JULY 2025

Sustainable Forest Management

Graduate Program

2025-2026

Forest Engineering, Resources and Management

Department Office | 216 Peavy Forest Science Center

541-737-4952

Cover Photo taken at McMinnville Watershed Working Forest

Table of Contents

Preface

Welcome from the Department of Forest Engineering, Resources and Management (FERM) faculty, staff, and students. This department is recognized throughout the world for excellence in graduate student education, creative problem-solving research, and innovative extended education. The faculty is a unique combination of forest natural and social scientists, engineers, and hydrologists who use disciplinary principles to solve complex forestry problems in forested watersheds and support sustainable management of forests. If you are interested in a graduate program in Sustainable Forest Management (SFM) with specialization in one of three focus areas (MF) or in one of six research areas of concentration (MF/MS/PhD), we invite you to further explore the opportunities described in this guide.

Many FERM faculty members are recognized research leaders and several provide leadership in international scientific organizations. The faculty is pursuing a wide range of basic and applied research projects on topics that include: active forest management for healthy, sustainable forests; advanced technologies for forest measurements and modeling; forest supply chain management; wildland fire management; understanding and mitigating environmental impacts of forestry activities; spatially-explicit landscape modeling; applications of emerging information technologies; forestry workforce issues; optimal management; basic hydrological sciences; harvesting process engineering; and transportation system design.

In addition to the individual programs, we have developed several decision-support systems that are used by the practitioners and policy makers throughout the world. We are proud of the contributions these programs have made to the practice of sustainable forestry.

The collective strengths of the faculty, the university and associated research partners, as well as the Oregon environment make this a special place for pursuing a graduate education. The Corvallis community is a very pleasant place to live, and it is just a short distance to abundant recreational and cultural opportunities at the Oregon coast, the Coast Range and Cascade Mountains, and the metro areas of Portland, Salem, and Eugene.

This guide provides only a brief overview of opportunities for graduate study within the FERM Department. If it attracts your interest, I encourage you to seek further information from the individual faculty in your area(s) of interest.

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The College of Forestry

Forestry is important to the people of Oregon. Forty-nine percent of the state's 61.4 million acres is forest land, which supports one of Oregon's most important industries, forest resources. The forests provide wood, water, fish habitat, scenery, recreation, cultural sites, wildlife, rangeland, and other resources that contribute to the state's and region's economy and quality of life.

Mission and Vision

The mission of the College of Forestry, as part of Oregon's Land, Sea, Sun, and Space Grant University, is to educate and engage the next generation of scholars, practitioners, and users of the world's forest resources, to conduct distinctive problem-solving and fundamental research on the nature and use of forests and related resources, and to share our discoveries and knowledge with others.

Oregon State University's College of Forestry combines the warmth of a small school with the rich resources of a comprehensive university. Our students experience a rigorous, demanding, hands-on, professional education. The educational environment is friendly and supportive.

College of Forestry students are a close-knit group. Professors teach their own classes and interact with students daily. They are caring and accessible.

Oregon State University's College of Forestry has been educating professionals for more than a century. We've earned a reputation as a world-class center of teaching and learning about forests and related resources. We offer undergraduate and graduate degrees in three Departments: Forest Engineering, Resources and Management, Forest Ecosystems and Society, and Wood Science and Engineering. We also jointly offer an interdisciplinary undergraduate degree in Natural Resources, and several interdisciplinary graduate programs. We manage about 14,000 acres of College Forests, most of it within minutes of campus. Oregon State University is a Land Grant, Sea Grant, Sun Grant, and Space Grant university, an NCAA Division I university, and a member of the Pac-12 athletic conference. It carries the prestigious ranking of a Carnegie Doctoral/Research-Extensive University.

Facilities and Programs

Oregonians have long recognized the importance of their forests and have provided outstanding facilities for the College of Forestry. Peavy Hall and Richardson Hall have state-of-the-art classrooms, computer and research laboratories, and designated self-learning and media centers for undergraduate and graduate students. Office space is provided for all Graduate Research and Teaching Assistants, and most graduate students. Computer facilities include several microcomputer and GIS laboratories, and other facilities dedicated to graduate student research.

Research conducted through our Center for the Future of Forests and Society (CFFS) keeps the College in the forefront of new developments in Forestry. Peavy and Richardson Halls are adjacent to the Forestry Sciences Laboratory of the USDA Forest Service Pacific Northwest Research Station. The USDI Forest and Range Ecosystem Science of the U.S. Geological Survey also has a campus-based research program that complements and interacts with ours. Nearby is the Environmental Research Laboratory of the U.S. Environmental Protection Agency. Collectively, these facilities and organizations comprise one of the largest concentrations of forestry and natural resources expertise in the world.

The Forestry Extension and Outreach Education programs at OSU are among the finest in the world. Numerous Extension forestry specialists, county forestry agents, and other faculty provide educational opportunities, forestry information, and advice for practicing foresters, the forest industries, forest landowners, and other audiences, and provide more opportunities for interactions or project collaboration with graduate students.

The College of Forestry has a long tradition of graduate education and research. Our programs provide a solid forestry background and competence in specialized fields. Employers in the forest industries, universities, NGOs, and government agencies recognize this strength.

Research Forests

The College of Forestry has access to major forest properties dedicated to research and education. The McDonald-Dunn, Spaulding, Marchel, and Blodgett Forest properties, totaling about 14,000 acres, are owned by the College of Forestry as the results of gifts and are managed by the College for student learning, discovery and engagement. A growing number of state-wide "Discovery Forests" are managed to demonstrate innovative forestry practices for family forest owners and others. The 15,000-acre H. J. Andrews Experimental Forest on the Willamette National Forest is owned by the USDA Forest Service but jointly managed by OSU and the Pacific Northwest Research Station under a National Science Foundation-sponsored long-term agreement.

Departments

Few forestry programs have the breadth represented by the three departments in the College of Forestry at OSU. All offer undergraduate, graduate, extended education, and research programs:

- **Forest Engineering, Resources and Management** (engineering, planning, and science to support active forest management)
- **Forest Ecosystems and Society** (ecological and social sciences)
- **Wood Science and Engineering** (wood design, wood industry management and wood science technology)

General Information

You can visit Oregon State University and the College of Forestry online at the following web addresses:

Oregon State University	http://oregonstate.edu/
College of Forestry	http://www.forestry.oregonstate.edu/
Dept. of Forest Engineering, Resources & Management	http://www.ferm.forestry.oregonstate.edu/
Office of Graduate Education	https://graduate.oregonstate.edu/
Graduate Admissions	https://graduate.oregonstate.edu/admissions
Academic Catalog	https://catalog.oregonstate.edu/
Office of the Registrar	https://registrar.oregonstate.edu/how-register
Office of Financial Aid	https://financialaid.oregonstate.edu/
University Housing & Dining Services	https://uhds.oregonstate.edu/

The University and Community

OSU is one of only ten US universities to hold the Land Grant, Sea Grant, Sun Grant, and Space Grant designation and is a Carnegie Doctoral/Research-Intensive university. The university has an institution-wide commitment to diversity and inclusivity and provides a welcoming atmosphere with unique professional opportunities. OSU is located in Corvallis, a community of 61,000 people situated in the Willamette Valley between Portland and Eugene. Ocean beaches, lakes, rivers, forests, high desert, and the rugged Cascade and Coast Ranges are all within a 100-mile drive of Corvallis. The surrounding farmland is dedicated to growing a wide variety of crops, and there are extensive recreation areas in local, state and federal parks, including forested lands and rivers. The entire valley corridor enjoys a mild, temperate climate.

Housing

A variety of housing and dining accommodations are available to graduate students. Both one-term and academic-year contracts are available.

All graduate students interested in applying for housing owned by the University should contact University Housing & Dining Services:
https://uhds.oregonstate.edu/housing/graduate-student

Graduate assistantships with roles as Residence Hall and Cooperative House Directors are sometimes available for those with appropriate experience. There also may be opportunities as Resident Advisors in private living groups. Contact the Department of Student Housing or the Office of the Dean of Students for more information.

University Housing & Dining Services
Oxford House
957 SW Jefferson Ave.
Corvallis, OR 97333 USA
Phone: 541-737-4771
Web: https://uhds.oregonstate.edu/contact-uhds

Office Accommodations

To the extent possible, the FERM Department makes office space available to graduate students, usually in the form of shared multi-offices. Available desk space is assigned by the Curriculum Coordinator at the Graduate Student Orientation or upon arrival at OSU.

Faculty advisors may provide their students with computing equipment, upon arrival, at the student's designated office location. Students are permitted to bring personal items, but the department is not liable for lost, stolen, or damaged property.

Computing Facilities

The College of Forestry maintains an extensive network of computing laboratories for exclusive use by graduate students. Some labs are scheduled for short-term use, while others may be utilized for longer-term projects. Both Peavy Forest Science Center (PFSC) and Richardson Hall (RICH) have WIFI access through OSU's network. Additionally, many machines have specialized software, all of which are internet capable.

Program Contacts

Interim Department Head (Academic Unit Chair)
Dr. Mindy Crandall
Mindy.Crandall@oregonstate.edu | 541-737-4952
Mindy is responsible for SFM program admissions, departmental fellowship and TA allocations. She can also help you talk through any concerns or difficulties you encounter, or if you just need to chat.

