

COLLEGE OF FORESTRY

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2022–2023 UNDERGRADUATE

# ADVISING GUIDE

FOREST ENGINEERING



## Advising and Assistance

The College of Forestry and the Department of Forest Engineering, Resources and Management are committed to helping students succeed. That includes assistance with identifying majors and minors, and understanding broader University rules and regulations. Your Academic Advisor and the COF Head Advisor are your first points of contact when you have questions

This advising guide provides details of the Forest Engineering program not listed in the University Catalog ([catalog.oregonstate.edu](http://catalog.oregonstate.edu)), and helpful suggestions for your success as a student. The FE program is tightly structured, hence there are few elective choices to the student who wishes to graduate in four years. However, the choices that are required are very important for satisfying the intent of the curriculum and for providing the professional education that you desire. Your advisor is also a valuable 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](http://forestry.oregonstate.edu/student-services/advising)

### Who:

	<b>Sandy Jameson</b> Academic Advisor Forest Engineering Peavy 116-C 541-737-6548 Office <a href="mailto:sandy.jameson@oregonstate.edu">sandy.jameson@oregonstate.edu</a>		<b>Nicole Kent</b> Head Advisor College of Forestry Peavy 116-H 541-737-1592 Office <a href="mailto:nicole.kent@oregonstate.edu">nicole.kent@oregonstate.edu</a>
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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 page, 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](http://forestry.oregonstate.edu/student-services/advising)

## Forest Engineering Careers

Congratulations on selecting Oregon State University's Forest Engineering (FE) degree program. Graduates from this degree program receive a rigorous blend of engineering and forestry education that provides a foundation for diverse career options. There is only one other university in the U.S. that offers a forest engineering degree. The OSU Forest Engineering Program is the only one that is accredited in both engineering and forestry.

The FE Program is divided into pre-professional (Years 1 & 2) and professional (Years 3 & 4) components. The pre-professional coursework provides the foundation on which the professional coursework is built. This gives you an opportunity to demonstrate that you have the aptitude, desire, professional attitude, and academic accomplishment required for advancement to the professional level. Acceptance into the professional program in Forest Engineering is based upon your performance in the pre-professional courses. Admission requirements for the FE Professional Program are detailed on page 4.

FE graduates are prepared to play a variety of key roles in meeting the world's appetite for wood products from sustainable forests, while also protecting other resource values such as soils, water, wildlife habitat, and recreation opportunities. In a world of more than 7 billion people, society's wood demands are enormous and growing, even with aggressive recycling programs. Many FE graduates help meet these demands in positions that plan, design, and implement forestry activities — applying the best engineering, science, technology and experience available to conduct safe, cost effective, and environmentally responsible forest operations.

Some FE graduates pursue careers with less focus on forestry. Examples include land development, surveying engineering, transportation engineering and management, environmental consulting, and municipal engineering.

Traditional forest engineering jobs typically involve developing and maintaining transportation systems, and planning and designing timber harvests and other forest operations. Forest products or timberland management companies, federal or state agencies, and consulting or contracting firms are the most common employers for new graduates. Some stay in field-oriented positions for much of their career, but many graduates have become successful managers and executives as they gain experience. A substantial number of graduates find opportunity and satisfaction in owning their own consulting or contracting business, especially if they are interested in entrepreneurship.

All of these types of positions represent vibrant and timely career opportunities. Forestry continues to be a cornerstone of the economy of many communities, providing jobs and economic vitality. As the population of the world grows and natural resource challenges become more complex, the need for well-rounded highly trained forest engineers increases. Oregon State University is working to fill that need!



## Forest Engineering Program Structure

The Bachelor of Science in Forest Engineering 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 is based on successful completion of all the pre-FE coursework prior to fall term of the junior year. Enrollment in FE pro-school courses is restricted to those students who have been admitted to the professional program.



