT 425	S	Flora of the Pacific Northwest <i>[BOT 321 or equivalent]</i>	3
<del>BOT 442</del>		<del>Plant Population Ecology <i>[BOT 341 or equivalent]</i></del>	<del>3</del>
CSS 440	F	Weed Management <i>{see prereqs.}</i>	4
CSS 466	S	Soil Morphology and Classification <i>[CSS 305]</i>	4
FOR 421	F	Advanced GIS Applications in Forestry <i>{GIS or Equiv}</i>	3
FOR 448	S	Management of Large Forested Landscapes <i>{silviculture crs}</i>	3
<del>RNG 450</del>	<del>W</del>	<del>Landscape Ecology and Analysis <i>[RNG 341 or Equiv]</i></del>	<del>3</del>
<b>Total</b>			<b>21</b>

### ***Forest Environmental Consultation***

The intent of this option is to help prepare students to serve as consultants on forest environmental issues such as preparation of Environmental Assessments for the federal government, Endangered Species Act compliance, land-use plans for private landowners, and habitat plans for landowners who wish to emphasize environmental benefits.

Course	Term	Title	Credit
AREC 432	S	Environmental Law	4
FE 460	W	Forest Operations Regulations & Policy Issues	3
FW 479	F	Wetlands and Riparian Ecology <i>[taught alternate years]</i> <i>{BI 370 or BI 371}</i>	3
<b>Select at least 11 credits from the following:</b>			
<del>FOR 420</del>		<del>Advanced Aerial Photos and Remote Sensing <i>[inactive]</i></del>	<del>3</del>
or FOR 421	F	or Spatial Analysis of Forested Landscapes	3
or GEO 465	W	or Geographic Information Systems and Science	4
CSS/GEO 335	F	Introduction to Water Science and Policy	3
FOR 445	S	Ecological Restoration	4
FOR/FW/RNG 446	W	Wildland Fire Ecology	3
FOR 448	S	Management of Large Forested Landscapes <i>{even years}</i>	3
FOR 454	F	Managing at the Wildland-Urban Interface	3
FW 350	F, S	Endangered Species, Society and Sustainability <i>{FW 251}</i>	3
FW 458	S	Management of Big Game Animals	4
GEO 423	F	Land Use	3
WR 327	F,W,S	Technical Writing <i>{WR 121 or placement test}</i>	3
WSE 210	W	Wood Technology and Utilization	4
		<b>Total</b>	<b>21</b>

### ***Human-Forest Interactions***

This option will broaden a student's perspective on the interactions between human communities, forest resources, and the agencies responsible for management of public lands. It will focus on developing a better understanding of public values for natural resources and how to communicate more effectively with citizens. The intent is to improve decision-making skills for individuals working in the public arena.

Course	Term	Title	Credit
ANTH 481	DE	Natural Resources and Community Values	3
COMM 324	F,W	Communication in Organizations	3
FOR 391	F	Natural Resource Communications	3
FOR 422	W	Research Methods in Social Science <i>{FOR 251 and ST 351}</i>	4
<b>Select at least 7 credits from the following:</b>			
COMM 218	F,W,S	Interpersonal Communication	3
FOR 332	F	<del>Risk &amp; Decision Making for NR Mgt</del> <del><i>{ST 351 &amp; MTH 245 &amp; AREC 250 or ECON 204}</i></del>	<del>3</del>
FOR 365	W	Issues in Natural Resources Conservation	3
FOR 448	S	Management of Large Forested Landscapes	3
FOR 453	F	Nature-Based Tourism	3
FOR 454	F	Managing at the Wildland-Urban Interface	3
FOR 493	W	Environmental Interpretation <i>{FOR 391 concurrently}</i>	4
PHL 443	F,W,S	World Views and Environmental Values	3
PS 474	W	<del>Natural Resource Policy &amp; Bureaucratic Politics</del>	<del>4</del>
PS 475	Su, F, S	Environmental Politics and Policy <i>{PS 201 or instructor approval}</i>	4
SOC 481	W	Society and Natural Resources <i>{SOC 204}</i>	4
		<b>Total</b>	<b>21</b>

### ***International Forestry***

This option will broaden a student's perspective on global issues related to forestry and the practice of forestry in other parts of the world. The intent is to provide students interested in pursuing careers in forestry and related fields with the foundation necessary for more effective understanding of global issues or to poise themselves for international positions. An integral part of the option is international experience and coursework taken at an institution in another country. In addition to the 6 required credits allocated for regional forestry courses taken in another country, it is anticipated that students will substitute classes in the curriculum for courses at another institution. The College of Forestry International Programs Office will maintain a list of approved substitutions for selected international universities.