Graduate Program Director
Dr. Bogdan Strimbu
Bogdan.Strimbu@oregonstate.edu | 541-737-1604
He serves as the Area of Concentration (AoC) faculty coordinator and can help with things like program or faculty advisor concerns, academic warnings, program assessment, and fellowship evaluation.

Curriculum and Accreditation Coordinator
Madison Dudley
Madison.Dudley@oregonstate.edu | 541-737-1349
She can help you with all things SFM graduate-program related: recruitment, admissions, program of study structure, other form or program questions, course registration overrides, graduate student and graduate employee evaluations, graduate student funding and appointment letters, scholarships and awards. She is also our unit liaison to the Office of Graduate Education.

Administrative Manager
Chelsey Durling
Chelsey.Durling@oregonstate.edu | 541-737-1348
She can help you with questions pertaining to budgeting, invoices, reimbursements, grants, payroll, health insurance, motor pool, and keys or keycard access.

Office Specialist 2
Tunde Jordan
Tunde.Jordan@oregonstate.edu | 541-737-7480
She can help you make meeting room or TA office hour reservations, provide event support, assist with visitor parking permits, and answer other miscellaneous questions.

Graduate Program in Sustainable Forest Management

The Sustainable Forest Management (SFM) graduate program (major code 1090) is administered by the FERM Department. It emphasizes the management of forests to meet a defined set of ecological, economic and social criteria. The SFM program (MF, MS, and PhD) provides a strong grounding in the principles and techniques of active management of forests to improve forest health and condition while producing a full range of products and ecosystems services important to people. The SFM program is a recognized Science Technology Engineering Math (STEM) discipline under Forest Science and Biology 03.0502.

MF students must choose one of the three focus areas (or one of the six areas of concentration as outlined below):

1. **Forest Business for Private Landowners**: Trains students to utilize business techniques to analyze decisions commonly made by private forest landowners to achieve their management objectives. Coursework and faculty expertise focus on areas such as economics, finance, and taxation.
2. **Spatial Science and Analysis**: Designed for those that wish to study the application of spatial science and tools for natural resources. GIS and remote sensing courses are highlighted in the curriculum, as is a requirement for spatial programming and statistics. Students completing this option should have a solid foundation for careers as analysts and potential managers for spatial operations.
3. **Silviculture, Fire, Forest Health**: Managing forest vegetation dynamics and ecosystem processes to achieve a range of management objectives.

MS and PhD students must choose one of the six areas of concentration:

1. **Forest Operations Planning and Management**: Planning, organizing, and executing forest plans; enhancing supply chain efficiency and improving international competitiveness
2. **Forest Policy Analysis and Economics***: Analyzing tradeoffs in the forest and resource policy decision process; public land use policy; interpretations of regulations; markets for forest products; forest certification; research related to ecosystem services
3. **Forest Biometrics and Geomatics**: Modeling tree and stand development; forest data sampling and monitoring methods; forest measurements and assessments; mapping and data management technologies
4. **Silviculture, Fire, Forest Health, and Biodiversity**: Manipulating site productivity and vegetation to achieve management objectives, from restoration to intensive timber production; fire ecology and fire management; forest ecosystem health
5. **Forest Soil and Watershed Processes**: Understanding watershed conditions and processes in forested ecosystems and the effects of management activities; evaluating and improving soil and water quality and related practices and policies for forest operations
6. **Engineering for Sustainable Forestry**: Designing forest operations to achieve sustainable forest management objectives; ecological restoration operations; road design and construction

*The Forest Policy Analysis and Economics area of concentration is jointly sponsored by the Departments of Forest Engineering, Resources and Management and Applied Economics.

Graduate Degrees Offered in Sustainable Forest Management

Master of Forestry (MF)

The Master of Forestry (MF) in Sustainable Forest Management is intended for students who wish to pursue professional career pathways in forestry and related fields. The MF degree provides pathways for students with or without previous forestry-related education or experience to develop the skills and knowledge needed to begin careers as forestry professionals and for current forestry professionals to continue their career development and growth. Students choose one of three focused programs of study in forest business, geomatics, and silviculture or a general MF from one of the six areas of concentration, representing different disciplines involved in the sustainable management of forest ecosystems to achieve multiple social, economic, and environmental objectives. The MF degree program can be completed in as few as four terms of study. A professional paper is required and allows a student to explore a contemporary issue of their interest.

Master of Science (MS)

The Master of Science in Sustainable Forest Management is appropriate for students who want two or more years of formal graduate work and who wish to develop a limited research specialization. Designed primarily for persons pursuing careers in research or teaching or those seeking professional development through in-depth research on a topic of interest, the MS program can be either a terminal degree or the first step toward a doctorate. The program provides an opportunity for independent research to be reported in a formal Master's Thesis. MS students choose from one of the six SFM areas of concentration.

Doctor of Philosophy (PhD)

The Doctorate of Philosophy in Sustainable Forest Management is intended for persons seeking careers in teaching and/or research. The program emphasizes strong research specialization while maintaining an understanding and appreciation of broader management and resource use issues. The dissertation and associated research play a dual role by enabling the student to develop in-depth knowledge of specific technical areas, while at the same time gaining experience in conceptualizing, planning, conducting, and reporting a major research project. PhD students choose from one of the six SFM areas of concentration.

Admission and Application Procedures

Admission Procedures

The Office of Graduate Education screens candidates to ensure that the minimum standards of the University are met. For minimum application requirements, visit the Graduate Admissions webpage.

The FERM Curriculum Coordinator screens applications for satisfaction of the SFM program minimum standards and asks a panel of faculty members in the area(s) of the applicant's chosen research interests for a detailed review of all materials. *The department's Graduate Admissions Committee cannot and will not review an incomplete application.*

Notice of departmental decision is usually sent within two months of our receipt of a completed application. Applicants occasionally confuse a department letter of acceptance, or correspondence from faculty, as equivalent to admission. However, the "Notice of Admission" issued solely by OSU Graduate Admissions is the **official** University notice to the applicant that all application and review procedures have been completed and that the student may enroll in the term for which they have applied.

Application Procedures

Persons seeking admission to any of the department's graduate programs should follow instructions from OSU Graduate Admissions.

Only online applications are accepted. If you are unable to access the online web application because you lack reliable internet access, or you do not have a credit card for payment, please contact Graduate Admissions or send a note to their postal address to see if alternative arrangements can be made.

Office of Graduate Education
Heckart Lodge
2900 SW Jefferson Way
Oregon State University
Corvallis, OR 97331
Graduate.Admissions@oregonstate.edu

All supporting materials, including letters of recommendation and unofficial transcripts, may be uploaded to the Graduate Admissions online system.

Note: Current and former Oregon State University students are not required to provide OSU transcripts. You may be required to provide transcripts from prior institutions attended if OSU is no longer in possession of the original transcript.

Upon admission, but prior to registration, Graduate Admissions must receive official confirmation of undergraduate degree completion shown by receipt of official academic records that include the degree earned and date granted. If your country issues them, we also require official degree certificates.

Commonly asked questions about the Sustainable Forest Management graduate program and guidance for finding your way through the application and admissions process can also be found on our program website.

Application Materials Required by Department

- **Three letters of recommendation**: As part of the application for admission, you must provide names and email addresses of your reference writers. The letter of reference system triggers an email to each reference writer and enables them to submit a confidential electronic letter for you. Alternatively, your reference may mail a confidential letter to the Office of Graduate Education (address identified above). References should be from instructors in courses related to major, employers, or others who can critically evaluate potential for success as a graduate student in our program. Other suggestions for letters of reference.
- **Statement of Objectives**: Applicants will be asked to answer seven program-specific questions that let us know about their interests, goals, background, strengths, potential challenges, and how they can contribute to our diverse student body. *Our program has replaced the commonly required statement of objectives with program-specific questions to help guide an applicant to supply information that is helpful in our assessment of their potential as a graduate student.*

Graduate Record Examination (GRE)

Starting academic year 2024-25 (e.g. Summer 2024 applications and forward), the GRE is no longer required. Students who have completed the exam may choose to upload exam records, if desired.

International Students

There are additional requirements for international student applicants. Visit the Graduate Admissions International Applicants website for additional information.

English Language Proficiency

All international applicants and applicants that did not receive a degree in the U.S. (or other approved English-speaking country) must meet the University's English language proficiency requirements for admission. Country-specific requirements are available on the Office of Graduate Education's Admissions website.

English Language Transitional Admission Program (TAP)

Transitional admission based on English language proficiency may be granted to applicants seeking admission to a graduate degree program. Transitional admission of international applicants may be granted only if the applicant is otherwise fully admissible.

If it is determined that remedial work is needed to successfully complete the requirements of the graduate program, the student may be required to complete additional language training at their own expense through INTO *prior* to beginning graduate program required coursework.

Transcripts

If the institution is outside the United States, both an original language version and certified English translation of all academic records and degree statements are required. Please include certificates/diplomas for all degrees earned.

Financial Documentation

International applicants must secure financial support to meet their educational and living expenses (and their dependents) each academic year. The total amount of expenses is based on average costs for tuition, fees, books and supplies, insurance, and room and board.

Prior to issuance of visa documents (I-20 for the F1 visa or DS-2019 for the J1 visa) the Office of Graduate Education must receive all financial documentation. Visit the International Applicants website for additional information.

Application Deadlines

We encourage you to apply early and to follow the application procedures carefully. Sustainable Forest Management application deadlines are identified below and are available on our website.

Students within the US: Completed applications must be submitted according to the below program advertised deadlines.