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

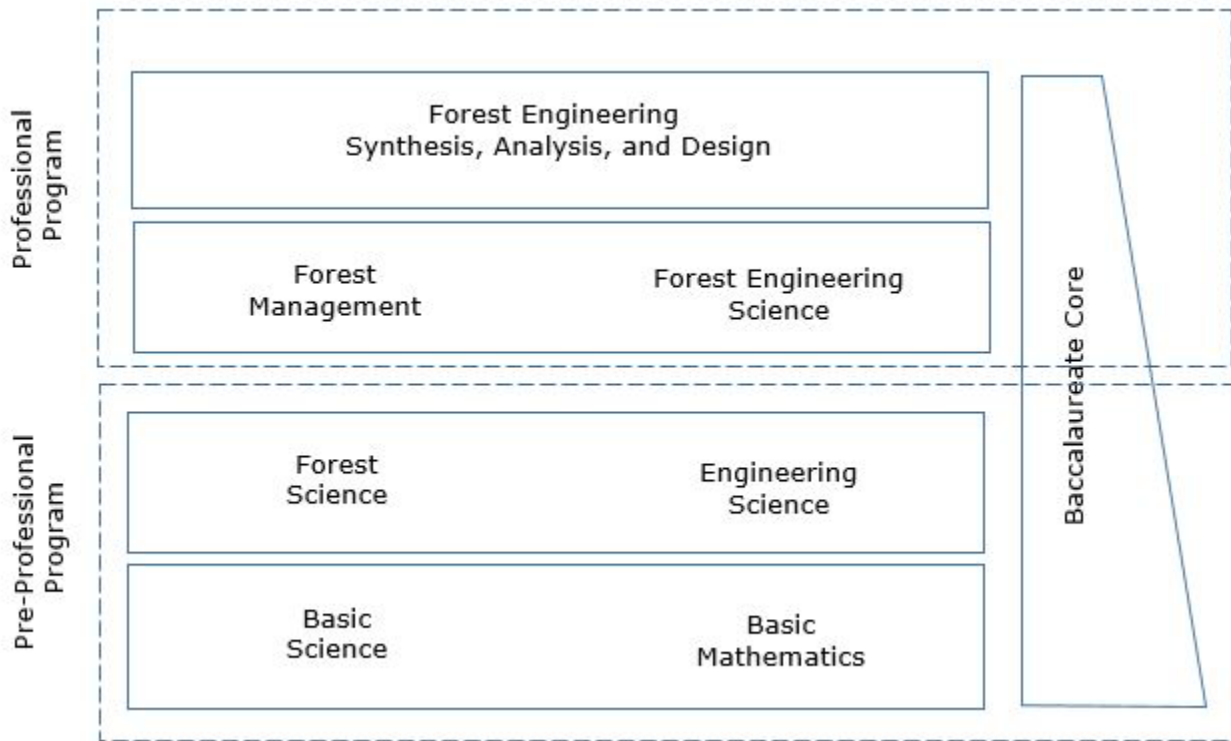
1. a grade of “C” or better in all courses for the major (marked with ‘E’ on course list) required for entry into the professional program. Grade repeat (replacement) policy will follow OSU Academic Regulation #20.
2. a minimum GPA of 2.25 in the required courses (or transfer equivalents).

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.

## Forest Engineering Program Overview

The FE program coursework is structured to begin with a broad general foundation in science and math, followed by forest science and engineering science to bridge between the basic sciences and forest management and forest engineering science. Incorporating the University's Baccalaureate Core ("Bacc Core") requirements provides basic skills and broader perspectives. The curriculum is completed with forest engineering synthesis, analysis and design, the hallmark of forest engineering practice.

The Forest Engineering program is divided into pre-professional coursework and professional coursework. Pre-professional courses are commonly completed in the freshman and sophomore years. The professional coursework begins in the junior year, and requires that you be admitted to Professional Program.



In addition to the structure and categories illustrated in the figure above, the FE program has been structured to satisfy the accreditation criteria of the Society of American Foresters (SAF) and of the Engineering Accreditation Commission (EAC) of ABET, Inc. SAF divides Forestry curricula into seven categories; Communication, Science and Math, Humanities and Social Science, Forest Ecology and Biology, Forest Measurements, Forest Management, and Forest Policy and Administration. ABET divides engineering curricula into three categories: Mathematics and Basic Science, Engineering topics and a General Education Component. Courses may include material that can fit in more than one category.