Course	Term	Title	Credit
FOR 456	S	International Forestry	3
RNG 477	W	Agroforestry	3
<i>Regional forestry related courses taken at an institution in another country</i>			6
<b>Select at least 9 credits from the following:</b>			
AREC/HORT 438	S	Exploring World Agriculture <i>(not offered every year)</i>	2
CSS 330	W	World Food Crops <i>(CSS 200 recommended)</i>	3
CSS 395	DE	World Soil Resources	3
FOR 448	S	Management of Large Forested Landscapes	3
FOR 453	F	Nature-Based Tourism	3
PHL 443	F,W,S	World Views and Environmental Values	3
PS 477	DE	International Environmental Politics and Policy	4
WSE 470	S	Forests, Wood, and Civilization	3
Foreign Language			4
<i>Additional course with an international focus (with advisor approval)</i>			3-4
<b>Total</b>			<b>21</b>

### ***Plantation Silviculture***

The plantation management emphasis would prepare students to work in intensive forest management. It emphasizes accelerating tree and stand growth through increased understanding of plant physiology, genetics, soil nutrition management, and competition control.

Course	Term	Title	Credit
WSE 210	W	Wood Technology and Utilization	4
<b>Select at least 21 credits from the following list:</b>			
CH 123	S	General Chemistry {CH 121 & 122}	5
or CH 130	S	or General Chemistry of Living Systems {CH 122}	4
<b><i>(Chemistry prerequisites will differ for course selections below)</i></b>			
BOT 331	W	Plant Physiology {BI 213 and CH 123 or 223}	4
CSS 315		Nutrient Management and Cycling {CSS 305 & CH 122}	4
CSS 415		Soil Fertility Management {CSS 315}	3
CSS 430	W	Plant Genetics {1 yr of BIO and CH}	3
CSS 440	F	Weed Management {1 yr in BIO and 1 crs in Organic CH}	4
CSS 466	S	Soil Morphology and Classification {CSS 305}	4
FOR 448	S	Management of Large Forested Landscapes	3
HORT 316	W	M/Plant Nutrition {CSS 305}	4
<b>Total</b>			<b>21</b>

### ***Reforestation of Forested Landscapes***

This option will help prepare students to restore forests to conditions that will increase their resiliency and their provision of a wide variety of ecological, economic, and social benefits.

<b>Course</b>	<b>Term</b>	<b>Title</b>	<b>Credit</b>
FOR 445	S	Ecological Restoration <i>{BI 370}</i>	4
FOR 448	S	Management of Large Forested Landscapes	3
GEO 422		<del>Reconstructing Historical Landscapes <i>inactive</i></del>	<del>3</del>
<b>Select at least 11 credits from the following:</b>			
CSS 466	S	Soil Morphology and Classification <i>{CSS 305}</i>	4
FOR 332	F	<del>Risk &amp; Decision Making for Natural Resources <i>{ST351 &amp; MTH 245 &amp; AREC250 or ECON201}</i></del>	<del>3</del>
FOR 421	F	Spatial Analysis of Forested Landscapes <i>{taught alt yrs, GIS crs}</i>	3
or GEO 465	W	or Geographic Information Systems and Science	4
FOR/FW/RNG 446	W	Wildland Fire Ecology	3
FW 479	S	Wetlands and Riparian Ecology <i>{BI 370 or BI 371} alt yrs</i>	3
RNG 455	S	Riparian Ecology and Management <i>{RNG 355}</i>	3
		<b>Total</b>	<b>21</b>

### ***Wildland Fire Management***

The intent of this option is to provide students with knowledge in the area of fire science and fire ecology. These courses focus on management careers in forest agencies and fire research.

<b>Course</b>	<b>Term</b>	<b>Title</b>	<b>Credit</b>
FOR 332	F	<del>Risk &amp; Decision Making for Natural Resources <i>{ST351 &amp; MTH 245 &amp; AREC250 or ECON201}</i></del>	<del>3</del>
FOR/FW/RNG 346	S, DE	Topics in Wildland Fire <i>{Biology}</i>	3
FOR 407	S	Seminar: Wildland Fire Seminar	1
FOR/RNG 436	F	Wildland Fire Science and Management	4
FOR/FW/RNG 446	W	Wildland Fire Ecology	3
FOR 454	F	Managing at the Wildland-Urban Interface <i>{FOR 111}</i>	3
<b>Select at least 3 credits from the following for a total of 21 credits:</b>			
ATS 210	F, W	Introduction to the Atmospheric Sciences	3
FOR/FW 445	S	Ecological Restoration <i>{BI 370}</i>	4
FOR 448	S	Management of Large Forested Landscapes	3
RNG 421	F	Wildland Restoration and Ecology	4
		<b>Total</b>	<b>21</b>

## HOW DO I GET MORE INFORMATION?

For information about other programs in the  
College of Forestry

Please contact the advisors in the  
Student Services office, 140 Peavy Hall  
541-737-1594

e-mail: [ForestInfo@oregonstate.edu](mailto:ForestInfo@oregonstate.edu)  
<http://www.cof.orst.edu/cof/studserv/students.php>