International Students Outside the US: Students are advised to submit all materials as early as possible to allow adequate time for students to obtain visas and make travel arrangements. *We advise that international student applications be completed by no later than **9 months prior** to the desired starting term.*

December 31	Fall Term for fellowship consideration
April 15	Fall Term (general deadline)
June 15	Winter Term
November 1	Spring Term
January 20	Summer Term

Delayed Enrollment
Applicants who have been admitted but have not registered for classes or who wish to be considered for a different starting term (within the same academic year of the original application), must file a Change of Term request within the graduate application. **One term change within the academic year is allowed**. (Example: An application originally submitted for Fall 2025 may be changed to Summer 2025 or Winter 2026 or Spring 2026. Summer 2026 begins the new academic year.)

Requesting more than one term change or term changes to new academic years requires a new application and fee. Applicants who wish to change their starting term should utilize the online form.

Continuous Enrollment
All graduate students are required to register for a minimum of 3 credits each term, except for summer term (unless the student is using university services during that time). An official, limited Leave of Absence request can be granted for those with good causes. Those who do not register for the required minimum credits may be subject to filing an Application for Graduate Readmission, which must be approved by the student's Major Professor, Department Head, and Dean of the Office of Graduate Education, though readmission is not guaranteed. If readmission is approved, for the first term of reinstatement, the student must register for a minimum of 3 graduate credits for each term of unauthorized break. For additional information, review the Continuous Enrollment Policy in the Graduate Catalog.

International graduate students may be required to register for additional credits each academic term (generally 9) to maintain visa status, again excluding summer term. Students should be aware of their country's registration requirements and may contact the Office of International Services with questions.

Office of Graduate Education policies are available in the OSU Academic Catalog.

Financial Assistance

Applicants are asked a series of questions in the Online Admission Application Form regarding funding support. All applicants who submit their application according to term deadlines are automatically considered for financial assistance. No special application or additional materials are required. Notification of employment or award is often included with a departmental letter of acceptance or may follow soon after. Brief explanations of common funding sources are detailed below.

Graduate Assistantships (GAs)

Graduate Assistantships in research and/or teaching are generally awarded on a term-by-term basis depending on degree, experience, and availability of funds. Competition for GA appointments is intense and the number of assistantships varies from year to year depending on the research programs of the department's graduate faculty by Area of Concentration (AoC) and availability of funds. There can be no assurance that GA funding will be available.

GA terms and conditions of employment (for service not required as part of their degree requirements) are prescribed in a Collective Bargaining Agreement. GAs may also choose to be members of the Coalition of Graduate Employees.

GA appointments provide a monthly stipend at 0.4-0.49 full-time equivalent (FTE), tuition remission, student fee assistance, and health insurance for each term of appointment. The proportional FTE determines the monthly amount the student is paid based on a 1.0 FTE amount that is set by the College of Forestry and University Human Resources. For more information, visit the Office of Graduate Education's Funding webpage.

Students receiving a **research appointment (GRA)** are supported by grants, contracts or other agreements. GRA stipends are subject to taxes and are provided to cover a student's living and course related expenses. The GRA work usually serves as the basis for the student's thesis or dissertation, although the student may also be required to perform other unrelated research tasks depending on the scope of the project. Due to the typical progression of many research projects, the exact amount of time a student spends on their research project per week may fluctuate during the course of a year. Prospective students can learn about opportunities for GRA support by contacting individual faculty in their research area of interest.

Alternatively, there are several opportunities for students to serve as a **teaching assistant (GTA)**. GTAs are usually appointed for one academic term, but are eligible to receive renewal TA assignments for other courses in subsequent terms, pending availability. To inquire about TA availability, contact the SFM Curriculum Coordinator. All PhD students are expected to assist in teaching at least one term during their program to gain experience in this important endeavor.

Fellowships and Scholarships

Fellowships and scholarships are administered at three levels at OSU: FERM Department, College of Forestry, and Office of Graduate Education. The SFM Grad Program Chair and Curriculum Coordinator assist the FERM Faculty Graduate Committee in identifying potential recipients for all departmental awards and nominees for College and University awards.

The FERM Faculty Graduate Committee reviews applications and recommends nominations for department fellowships and other scholarships to the Department Head for selection. The number of available department fellowships varies each year, but no more than three are awarded annually. Priority consideration will be given to applications completed by **December 31**.

The College of Forestry administers a selection of scholarships each year. Each department within the College may nominate a fixed number of new students as specified by the College Scholarship Committee. There are two rounds of new student College awards. The first and second round deadlines are mid-February and mid-March. Priority consideration will be given to applications completed by **December 31**.

Applicants need not apply, but are instead recommended by their major professor to the FERM Faculty Graduate Committee. Student nominees are selected by the FERM Faculty Graduate Committee and recommended to the Department Head for consideration and submission to the College of Forestry Scholarship Committee.

The third round deadline is typically in mid-March, and is open for continuing students through a separate OSU ScholarDollars process. Unlike new student scholarships, continuing students apply for these themselves and should visit the website for deadlines and instructions.

The College of Forestry Scholarship Committee selects award recipients for all three rounds.

The Office of Graduate Education administers numerous awards to department-selected applicants, such as the University's Distinguished Provost Fellowship, or from the current student body for annual award opportunities. Prospective and current students may contact the SFM Curriculum Coordinator about these University funding opportunities or visit the Office of Graduate Education's Funding webpage for additional information. *Depending on award requirements, additional documentation beyond the scope of the standard graduate application may be required.*

Other Supplemental Funding Opportunities and Support

The FERM Department, College, and Office of Graduate Education offer additional methods of funding for travel and research support.

FERM administers the J. Richard Dilworth Graduate Award and Lee Harris Travel Grant to current students. Visit our funding page for additional information.

The College of Forestry offers similar awards for experiential learning and emergency or hardship. Visit the College's Student Services scholarships page for additional information.

The College also recognizes many students face food insecurity. Rootstock is a College-led initiative that provides a variety of resources and educational experiences to College faculty, staff, and students ensuring that our community has the food and resources they need. Most notable are our in-house student food pantry, open once a month for graduate students during the academic year (Fall, Winter, and Spring terms), as well as the clothing library. Multiple fundraising events occur throughout the year to support these donor-financed endeavors.

The Office of Graduate Education offers awards for continuing students to support professional development, scholarly presentations, and degree completion to wrap-up a final graduating term. Review these and other opportunities by visiting the Office of Graduate Education's Funding webpage

Additionally, the University provides support for basic needs. Visit the Basic Needs Center website for more information.

Credit Hours
Departments expect that graduate assistants will register for the minimum number of required credits. The number of credit-hours allowed each term for graduate assistants depends on the appointment term. Graduate assistants (GAs) must register for and complete a minimum of **twelve** credit-hours each term of the appointment during the academic year, and **three** credit-hours if appointed as a GA for the Summer term, to satisfy the assistantship and tuition remission requirements. All students enrolling for at least nine credits of coursework are advised to register for their maximum allowable credits each term, using thesis credits to increase their workloads to the allowable maximum (12-16 credits). Ecampus courses should not be taken unless absolutely necessary due to an increased tuition cost. Students should discuss course registration with their supervisor and then request approval from the employing department *before* registering for an Ecampus course. Contact the Curriculum Coordinator for additional information.

Student Hourly Positions
Based on the availability of funds or a student's work requirements by country, some professors may hire graduate students to work on research projects on an hourly basis, most commonly in the Summer term (see below). For additional information regarding student employment, please refer to the Student Employment Manual.

Summer Graduate Hourly Appointments
During summer term, graduate students may be appointed on a graduate hourly appointment as a Graduate Project Assistant (GPA). The GPA appointment type allows students to continue working during Summer term without having to register for classes. These appointments may be dependent on the source of funding and student status (e.g. continuing vs. graduating).

OSU Financial Aid
The University Financial Aid Office administers student loans, grants, College work-study, and scholarship programs, including foreign student tuition scholarships. For more information, contact:

OSU Financial Aid Office
Oregon State University
218 Kerr Administration
Corvallis, OR 97331
541-737-2241
http://financialaid.oregonstate.edu/