## Forest Engineering Curriculum

**Degree requirements:** To earn the B.S. in Forest Engineering, students must complete:

- All Pre-FE and Pro-School courses with grades of C or higher
- All courses for OSU's Baccalaureate Core
- Any additional electives necessary to achieve 192 total credits
- Complete at least 6 months of relevant work experience

**Pre-FE Courses:** these courses must be completed with grades of C or higher before students enter the professional program. \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>First Year Courses</b>					
CH 201	Chemistry for Engineering Majors	3	F,W	W	MTH 111
COMM 111* or COMM 114*	Public Speaking Argument and Critical Discourse	3 3	F,W,SP,SU F,W,SP,SU	F,W,SP,SU SU	
ECON 201*	Intro to Microeconomics	4	F,W,SP	F,W,SP,SU	MTH 111 Rec.
FE 101	Intro to Forest Engineering	2	F		
FE 102	Forest Engineering Problem-Solving and Technology	3	W		
FES 240*	Forest Biology	4	F,SP	F,SP,SU	
FOR 111	Intro to Forestry	3	F	W,SU	
MTH 251*	Differential Calculus	4	F,W,SP,SU	F,W,SP,SU	C- in MTH 112
MTH 252	Integral Calculus	4	F,W,SP,SU	F,W,SP,SU	C- in MTH 251
MTH 254	Vector Calculus	4	F,W,SP,SU	F,W,SP,SU	C- in MTH 252
PH 211*	General Physics with Calculus I	4	F,W,Sp	F,SU	
WR 121*	English Composition	4	F,W,SP,SU	F,W,SP,SU	Alpha-sectioned
<b>Second Year Courses</b>					
CCE 201	Civil & Construction Engineering Graphics & Design	3	F,W		C in MTH 111
ENGR 211	Statics	3	F,W,SP,SU	F,W,SP	C in MTH 252
ENGR 212	Dynamics	3	F,W,SP,SU	F,W,SP	C in ENGR 211 and PH 211
ENGR 213	Strength of Materials	3	F,W,SP	F,W,SP,SU	C in ENGR 211
FE 208	Forest Surveying	4	F	SP	C in MTH 112
FE 257	GIS and Forest Engineering Applications	3	W	F	
FES 241	Dendrology	3	F, SP	F,SU	
MTH 256	Applied Differential Equations	4	F,W,SP,SU	F,W,SP,SU	C- in MTH 254
PH 212	General Physics with Calculus II				D- in PH 211
SOIL 205*	Soil Science	3	F,W,SP		
FOR 206*	Forest Soils Lab	1	F		Take with SOIL 205
ST 201	Principles of Statistics	4	F,W,SP	F,W,SP,SU	
WR 327*	Technical Writing	3	F,W,SP	F,W,SP,SU	WR 121

Note: At the end of the sophomore year students must apply to be admitted to the FE 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.

## Professional Forest Engineering Program

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:** \* indicates courses that also fulfill Bacc Core.