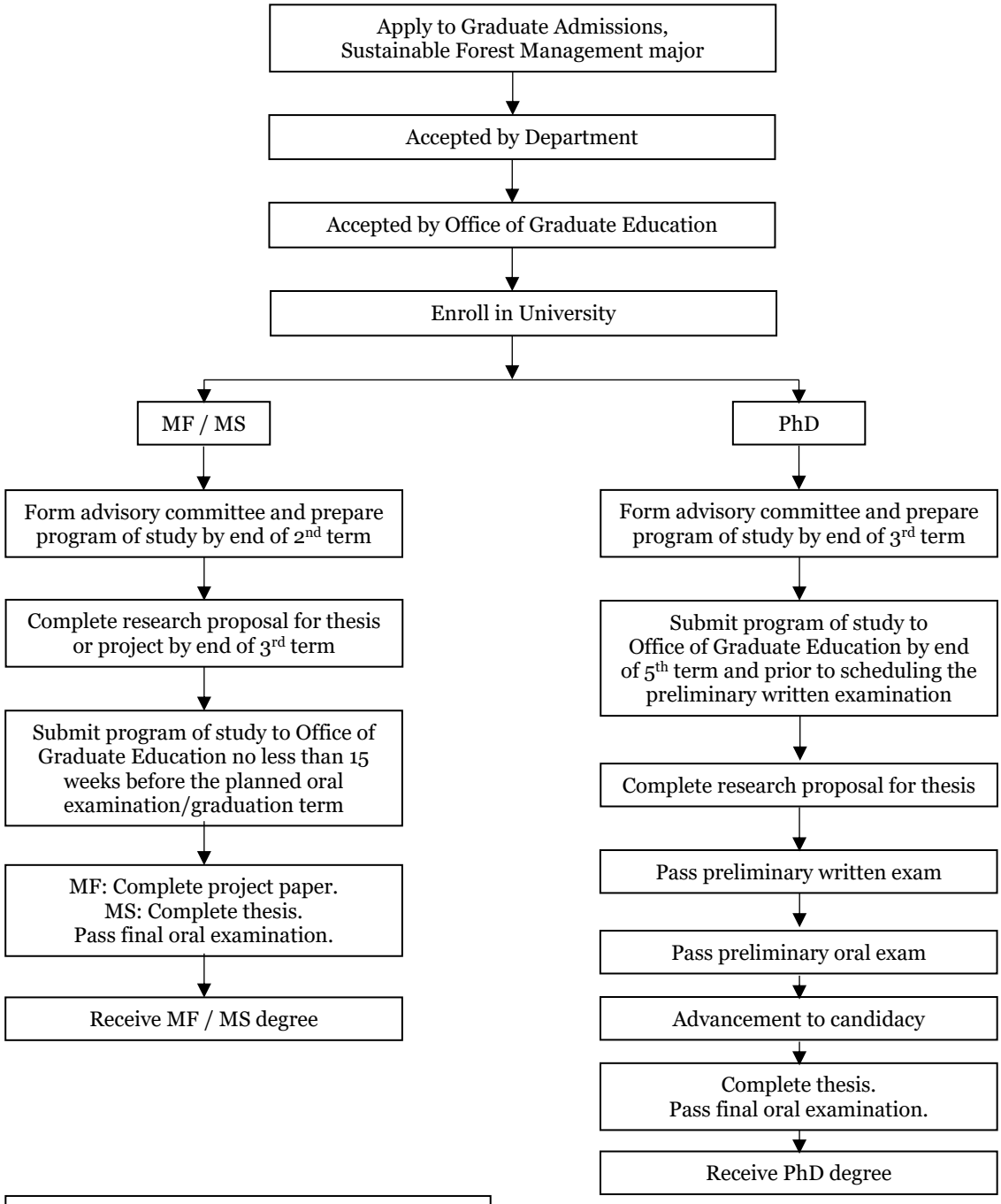
Performance Expectations

All students will be evaluated annually by their major professor(s) and/or committee on their progress toward completing a degree program. A written copy will be filed in the student's academic and/or employment file located electronically within the FERM Department office. For students employed as GAs, this evaluation must be completed prior to reappointment the following year. The major professor(s), supervisor(s), and/or committee may require more frequent evaluations and additional means of assessing performance and ability. Copies of these evaluation forms are available on the FERM website.

Students are expected to maintain a 3.0 grade point average (GPA), both overall and on program of study courses, to be satisfactorily progressing towards degree completion.

More information regarding graduate assistant performance expectations can be found on the Coalition of Graduate Employees (CGE) Bargaining Agreement, Article 15.

Flow Diagram for Graduate Program in Sustainable Forest Management



For additional information about the SFM degree requirements, download the MF, MS, and PhD degree program checklists and evaluation rubrics at: http://ferm.forestry.oregonstate.edu/current-graduate-student-information.

Copies of the unofficial rubrics and checklists may be found on pgs. 52-65 of this advising guide.

Immunizations

Oregon State University currently provides primarily in-person and on-site learning, teaching, work, programs and activities. We are confident we can continue to do so with the many plans and tools in place to help reduce the risk and spread of COVID-19.

Masks are welcome but not required at OSU. Additional information is detailed below and is available online: https://covid.oregonstate.edu.

Vaccination Requirements
Student immunizations are required. Visit the Student Health website for additional information on required vaccinations, how to submit, and how to request exemptions.

Effective June 2023, OSU does not require employees or students to show proof of COVID-19 vaccinations.

Master of Forestry (MF)

The degree of Master of Forestry in Sustainable Forest Management is designed for students who want one or more years of formal graduate work and who plan professional careers with forestry organizations, either public or private. The main objective is to improve students' knowledge of and competence in the principles and practice of active forest management to provide the full range of products and ecosystem services from forested landscapes. MF students choose from one of three programs with a focus on forest business, geomatics, and silviculture or a general MF program from one of the six areas of concentration.

Admission to the Program

A MF degree applicant must meet Graduate Admissions requirements, in addition to those of the Sustainable Forest Management graduate program. An applicant generally must hold a Bachelor's degree in Forestry, Forest Engineering or a related subject area, with preference from an institution accredited by the Society of American Foresters, and should have a high scholastic record (a grade point average of at least 3.0). In some cases, an applicant who does not meet these requirements may be conditionally admitted when, in the opinion of the FERM Graduate Admissions Committee and Department Head, the student's accomplishments indicate high potential for success as a MF candidate. For students with limited preparation, it may be necessary to take remedial courses or to pursue a Post-Baccalaureate degree in Forestry before or concurrent with embarking on the MF degree program. Such determinations are made prior to enrollment in the MF program.

More information helpful to prospective students interested in attaining a degree in Sustainable Forest Management can be found on the SFM Admission Information website.

Graduate Advisory Committee

The Department Head assigns a major professor to each MF student upon notification of admission, generally based on shared areas of interest. Students must have a major professor to be admitted. The major professor serves as the student's primary advisor in developing a program of coursework and in other academic matters. In the first year, the major professor will help the student establish an advisory committee. It will consist of a minimum three members: two members of the OSU Graduate Faculty from the student's department (one being the student's major professor), and one member of the Graduate Faculty outside the College of Forestry. *The Department Head is a de facto member of all student committees, identified as the Academic Unit Chair*. Proposed Emeritus and Courtesy Faculty members must be approved by the Department Head.

Professional Paper

Students must complete a professional paper to demonstrate experience in the communication of technical information and in synthesis of relevant material researched from scientific literature. The topic is decided by the student and their advisory committee. The paper should be of sufficient quality and depth to earn, by unanimous agreement of the advisory committee, a grade of B or better in a 3-6 credit course(s): FE/FOR 506 Project. (*See Outcomes Assessment of Graduate Programs, pg. 50.)*

Final Oral Examination

Given the broad educational objectives of the MF program, the oral examination is intended as a comprehensive evaluation of the candidate's ability to integrate knowledge from their entire program of study. Consideration of the professional paper may catalyze some discussion, but because it is not designed to be a work of original and innovative research, the topic of the paper usually will not dominate the examination. (*See Outcomes Assessment of Graduate Programs, pg. 50.)*

Graduate Coursework

Graduate coursework will be structured to meet all applicable regulations of the Office of Graduate Education. A minimum 45 credit hours of graduate-level coursework is required. *Courses taken to meet the minimum educational background may not be used to meet this requirement*. At least 50% of the coursework, including project (FE/FOR 506), must be graduate level only (G). *Per OSU policy, a graduate student who has taken a 4xx course may not normally include the corresponding 5xx course on their graduate program.*

Required Courses

- All graduate students pursuing a Master of Forestry degree within the Sustainable Forest Management graduate program are required to undertake a 7-10 credit core in forest management consisting of:
    1. **Graduate Level Statistics or Econometrics** (3-4 credits): Graduate level courses in either statistics or econometrics are to be agreed upon by the student's committee. Options may include ST 511, FES 523, or AEC 546.
    2. **Critical Thinking and Research Methods** (4 credits): Lectures and seminars in foundation of science, critical thinking, and research methods with special emphasis on sustainable forest management. All students must complete FOR 530 or FOR 550 (replaced by FOR 530 effective Fall 2024).
    3. **Ethics in Professional Activities** (0-3 credits): Your program of study must declare how you are meeting the ethics graduate learning outcome. The Office of Graduate Education (and FERM) is accepting several methods of completing the ethics requirement. The easiest method is through FOR 530, a required class containing a module dedicated to research and the conduct of scholarly or professional activities in an ethical manner. *For students enrolled prior to academic year 2024-25, an additional class that meets the ethics training must be completed. The available courses for this situation are (1) GRAD 520, (2) FES 522, or (3) CITI online course. If an online course is completed, the certificate of completion must be submitted to the Curriculum Coordinator for inclusion in the student's academic file.*
- A 3-6 credit project (FE/FOR 506), leading to a professional paper, that permits the student to pursue an interest in Sustainable Forest Management in their chosen focus or area of concentration while providing practice in technical communication.

Communication Training

Students must present on a topic related to their project/professional paper at one professional symposium or conference during their program. The presentation requirement can be satisfied through:

- Participation in the Confluence Graduate Student Symposium (formerly WFGRS) held each Spring term, presenting a poster on their proposed project *or* an oral summary of project results. The FERM Department strongly encourages this option.
- Presenting posters and papers at professional meetings, other on-campus seminars, or other seminar or presentation options as approved by their committee

MF Program Time Limit

Graduate students are required to enroll for a minimum 3 graduate-level credits each academic term (see Continuous Enrollment for additional information). All coursework, project credit, and examinations for the MF Degree must be completed within a seven-year period. This requirement is strictly enforced by the Office of Graduate Education.