Course Number	Title	Cr	Corvallis Campus	Distance Campus	Prerequisites / Notes
<b>Third Year Courses</b>					
FE 310	Forest Route Surveying	4	SP		FE 208
FE 312	Forestry Field School	2	F		Mid-September
FE 315	Soil Engineering	4	W		C in ENGR 213
FE 316	Soil Mechanics	4	SP		C in FE 315 or CE 372
FE 330	Forest Engineering Fluid Mechanics and Hydraulics	3	F		ENGR 213 & FE 102
FE 371	Harvesting Process Engineering	4	F		ENGR 211 & FE 102
FE 434	Forest Watershed Management	4	F		C in CH 231, SOIL 205, & MTH 251
FE 440	Forest Operations Analysis	4	W		C in FE 102 & FE 371
FE 470	Logging Mechanics	4	W		C in ENGR 211, ENGR 213, FE 371
FE 471	Harvesting Management	3	SP		FE 371 & FE 470
FOR 321	Forest Mensuration	5	F		C in FES 241, FE 208, Calc, Stats
FOR 329	Forest Resource Economics I	4	W		ST 201
FOR 332	Forest Resource Economics II	2	SP		FOR 329
FOR 441	Silviculture	4	F, SP		C in FES 240 & FES 241
<b>Fourth Year Courses</b>					
FE 415	Forest Road Engineering	3	W		C in FE 310
FE 416	Forest Road System Management	4	SP		C in ENGR 211, ENGR 213, FE 316, FE 415
FE 444	Forestry Remote Sensing & Photogrammetry	4	F		FE 257, MTH 251, PH 201
FE 457	Techniques for Forest Resource Analysis	4	F		FOR 329 and FOR 441
FE 459	Forest Management Planning & Design I	4	W		FE 457
FOR 460^ or FE 460^	Forest Policy	4	W		
	Forest operations regulations & Policy Issues	3	F		
FE 469	Forest Management Planning & Design I	4	SP		FE 459
FE 480	Forest Engineering Practice & Professionalism	1	W		
GEOG 300* or FW 350*	Sustainability for the Common Good	3	F,W,Sp,SU	F,W,Sp,SU	
	Endangered Species, Society, and Sustainability	3			

**Baccalaureate Core:** Students must complete one course in each Bacc Core category. Some Bacc Core categories can be fulfilled by courses from the FE major. The chart below shows the overlap between major 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 121	4
Writing II	Fulfilled by WR 327	3
Speech	Fulfilled by COMM 111 or COMM 114	3
Lifetime Fitness for Health	HHS 231	2
Fitness Activity	HHS 24X or PAC	1
Mathematics	Fulfilled by MTH 251	4
Physical Science w/ Lab	Fulfilled by PH 211	5
Biological Science w/ Lab	Fulfilled by FES 240	4
Add'l Physical or Biological Sci w/ Lab	Fulfilled by SOIL 205 & FOR 206	4
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	Fulfilled by GEOG 300, if selected	3
Science, Technology, Society	Fulfilled by FW 350, if selected	3
Writing Intensive Course	Fulfilled by FE 460	3



## Sample Course Plan - Forest Engineering

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>B.S. in Forest Engineering</b>						
<b>2022-2023</b>						
	Fall		Winter		Spring	
<b>First Year</b>	<i>MTH 251: Differential Calculus</i> CH 201: Chemistry for Engineers FOR 111: Intro to Forestry FE 101: Intro to Forest Engineering WR 121: English Composition	4 3 3 2 4	MTH 252: Integral Calculus ECON 201: Intro to Microeconomics FE 102: FE Prob Solving & Technology HHS 231: Lifetime Fitness HHS 241 or PAC: Fitness Activity Free Elective	4 4 3 2 1-2 2	MTH 254: Vector Calculus PH 211: General Physics with Calc I FES 240: Forest Biology COMM 111/114: Communication	4 4 4 3
	Total Credits	16	Total Credits	16-17	Total Credits	15
<b>Second Year</b>	MTH 256: Applied Diff. Equations PH 212: General Physics with Calc II ENGR 211: Statics FE 208: Forest Surveying	4 4 3 4	ST 201: Principles of Statistics FE 257: GIS & Forest Engr Applications CCE 201: Civil Engr Graphics & Design ENGR 213: Strength of Materials Bacc Core – Literature Arts	4 3 3 3 3	ENGR 212: Dynamics FES 241: Dendrology SOIL 205: Soil Science FOR 206: Forest Soils Lab Bacc Core – Western Culture WR 327: Technical Writing	3 3 3 1 3 3
	Total Credits	15	Total Credits	16	Total Credits	16
<b>Third Year</b>	FE 434: Forest Watershed Mgmt FOR 321: Forest Mensuration FE 371: Harvesting Processes Engr FE 330: FE Fluid Mech & Hydraulics FE 312: Forestry Field School	4 5 4 3 2	FE 315: Soil Engineering FE 440: Forest Operations Analysis FE 470: Logging Mechanics FOR 329: Forest Resource Econ I	4 4 4 4	FE 310: Forest Route Surveying FE 316: Soil Mechanics FE 471: Harvesting Management FOR 441: Silvicultural Principles FOR 332: Forest Resource Econ II	4 4 3 4 2
	Total Credits	18	Total Credits	16	Total Credits	17
<b>Fourth Year</b>	FE 460: Forest Ops Regulations @ Policy FE 457: Tech. for Forest Res. Analysis FE 444: For Remote Sens & Photogram. Bacc Core – Global Issues or STS Free Elective, if needed to reach 192	3 4 4 3 1	FE 459: Forest Mgmt Planning & Design I FE 415: Forest Road Engineering FE 480: FE Practices & Professionalism GEOG 300 or FW 350 Free Elective, if needed to reach 192	4 3 1 3 5-7	FE 469: For Mgmt Planning & Design II FE 416: Forest Road System Mgmt Bacc Core – Diff, Power, Discrim. Bacc Core – Cultural Diversity Free Elective, if needed to reach 192	4 4 3 3 2
	Total Credits	15	Total Credits	16-18	Total Credits	14

## Requirements for Graduation

In addition to the University and degree program requirements, students in the FE program must also meet specific requirements to graduate.

**S/U Grading** — Students majoring in Forest Engineering 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 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 111 or 114 to fulfill the Speech Baccalaureate Core requirement. COMM 111 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 192 credits are required to complete the Forest Engineering degree. To attain this, additional free electives may be needed in addition to major and Baccalaureate Core courses.

## Professional Licensure

The pathway to licensure for Professional Engineers and Professional Land Surveyors is located at <https://www.oregon.gov/osbeels/obtaining/Pages/Licensing-Process-in-Oregon.aspx>. An important part of the pathway to licensure is passing the Fundamentals of Engineering Exam, and Oregon State University supports all engineering students with exam review assistance <https://engineering.oregonstate.edu/current-students/advising/fundamentals-engineering-exam> .

## **Grade Requirements for Accreditation**

### **Mathematics (all required courses must be graded C or higher)**

A grade of “C” or higher is required in all Mathematics courses listed with the MTH prefix (e.g. MTH 251: Differential Calculus). Preparatory Mathematics courses not required for your major (such as MTH 111: College Algebra) can be taken for an S/U grade, but you must earn an S grade in order to meet the prerequisite requirements for the subsequent courses. You should consult with your advisor on any S/U grading questions as well as the possibility of retaking Math courses for which a grade of “C” is earned.

### **Basic Science (all courses must be graded C or higher)**

The Basic Science requirement includes Physics, Chemistry, Soil Science, and an array of Forestry courses. Some Forestry courses include subject matter that is considered to be an Engineering Topic as well. All required courses that include basic science content are listed in Table 1.

### **Engineering Topics (all courses must be graded C or higher)**

Engineering Science (ENGR courses) provides the bridge between the basic sciences and engineering synthesis and design. The classical Engineering Science sequence, Statics, Dynamics, and Strength of Materials, is easily identifiable as engineering science course material. Many other components of engineering science are less easily delineated, and make up only portions of engineering or other courses. In some cases, courses taught by other departments have engineering science character appropriate to Forest Engineering. For example, the application of basic mathematics to the Engineering and Management analysis of the “time value of money” is an engineering science topic even though it is presented in Forest Resource Economics I (FOR 329). Similarly, the application of mathematics and statistics to measurement of forest resource quantities is an engineering science topic even though it is presented in Forest Mensuration (FOR 321). All required courses that include engineering content are listed in Table 1.