Program of Study

The program of study is a digital form that is based on the student's educational background, professional experience, current interests, and future goals. The program is developed, documented, approved, and its progress is monitored by the advisory committee and the Department Head (Academic Unit Chair). The program of study must be submitted to the Office of Graduate Education within 15 weeks of the final examination, but we encourage students to file their form before completion of 18 graduate credits.

A program of study must include a minimum of 50% graduate student only level coursework, including project credits (G). Classes where undergraduate seniors are also permitted are designated as (g) or "slash" coursework.

Additional guidance for completing the program of study is available on page 45.

Example Programs of Study for MF

The SFM program offers three professional MF focal areas in forest business, spatial analysis, and silviculture. Example focus area study programs are shown on the following pages.

As an alternative to the three MF focal areas, the student and their advisory committee may select any of the six SFM areas of concentration to match their specific area of interest. If an area of concentration pathway is chosen, the student and their advisory committee will develop a specialized program of study, which may include work in another field (as needed) to prepare the student for the MF project and professional paper.

Should the student wish to deviate from the program required core coursework, they must file a course substitution petition with the Curriculum Coordinator.

Forest Business for Private Landowners Focus (MF)

The Forest Business for Private Landowners focus trains students to utilize business techniques to analyze decisions commonly made by private forest landowners to achieve their management objectives. Coursework and faculty expertise focus on areas such as economics, finance, and taxation.

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 5XX	Graduate-Level Statistics or Econometrics	3-4	g
Forest Resource Management Coursework:			
FOR 543	Silvicultural Practices	4	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
Business Core:			
BA 513*	Business Legal Environment	3	G
BA 515*	Managerial Decision Tools	3	G
BA 517*	Markets & Valuation	3	G
WSE 553	Forest Products Business	3	g
Forest Resource Policy and Economics (6 credits, pick two courses):			
FOR 534	Economics of the Forest Resource	3	G
FOR 561	Forest Policy Analysis	3	G
AEC 534*	Environmental and Resource Economics	3	G
FES 523	Quantitative Analysis in Social Science	4	G
Example Pool of Supporting Coursework:			
BA 540*	Corporate Finance	3	G
BA 561*	Supply Chain Management	3	G
BA 563	Family Enterprise Governance	4	g
FIN 542*	Investments	3	G
FIN 543*	Portfolio Management	4	g
WSE 561	Intro. To Wood Products Manufacturing	4	g
Other:			
FOR 506	Project / Professional Paper Communication Training	3	G
	Total	**45+**	

506 course registration numbers (CRNs) must be requested of the Curriculum Coordinator when needed.

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering.*

Spatial Science and Analysis Focus (MF)

The Spatial Science and Analysis focus is for those that wish to study the application of spatial science and tools for natural resources. GIS and remote sensing courses are highlighted in the curriculum, as is a requirement for spatial programming and statistics. Students completing this option should have a solid foundation for careers as analysts and potential managers for spatial operations.

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 5XX	Graduate-Level Statistics or Econometrics	3-4	g
GIS and Remote Sensing Core (8 credits):			
FE 544	Forest Remote Sensing & Photogrammetry	4	g
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
GEOG 580*	Remote Sensing I: Principles and Applications	4	G
Spatial Programming and Statistics (6+ credits, pick two courses):			
FE 557	Techniques for Forest Resource Analysis	4	g
FOR 520	Geospatial Forest Analysis	4	G
GEOG 562*	GIScience III: Programming for Geospatial Analysis	4	g
GEOG 565	Spatio-Temporal Variation in Ecology and Earth Sci	4	G
GEOG 566	Advanced Spatial Statistics and GIScience	4	G
Example Pool of Supporting Coursework:			
FE 523	Unmanned Aircraft System Remote Sensing	3	g
FOR 524	Forest Biometrics	3	G
FOR 525	Forest Modeling with Machine Learning	4	G
GEOG 561*	GIScience II: Analysis and Applications	4	G
GEOG 563	GISCience IV: Spatial Modeling	4	g
GEOG 564*	Geospatial Perspectives on Intelligence, Security, and Ethics	3	g
GEOG 581*	Satellite Image Analysis	4	g
Other:			
FE/FOR 506	Project / Professional Paper Communication Training	3	G
	Total	**45+**	

506 course registration numbers (CRNs) must be requested of the Curriculum Coordinator when needed.

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Silviculture, Fire, and Forest Health Focus (MF)

The Silviculture, Fire, and Forest Health focus trains students to manage forest vegetation dynamics and ecosystem processes to achieve a wide range of management objectives. Coursework and faculty expertise concentrate on areas such as silviculture, forest restoration, fire and fuels management, intensive timber production, forest regeneration, and forest ecosystem health.

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 5XX	Graduate-Level Statistics or Econometrics	3-4	g
Forest Resource Management Coursework (6+ credits, pick two courses):			
FOR 513	Forest Pathology	3	g
FOR 536	Wildland Fire Science and Management	4	g
FOR 543	Silvicultural Practices	4	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
FES 512	Forest Entomology	3	g
FES/FW 552*	Forest Wildlife Habitat Management	4	G
Ecology and Biology Coursework (3 credits):			
FES 536	Carbon Sequestration in Forests	3	G
FES 540	Wildland Fire Ecology	3	g
BOT 588	Environmental Physiology of Plants	3	g
Inventory and Measurement Coursework (3+ credits, pick one):			
FE 544	Forest Remote Sensing and Photogrammetry	4	g
FOR 524	Forest Biometrics	3	G
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
GEOG 561*	GIScience II: Analysis and Applications	4	G
ST 531*	Sampling Methods	3	g
Forest Resource Policy and Economics (3 credits, pick one):			
FOR 531*	Economics and Policy of Forest Wildland Fire	3	g
FOR 534	Economics of the Forest Resource	3	G
FOR 561	Forest Policy Analysis	3	G
Example Pool of Supporting Coursework:			
FES 545*	Ecological Restoration	4	g
FES 548*	Invasive Plants: Biology, Ecology, and Management	3	G
BOT 525	Flora of the Pacific Northwest	3	g
RNG 521*	Rangeland Restoration and Management	4	g
Other:			
FOR 506	Project / Professional Paper Communication Training	3	G
	Total	**45+**	

506 course registration numbers (CRNs) must be requested of the Curriculum Coordinator when needed.

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Master of Science (MS)

The Master of Science in Sustainable Forest Management is appropriate for students who want two or more years of formal graduate work and who wish to develop a limited research specialization. Designed primarily for people pursuing careers in research or teaching, the MS program can be either a terminal degree or the first step toward a doctorate. The program provides an independent research opportunity reported in a formal Master's Thesis.

Admission to the Program

A MS degree applicant must meet Graduate Admissions requirements, in addition to those of the Sustainable Forest Management graduate program. An applicant generally must hold a Bachelor's degree in Forestry, Forest Engineering or a related subject area, with preference from an institution accredited by the Society of American Foresters, and should have a high scholastic record (a grade point average of at least 3.0). In some cases, an applicant who does not meet these requirements may be conditionally admitted when, in the opinion of the FERM Graduate Admissions Committee and Department Head, the student's accomplishments indicate high potential for success as an MS candidate.

More information helpful to prospective students interested in attaining a degree in Sustainable Forest Management can be found on the SFM Admission Information website.

Graduate Advisory Committee

The Department Head assigns a major professor to each MS student upon notification of admission, generally based on shared areas of interest. The major professor serves as the student's primary advisor in developing a program of study, in selecting a research/thesis topic, and in other academic matters. Additionally, the major professor typically provides some or all funding for the research. An advisory committee will be selected jointly by the student and the major professor. It will consist of a minimum four members: two members of the OSU Graduate Faculty from the student's department (one being the student's major professor), one member of the Graduate Faculty from each declared minor department (if applicable) or one member of the Graduate Faculty from outside the College of Forestry, and a Graduate Council Representative (GCR). *The Department Head is a de facto member of all student committees, identified as the Academic Unit Chair*. Proposed Emeritus and Courtesy Faculty members must be approved by the Department Head.

Students must select a GCR from the list generated by the online GCR list generation tool. The student is responsible for contacting and securing a GCR. After a GCR is identified, the student will include the faculty contact's name on their program of study form (see below).

Thesis, Language Requirement, and Final Examination

The Office of Graduate Education prescribes the form of the thesis, as well as the timing and nature of the final oral examination. A thesis guide is available on the Office of Graduate Education's website for current students. The MS program has no foreign language requirement, unless the student's advisory committee stipulates otherwise. *(See Outcomes Assessment of Graduate Programs, pg. 50.)*

Graduate Coursework

Graduate coursework will be structured to meet all applicable regulations of the Office of Graduate Education. A minimum 45 credit hours of graduate-level coursework is required. *Courses taken to meet the minimum educational background may not be used to meet this requirement*. At least 50% of the coursework, including project (FE/FOR 506), must be graduate level only (G). *Per OSU policy, a graduate student who has taken a 4xx course may not normally include the corresponding 5xx course on their graduate program.*

Required Courses

- All graduate students pursuing a Master of Science degree in any concentration within the Sustainable Forest Management graduate program are required to undertake a 10-12-credit core in forest management and research methods consisting of:

    1. **Graduate-Level Statistics or Econometrics** (6-8 credits): Graduate-level courses in either statistics or econometrics should be agreed upon by the student's committee and approved by the program Academic Chair. Depending on area of concentration, options may include ST 511 and ST 512, ST 521 and ST 522, AEC 546 and FES 523.
    2. **Critical Thinking and Research Methods** (4 credits): Lectures and seminars in foundation of science, critical thinking, and research methods with special emphasis on sustainable forest management. All students must complete FOR 530 or FOR 550 (replaced by FOR 530 effective Fall 2024).
    3. **Ethics in Professional Activities** (0-3 credits): Your program of study must declare how you are meeting the ethics graduate learning outcome. The Office of Graduate Education (and FERM) is accepting several methods of completing the ethics requirement. The easiest method is through FOR 530, a required class containing a module dedicated to research and the conduct of scholarly or professional activities in an ethical manner. *For students enrolled prior to academic year 2024-25, an additional class that meets the ethics training must be completed. The available courses for this situation are (1) GRAD 520, (2) FES 522, or (3) CITI online course. If an online course is completed, the certificate of completion must be submitted to the Curriculum Coordinator for inclusion in the student's academic file.*

- Up to three required courses (6-11 credits) from the concentration the student has chosen

- A 6-12 credit thesis (FE/FOR 503) with their major professor.

Should the student wish to deviate from the program required core coursework, they must file a course substitution petition with the Curriculum Coordinator.

Communication Training

Students must participate in one symposium during the first year of their program to present their thesis proposal and must also participate in one graduate seminar at the end of their program to present their thesis results. These **two** presentation requirements can be satisfied through:

1. Participation in the Confluence Graduate Student Symposium (formerly WFGRS) held each Spring term, presenting a poster on the student's thesis topic in the first year **and** a oral summary treating thesis research results in the last year. The FERM Department strongly encourages this option.
1. Presenting posters and papers at professional meetings, other on-campus seminars, or other seminar or presentation options as approved by their committee
2. *If offered, a one-credit seminar prep course (FOR/FES/WSE 507) may fulfill one of these two presentations*

MS Program Time Limit

Graduate students are required to enroll for a minimum 3 graduate-level credits each academic term (see Continuous Enrollment for additional information). All coursework, thesis credit, and examinations for the MS degree must be completed within a seven-year period. This requirement is strictly enforced by the Office of Graduate Education.

Program of Study

The program of study is a digital form that is based on the student's educational background, professional experience, current interests, and future goals. The program is developed, documented, approved, and its progress is monitored by the advisory committee and the Department Head (Academic Unit Chair). The program of study must be submitted to the Office of Graduate Education within 15 weeks of the final examination, but we encourage students to file their form before completion of 18 graduate credits.

The program of study will be developed by the student and their advisory committee and may include work in other fields (as needed) to prepare the student for the MS thesis. A program of study must include a minimum of 50% graduate student only level coursework, including thesis (G). Classes where undergraduate seniors are also permitted are designated (g) or "slash" coursework.

Additional guidance for completing the program of study is available on page 45.

Example Programs of Study for MS

The SFM program offers six research areas of concentration. Each area of concentration has background requirements that must be completed, either with acceptable courses taken from a prior degree or with additional courses while enrolled as a MS student at OSU. Example programs for the six areas of concentration are shown on the following pages.

Forest Operations Planning and Management (MS)

An example of a program for an MS in Forest Operations Planning and Management might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 512/512	Methods for Data Analysis I & II	8	g
Required Concentration Courses:			
FE 555	Forest Supply Chain Management	3	G
FE 557	Techniques for Forest Resource Analysis	4	g
Example Pool of Supporting Coursework:			
FE 523	Unmanned Aircraft System Remote Sensing	3	g
FE 540	Forest Operations Analysis	4	g
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FE 571	Harvesting Management	3	g
FOR 520	Geospatial Forest Analysis	4	G
FOR 561	Forest Policy Analysis	3	G
FES 536*	Carbon Sequestration in Forests	3	G
FES 552*	Forest Wildlife Habitat Management	4	G
FES 555*	Urban Forest Planning, Policy & Management	4	g
FES 586*	Public Lands Policy & Management	3	g
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
IE 515	Simulation & Decision Support Systems	4	g
IE 521	Industrial Systems Optimization I	3	G
IE 545	Human Factors Engineering	4	G
H 594*	Applied Ergonomics	3	g
Other Required:			
FE 503	Thesis	6-12	G
FE XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Policy Analysis and Economics (MS)

An example of a program for an MS in Forest Policy Analysis and Economics, with a policy question in wildland fire management, might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
FES 522	Research Methods Social Science	4	g
	(Pick two courses, 8 credits):		
ST 511/512	Methods of Data Analysis I & II	8	g
or			
AEC 546	Introduction to Applied Econometrics	4	g
and			
FES 523	Quantitative Analysis in Social Science	4	G
Required Concentration Courses (6+ credits, pick two courses):			
FOR 531*	Economics and Policy of Forest Wildland Fire	3	g
FOR 534	Economics of the Forest Resource	3	G
FOR 561	Forest Policy Analysis	3	G
AEC 532*	Environmental Law	4	g
ECON 517*	Microeconomic Theory for MPP	4	G
Example Pool of Supporting Coursework:			
FE 557	Techniques for Forest Resource Analysis	4	g
FOR 536	Wildland Fire Science and Management	4	g
FOR 543	Silvicultural Practices	5	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
FES 585*	Consensus and Natural Resources	3	g
ANTH 591	Ethnographic Methods	4	G
ANTH 593	Statistical Applications in Anthropology	4	G
GEOG 512	Social-Ecological Systems	3	G
GEOG 551*	Planning Principles & Practices for Resilient Comms	4	g
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
WSE 553	Forest Products Business	3	g
WSE 561	Intro. To Wood Products Manufacturing	4	g
Other Required:			
FOR 503	Thesis	6-12	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Biometrics and Geomatics (MS)

An example of a program for an MS in Forest ***Biometrics*** might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 521/522	Introduction to Mathematical Statistics I & II	8	g
Required Concentration Courses (6+ credits, pick two courses):			
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FOR 524	Forest Biometrics	3	G
FOR 525	Forest Modeling with Machine Learning	4	G
Example Pool of Supporting Coursework:			
FOR 520	Geospatial Forest Analysis	4	G
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
FES 524	Natural Resources Data Analysis	4	G
FES 527*	Forest Carbon Analysis for Assess. & Policy Agree.	3	G
FES 536*	Carbon Sequestration in Forests	3	G
BOT 588	Environmental Physiology of Plants	3	g
GEOG 562*	GIScience III: Programming for Geospatial Analysis	4	g
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
GEOG 566	Advance Spatial Statistics and GIS Science	4	G
ST 531*	Sampling Methods	3	g
ST 541	Probability, Computing, & Simulation in Statistics	4	G
ST 551	Statistical Methods I	4	G
ST 552	Statistical Methods II	4	G
ST 553	Statistical Methods III	4	G
ST 565	Time Series	3	G
Other Required:			
FOR 503	Thesis	6-12	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Biometrics and Geomatics (MS) cont.

An example of a program for an MS is Forest ***Geomatics*** might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
Required Concentration Courses (6+ credits, pick two courses):			
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FOR 520	Geospatial Forest Analysis	4	G
FOR 524	Forest Biometrics	3	G
GEOG 560*	GIScience I: Intro to GIS	4	G
GEOG 561*	GIScience II: Analysis and Applications	4	G
Example Pool of Supporting Coursework:			
FE 515	Forest Road Engineering	4	g
FE 523	Unmanned Aircraft System Remote Sensing	3	g
FE 532	Forest Hydrology	4	G
FOR 525	Forest Modeling with Machine Learning	4	G
FOR 536	Wildland Fire Science and Management	4	g
CE 562	Digital Terrain Modeling	4	G
GEOG 562*	GIScience III: Programming for Geospatial Analysis	4	g
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
GEOG 566	Advance Spatial Statistics and GIS Science	4	G
GEOG 580*	Remote Sensing I: Principles and Applications	4	G
GEOG 581*	Satellite Image Analysis	4	g
ST 513	Methods of Data Analysis III	4	g
Other Required:			
FE/FOR 503	Thesis	6-12	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Silviculture, Fire, Forest Health, and Biodiversity (MS)

An example of a program for an MS in Silviculture, Fire, Forest Health, and Biodiversity might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
Required Concentration Course (6+ credits, minimum of two courses):			
FOR 513	Forest Pathology *OR*	3	g
	BOT 561: Mycology	4	g
FOR 536	Wildland Fire Science and Management	4	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics *OR*	3	G
	FOR 543: Silvicultural Practices	5	g
FES 512	Forest Entomology	3	g
FES 542	Wildlife Landscape Ecology	3	G
Example Pool of Supporting Coursework:			
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FOR 526	3-PG Forest Growth Model	2	G
FOR 531*	Economics & Policy of Forest Wildland Fire	3	g
FOR 542	International Intensive Silviculture	2	G
FOR 552	Prescribed Fire Practicum	3	g
FOR 561	Forest Policy Analysis	3	G
FES 524	Natural Resources Data Analysis	4	G
FES 536	Carbon Sequestration in Forests	3	G
FES 540	Wildland Fire Ecology	3	g
FES 545*	Ecological Restoration	4	g
FES 548*	Biology of Invasive Plants	3	G
FES 552*	Forest Wildlife Habitat Management	4	G
FES 577	Agroforestry	3	g
BOT 551	Plant Pathology	4	g
BOT 588	Environmental Physiology of Plants	3	g
CE 512	Hydrology	4	g
CROP 540*	Weed Management	4	g
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
RNG 557	Habitat Analysis 1: Habitat Use and Movement	3	g
ST 531*	Sampling Methods	3	g
Other Required:			
FE/FOR 503	Thesis	6-12	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Soil and Watershed Processes (MS)