The heart of engineering practice is Synthesis and Design; hence Synthesis and Design are the capstone of an engineering education. Within Forest Engineering coursework, the most common occurrence of engineering science topics is in the beginning of a course or course sequence, the latter portion of which is engineering synthesis or design. The Engineering Design experience in the Forest Engineering program culminates in the Forest Planning Sequence (FE 459 and FE 469). This sequence provides the challenge and opportunity for students to integrate components of the entire curriculum, including the disciplines of Engineering, Forest Ecology, Silviculture, Fisheries, and Wildlife, into the design of a timber harvesting plan that meets a set of financial objectives developed with consideration of the time value of money and forest growth. All required courses that include engineering design content are listed in Table 1.

### **Forest Engineering Program Electives for admission to the Fundamentals of Land Surveying Examination**

The Oregon State Board of Examiners for Engineering and Land Surveying [OSBEELS] has established the minimum educational qualifications for admission to the Fundamentals of Land Surveying Examination. These qualifications require that Forest Engineering graduates who wish to pursue a professional career in land surveying take additional coursework beyond that required for the Bachelor of Science in Forest Engineering. If you are interested in professional land surveying, please consult the listed OAR, and discuss the educational requirements with your advisor.

### **Professional Engineering (PE) Licensure**

After graduating, FE students may want to pursue licensure as a Professional Engineer (PE) which is administered through the Oregon State Board of Examiners for Engineering and Land Surveying [OSBEELS]. Additional information here: <https://www.oregon.gov/osbeels/obtaining/Pages/default.aspx>

## Program Educational Objectives

The Program Educational Objectives are achieved through an educational program that includes the following elements:

- **Application of Engineering in Forestry:** Practiced engineering applications within a forestry context.
- **Operational application of silviculture:** Developed engineered forest operations that achieve silvicultural objectives.
- **Protect soil and water resources:** Designed forest operations that appropriately protect the physical and biological aspects of soil and water resources.
- **Apply land and resource measurements:** Incorporated surveying and measurement of land and forest resources so that the engineering tasks associated with Forest Land Management and, specifically, the design of appropriate Forest Operations, were effectively completed.
- **Design transportation infrastructure:** Applied analysis and design principles for the physical and system aspects of the Forest Transportation infrastructure to design and manage safe forest transportation systems in a way that meets the needs of forest land management and minimizes adverse environmental impact.
- **Plan and manage economical and safe forest operations:** Fulfilled analysis and design principles to plan and manage safe, economic, and environmentally sound forest operations.
- **Develop forest management plans using principles considering economics, valuation and environmental considerations:** Implemented principles and techniques for forest land management and operational planning in an environmental and economic context to effectively develop successful forest operation plans.
- **Demonstrate leadership, communication and inclusiveness:** Work, collaborate and communicate inclusively and effectively with constituents from diverse backgrounds and interests.

As a graduate of the Forest Engineering program, you will have:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
8. Operational understanding of forest ecology and silviculture.
9. Understanding of soil and water resources.
10. Ability to make land and resource measurements.
11. Ability to design the transportation infrastructure.
12. Ability to plan and manage economic and safe forest operations.
13. Understanding of economics and valuation.