An example of a program for an MS in Forest Soil and Watershed Processes might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
Required Concentration Courses (6+ credits, pick two courses):			
FE 530*	Watershed Processes	4	g
FE 536	Forest Disturbance Hydrology	4	g
SOIL 523	Principles of Stable Isotopes	3	G
SOIL 535	Soil Physics	3	G
Example Pool of Supporting Coursework:			
FE 536	Watershed Impacts of Forest Disturbance	4	G
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FE 545	Fluvial Geomorphology	4	G
BEE 512*	Physical Hydrology	3	G
BEE 542	Vadose Zone Transport	4	G
BEE 546	River Engineering	4	g
CE 516	Stormwater Design & Management	4	G
CE 544	Open Channel Flow	3	G
FES 524	Natural Resources Analysis and Application	4	G
GEOG 596	Field Research in Geomorphology & Landscape Eco	3	G
SOIL 525	Mineral Organic Matter Interactions	3	G
SOIL 545*	Environmental Soil Chemistry	3	g
SOIL 566	Soil Morphology and Classification	4	g
Other Required:			
FE/FOR 503	Thesis	6-12	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Engineering for Sustainable Forestry (MS)

An example of a program for an MS in Engineering for Sustainable Forestry might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
Required Concentration Course (6+ credits, pick two courses):			
FE 515	Forest Road Engineering	3	g
FE 516	Forest Road System Management	4	g
FE 536	Forest Disturbance Hydrology	4	g
FE 571	Harvesting Management	3	g
Example Pool of Supporting Coursework:			
FE 530	Watershed Processes	4	g
FE 540	Forest Operations Analysis	4	g
FE 570	Logging Mechanics	4	g
FOR 561	Forest Policy Analysis	3	G
CE 579	Slope and Embankment Design	3	g
GEOG 560*	GIScience I: Intro to GIS	4	G
GEOG 561*	GIScience II: Analysis and Applications	4	G
Other Required:			
FE 503	Thesis	6-12	G
FE XXX	Seminar – *see Communication Training*		
	Total	**45+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Doctor of Philosophy (PhD)

The doctoral program in Sustainable Forest Management is intended for people seeking careers in teaching and/or research. The program emphasizes strong research specialization while maintaining an understanding and appreciation of broader management and resource-use issues. The dissertation and associated research play a dual role by enabling the student to develop in-depth knowledge of specific technical areas, while gaining experience in conceptualizing, planning, conducting, and reporting a major research project. PhD students choose from one of six research areas of concentration.

Admission to the Program

A PhD degree applicant must meet Graduate Admissions requirements, in addition to those of the Sustainable Forest Management graduate program. An applicant generally must hold a Bachelor's degree in Forestry or a related area, with preference from an institution accredited by the Society of American Foresters, and should have a high scholastic record (a grade point average of 3.00 or higher). Students are encouraged to complete a Master's degree before entering the program, though it is not required. In rare cases, an applicant who does not meet these requirements may be admitted conditionally when, in the opinion of the FERM Graduate Admissions Committee and Department Head, the student's accomplishments indicate high potential for success as a PhD candidate.

More information helpful to prospective students interested in attaining a degree in Sustainable Forest Management can be found on the SFM Admission Information website.

Minimum Education Background

Each student must demonstrate competence in broad areas of forestry knowledge through the completion of appropriate coursework for a prior degree or while in residence at OSU, as determined by their advisory committee. Background coursework may be different for each area of concentration.

Competence

In addition, each student's program will be designed to ensure competence in the following areas:

1. Coursework and examinations in the field(s) of concentration,
2. Research methods,
3. Teaching methods.

Graduate Advisory Committee

A graduate advisory committee is selected by the student and their major professor, generally before the end of the student's first year of enrollment at OSU. The committee will consist of a minimum five members: at least two members of the Graduate Faculty from the student's department (one being the student's major professor), one member of the Graduate Faculty from each declared minor department (if applicable), and a Graduate Council Representative (GCR). *The Department Head is a de facto member of all student committees, identified as the Academic Unit Chair*. Proposed Emeritus and Courtesy Faculty members must be approved by the Department Head.

Students must select a GCR from the list generated by the online GCR list generation tool. The student is responsible for contacting and securing a GCR. After a GCR is identified, the student will include the faculty contact's name on their program of study form (see below).

Dissertation, Examinations, and Language Requirement

The Office of Graduate Education prescribes the form of the dissertation, as well as the timing and nature of the preliminary oral and final oral examinations. A guide is available on the Office of Graduate Education's website for current students. The SFM program also requires completion of a written comprehensive exam prior to the scheduling of the oral preliminary exam. The SFM PhD program has no foreign language requirement, unless the student's advisory committee stipulates otherwise.

Written Preliminary Examination

Successful completion of a written preliminary examination is a prerequisite to the oral comprehensive examination. The written examination will consist of questions in each field of specialization and may include additional questions that the student's committee deems appropriate. The examination must provide a comprehensive assessment of the student's competence in both the theory and research methods appropriate to the dissertation area and fields of specialization elected within that area. *(See Outcomes Assessment of Graduate Programs, pg. 52.)*

The written exam contains questions submitted and evaluated by the candidate's committee. The major professor coordinates the testing. It is scheduled by the student's committee near the completion of courses and is intended to test the student's preparation to do graduate research and to determine the extent of the student's knowledge in the major and minor subject areas. The topics should be integrative in nature, requiring the student to demonstrate the ability to apply principles to current problems. Additional questions can be solicited from other faculty to completely cover the topics in the candidate's program.

Oral Preliminary Examination

The oral preliminary examination should cover the same area as the written examination, the prospective dissertation research, and other topics relevant to the student's preparation. The oral examination will be scheduled as soon as possible, after the successful completion of the written examination and is coordinated through the Office of Graduate Education. In all deliberations and decisions regarding the oral examination, the current Office of Graduate Education policies will apply. Upon successful completion of the oral examination, the student is advanced to "candidacy" for the doctorate. *(See Outcomes Assessment of Graduate Programs, pg. 52.)*

Final Oral Examination

The candidate is ready to defend their dissertation once all dissertation components are successfully completed and have been approved by the major professor. The draft dissertation is distributed to the graduate committee no less than two weeks prior to the final oral examination, which is scheduled through the Office of Graduate Education. In all deliberations and decisions regarding the final examination, the current Office of Graduate Education policies will apply. Upon successful completion of the final oral examination, the candidate is certified for award of the PhD degree. *(See Outcomes Assessment of Graduate Programs, pg. 52.)*

Graduate Coursework

Graduate coursework will be structured to meet all applicable regulations of the Office of Graduate Education. A minimum 108 credit hours of graduate-level coursework is required. *Courses taken to meet the minimum educational background may not be used to meet this requirement*. At least 50% of the coursework, including project (FE/FOR 506), must be graduate level only (G). *Per OSU policy, a graduate student who has taken a 4xx course may not normally include the corresponding 5xx course on their graduate program.*

While transfer credits from a Master's institution are permissible on the PhD program of study form, the cumulative equivalent of one full-time academic year of regular OSU non-blanket coursework (defined as 36 credits) must be included in a doctoral program. Students wishing to transfer credits must use the appropriate form prior to submitting their program of study.

Required Courses

- All graduate students pursuing a Doctor of Philosophy degree in any concentration within the Sustainable Forest Management graduate program are required to undertake a 10-12-credit core in forest management and research methods consisting of:
    1. **Graduate-Level Statistics or Econometrics** (6-8 credits): Graduate-level courses in either statistics or econometrics should be agreed upon by the student's committee and approved by the program Academic Chair. Depending on area of concentration, options may include ST 511 and ST 512, ST 521 and ST 522, AEC 546 and FES 523.
    2. **Critical Thinking and Research Methods** (4 credits): Lectures and seminars in foundation of science, critical thinking, and research methods with special emphasis on sustainable forest management. All students must complete FOR 530 or FOR 550 (replaced by FOR 530 effective Fall 2024).
    3. **Ethics in Professional Activities** (0-3 credits): Your program of study must declare how you are meeting the ethics graduate learning outcome. The Office of Graduate Education (and FERM) is accepting several methods of completing the ethics requirement. The easiest method is through FOR 530, a required class containing a module dedicated to research and the conduct of scholarly or professional activities in an ethical manner. *For students enrolled prior to academic year 2024-25, an additional class that meets the ethics training must be completed. The available courses for this situation are (1) GRAD 520, (2) FES 522, or (3) CITI online course. If an online course is completed, the certificate of completion must be submitted to the Curriculum Coordinator for inclusion in the student's academic file.*
- Up to three required courses (6-11 credits) from the concentration the student has chosen
- A minimum of 36 credits of dissertation (FE/FOR 603) with their major professor

Should the student wish to deviate from the program required core coursework, they must file a course substitution petition with the Curriculum Coordinator.