**Table 1. Forest Engineering Degree Credit Distribution**

	Course Title	Course Prefix and Number	Basic Science and Mathematics Credit	Engineering Topics Credit	Supporting General Education Credits
<b>Forest Engineering Pre-Professional Program</b>					
	Chemistry for Engineering Majors ** [3 cr M&S]	CH 201	3		
	Introduction to Forest Engineering ** [1 cr ET; 1 cr Other]	FE 101		1	1
	Introduction to Forestry ** [1 cr M&S; 1 cr ET; 1 cr Other]	FOR 111	1	1	1
	Differential Calculus [BC] ** [4 cr M&S]	MTH 251	4		
	English Composition [BC] **	WR 121			4
	Introduction to Microeconomics [BC] **	ECON 201			4
	Forest Engineering Problem Solving and Tech ** [1 cr M&S; 1 cr ET; 1 cr Other]	FE 102	1	1	1
	Lifetime Fitness [BC]	HHS 231			2
	Lifetime Fitness Activity [BC] or Physical Activity (PAC)	HHS 241-248 or PAC			1
	Integral Calculus ** [4 cr M&S]	MTH 252	4		
	Public Speaking, or Argument & Critical Discourse [BC] **	COMM 111/114			3
	Dendrology ** [3 cr M&S]	FES 241	3		
	Vector Calculus I ** [4 cr M&S]	MTH 254	4		
	General Physics with Calculus [BC] ** [4 cr M&S]	PH 211	4		
	Statics ** [3 cr ET]	ENGR 211		3	
	Forest Surveying ** [4 cr ET]	FE 208		4	
	Applied Differential Equations ** [4 cr M&S]	MTH 256	4		
	General Physics with Calculus ** [4 cr M&S]	PH 212	4		
	Civil Engr and Const Engr Graphics & Design ** [3 cr ET]	CCE 201		3	
	Strength of Materials ** [3 cr ET]	ENGR 213		3	
	GIS & Forest Engineering Applications ** [3 cr ET]	FE 257		3	
	Principles of Statistics ** [4 cr M&S]	ST 201	4		
	Dynamics ** [3 cr ET]	ENGR 212		3	
	Forest Biology ** [4 cr M&S]	FES 240	4		
	Soil Science [BC] ** [3 cr M&S]	SOIL 205	3		
	Forest Soil lab [BC] ** [1 cr M&S]	FOR 206	1		
	Or Soil Science lab [BC].** & Forest Soils recitation	SOIL 206 & FOR 208			
	Technical Writing [BC]**	WR 327			3



**Table 1. Forest Engineering Degree Credit Distribution continued**

Check Completed	Course Title	Course Prefix and Number	Basic Science and Mathematics Credit	Engineering Topics Credit	Supporting General Education Credits
<b>Forest Engineering Professional Program</b>					
	Forest Engineering Field School [2 cr ET]	FE 312		2	
	Forest Engineering Fluid Mechanics and Hydraulics [3 cr ET]	FE 330		3	
	Harvesting Process Engineering [4 cr ET]	FE 371		4	
	Forest Watershed Management [2 cr M&S; 2 cr ET]	FE 434	2	2	
	Forest Mensuration [1 cr M&S; 1 cr ET; 3 cr Other]	FOR 321	1	1	3
	Soil Engineering [4 cr ET]	FE 315		4	
	Forest Operations Analysis [4 cr ET]	FE 440		4	
	Logging Mechanics [4 cr ET]	FE 470		4	
	Forest Resource Economics I [1 cr ET; 3 cr Other]	FOR 329		1	3
	Forest Route Surveying [4 cr ET]	FE 310		4	
	Soil Mechanics [4 cr ET]	FE 316		4	
	Forest Resource Economics II	FOR 332		1	1
	Harvesting Management [3 cr ET]	FE 471		3	
	Sustainability for the Common Good [BC] [1 cr M&S; 2 cr Other]	GEOG 300	1		2
	Forest Road Engineering [3 cr ET]	FE 415		3	
	Forestry Remote Sensing & Photogrammetry [4 cr ET]	FE 444		4	
	Techniques for Forest Resource Analysis [4 cr ET]	FE 457		4	
	Forest Management Planning and Design I [4 cr ET]	FE 459		4	
	Forest Operations Reg and Policy Issues [WIC] [3 cr ET] or Forest Policy [WIC]	FE 460 or FOR 460		3	
	Forest Road System Management [4 cr ET]	FE 416		4	
	Forest Management Planning and Design II [4 cr ET]	FE 469		4	
	International Forestry [1 cr M&S; 2 cr Other]	FE 456	1		2
	Forest Engineering Practice & Professionalism [1 cr ET]	FE 480		1	
	Silviculture Principles [4 cr M&S]	FOR 441	4		
<b>Other Baccalaureate Core Courses [Bacc Core]</b>					
	Cultural Diversity				3
	Literature and Arts				3
	Western Culture				3
	Difference, Power, and Discrimination				3
	Free Electives				8
<b>Category Credit Totals</b>			53	86	51

\*\* Pre-Professional Course that must be completed before entering the Professional Program.

**DISCLAIMER:** Future term data are continually updated. Course descriptions and credits may change from time to time, check the web frequently for current information.