Communication Training

Students must participate in one symposium during the first or second year of their program to present their dissertation proposal and must also participate in at least one graduate seminar at the end of their program to present their dissertation results. These **two** presentation requirements can be satisfied by:

1. Participation in the Confluence Graduate Student Symposium (formerly WFGRS) held each Spring term, presenting a poster on the student's dissertation topic in the first/second year **and** an oral summary of dissertation research results in the last year. The FERM Department strongly encourages this option.
2. Presenting posters and papers at professional meetings, other on-campus seminars, or other seminar or presentation options as approved by their committee
3. *If offered, a one-credit seminar prep course (FOR/FES/WSE 507) may fulfill one of these two presentations*

PhD Program Time Limit

Graduate students are required to enroll for a minimum 3 graduate-level credits each academic term (see Continuous Enrollment for additional information). All coursework, thesis credit, and examinations for the PhD degree must be completed within a nine-year period. This requirement is strictly enforced. An extension of this time limit may be requested by submitting a petition to the Office of Graduate Education.

Program of Study

The program of study is a digital form that is based on the student's educational background, professional experience, current interests, and future goals. The program is developed, documented, approved, and its progress is monitored by the advisory committee and the Department Head (Academic Unit Chair). We encourage PhD students to develop their program of study by the end of term three.

The program of study is prepared by the student and their advisory committee and may include work in another field (as needed) to prepare the student for the PhD dissertation. A program of study must include a minimum of 50% graduate student only level coursework, including thesis (G). Classes where undergraduate seniors are also permitted are designated (g) or "slash" coursework. The program of study must be submitted to the Office of Graduate Education before completion of term five and prior to scheduling the preliminary written examination.

Additional guidance for completing the program of study is available on page 45.

Example Programs of Study for PhD

The SFM program offers six research areas of concentration. Each area of concentration has background requirements that must be completed, either with acceptable courses taken from a prior degree or with additional courses while enrolled as a PhD student at OSU. Example programs for the SFM research areas of concentration are shown on the following pages.

Forest Operations Planning and Management (PhD)

An example of a program for a PhD in Forest Operations Planning and Management might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
or higher			
Required Concentration Courses:			
FE 555	Forest Supply Chain Management	3	G
FE 557	Techniques for Forest Resource Analysis	4	g
Example Pool of Supporting Coursework:			
FE 523	Unmanned Aircraft System Remote Sensing	3	g
FE 540	Forest Operations Analysis	4	g
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FOR 520	Geospatial Forest Analysis	4	G
FOR 524	Forest Biometrics	3	G
FOR 561	Forest Policy Analysis	3	G
FES 536*	Carbon Sequestration in Forests	3	G
FES 552*	Forest Wildlife Habitat Management	4	G
FES 586*	Public Lands Policy & Management	3	g
BA 562	Managing Projects	3	G
BA 550	Organization Leadership and Management	3	G
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
IE 515	Simulation & Decision Support Systems	4	g
IE 521	Industrial Systems Optimization I	3	G
IE 522	Industrial Systems Optimization II	3	G
IE 545	Human Factors Engineering	4	G
IE 563	Advanced Production Planning and Control	3	G
H 594*	Applied Ergonomics	3	g
ST 521	Introduction to Mathematical Statistics I	4	g
ST 522	Introduction to Mathematical Statistics II	4	g
ST 551	Statistical Methods I	4	G
ST 552	Statistical Methods II	4	G
Other Required:			
FE 603	Dissertation	36+	G
FE XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Policy Analysis and Economics (PhD)

An example of a program for a PhD in Forest Policy Analysis and Economics might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
FES 522	Research Methods Social Science	4	g
	(Pick two courses, 8 credits):		
ST 511/512	Methods of Data Analysis I & II	8	g
or			
AEC 546	Introduction to Applied Econometrics	4	g
and			
FES 523	Quantitative Analysis in Social Science	4	G
Required Concentration Courses (6+ credits, pick two courses):			
FOR 531*	Economics and Policy of Forest Wildland Fire	3	g
FOR 534	Economics of the Forest Resource	3	G
FOR 561	Forest Policy Analysis	3	G
AEC 532*	Environmental Law	4	g
ECON 517*	Microeconomic Theory for MPP	4	G
Example Pool of Supporting Coursework:			
FE 557	Techniques for Forest Resource Analysis	4	g
FOR 536	Wildland Fire Science Management	4	g
FOR 543	Silvicultural Practices	5	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
AEC 620	Advanced Microeconomic Theory I	4	G
AEC 621	Advanced Microeconomic Theory II	4	G
AEC 622	Advanced Microeconomic Theory III	4	G
AEC 624	Advanced Econometrics I	4	G
AEC 625	Advanced Econometrics II	4	G
AEC 626	Advanced Econometrics III	4	G
FES 585*	Consensus and Natural Resources	3	g
GEOG 512	Social-Ecological Systems	3	G
GEOG 560*	GIScience I: Intro to Geographic Information Science	4	G
WSE 553	Forest Products Business	3	g
Other Required:			
FOR 603	Dissertation	36+	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Biometrics and Geomatics (PhD)

An example of a program for a PhD in Forest ***Biometrics*** might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 521/522	Introduction to Mathematical Statistics I & II	8	g
or *higher*			
Required Concentration Courses (6+ credits, pick two courses):			
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FOR 524	Forest Biometrics	3	G
FOR 525	Forest Modeling with Machine Learning	4	G
Example Pool of Supporting Coursework:			
FOR 520	Geospatial Forest Analysis	4	G
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	3	G
FOR 561	Forest Policy Analysis	3	G
BOT 588	Environmental Physiology of Plants	3	g
FES 524	Natural Resources Data Analysis	4	G
GEOG 562*	GIScience III: Programming for Geospatial Analysis	4	g
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
GEOG 566	Advance Spatial Statistics and GIS Science	4	G
ST 525*	Applied Survival Analysis	3	G
ST 541	Probability, Computing, & Simulation in Statistics	4	G
ST 551	Statistical Methods I	4	G
ST 552	Statistical Methods II	4	G
ST 553	Statistical Methods III	4	G
ST 555	Advanced Experimental Design	3	G
ST 557	Applied Multivariate Analysis	3	G
ST 561	Theory of Statistics I	3	G
ST 562	Theory of Statistics II	3	G
ST 563	Theory of Statistics III	3	G
ST 565	Time Series	3	G
ST 567	Spatial Statistics	3	G
ST 623	Generalized Regression Models I	3	G
ST 625	Survival Analysis	3	G
Other Required:			
FOR 603	Dissertation	36+	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Biometrics and Geomatics (PhD) cont.

An example of a program for a PhD in Forest ***Geomatics*** might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
or higher			
Required Concentration Courses (6+ credits, pick two courses):			
FE 544	Forest Remote Sensing and Photogrammetry	4	g
FOR 520	Geospatial Forest Analysis	4	G
FOR 524	Forest Biometrics	3	G
GEOG 561*	GIScience II: Analysis and Applications	4	G
Example Pool of Supporting Coursework:			
FE 515	Forest Road Engineering	4	g
FE 523	Unmanned Aircraft System Remote Sensing	3	g
FE 532	Forest Hydrology	4	G
FOR 525	Forest Modeling with Machine Learning	4	G
FOR 536	Wildland Fire Science and Management	4	g
CE 561	Photogrammetry	3	g
CE 562	Digital Terrain Modeling	4	g
CE 564	Global Navigation Satellite System	4	G
CE 566	3D Laser Scanning and Imaging	4	G
CS 553	Scientific Visualization	4	G
GEOG 562*	GIScience III: Programming for Geospatial Analysis	4	G
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
GEOG 580*	Remote Sensing I: Principles and Applications	4	G
GEOG 581*	Satellite Image Analysis	4	g
ST 513	Methods of Data Analysis III	4	g
ST 565	Time Series	3	G
Other Required:			
FE/FOR 603	Dissertation	36+	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Silviculture, Fire, Forest Health, and Biodiversity (PhD)

An example of a program for a PhD in Silviculture, Fire, Forest Health, and Biodiversity might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
or higher			
Required Concentration Course (6+ credits, minimum of two courses):			
FOR 513	Forest Pathology *OR*	3	g
	BOT 561: Mycology	4	g
FOR 536	Wildland Fire Science and Management	4	g
FOR 549	Silvicultural Influences on Forest Eco. Dynamics *OR*	3	G
	FOR 543: Silvicultural Practices	5	g
FES 512	Forest Entomology	3	g
FES 542	Wildlife Landscape Ecology	3	G
Example Pool of Supporting Coursework:			
FE 544	Forest Remote Sensing and Photogrammetry	4	g
FOR 526	3-PG Forest Growth Model	2	G
FOR 531*	Economics & Policy of Forest Wildland Fire	3	g
FOR 542	International Intensive Silviculture	2	G
FOR 552	Prescribed Fire Practicum	3	g
FOR 561	Forest Policy Analysis	3	G
FES 524	Natural Resources Data Analysis	4	G
FES 536	Carbon Sequestration in Forests	3	G
FES 540	Wildland Fire Ecology	3	g
FES 545*	Ecological Restoration	4	g
FES 548*	Biology of Invasive Plants	3	G
FES 552*	Forest Wildlife Habitat Management	4	G
FES 577	Agroforestry	3	g
BOT 551	Plant Pathology	4	g
BOT 588	Environmental Physiology of Plants	3	g
CE 512	Hydrology	4	g
CROP 540*	Weed Management	4	g
GEOG 565	Spatio-Temporal Variation in Ecology & Earth Sci	4	G
RNG 557	Habitat Analysis 1: Habitat Use and Movement	3	g
ST 531*	Sampling Methods	3	g
Other Required:			
FE/FOR 603	Dissertation	36+	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Forest Soil and Watershed Processes (PhD)

An example of a program for a PhD in Forest Soil and Watershed Processes might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
or higher			
Required Concentration Course (6+ credits, pick two courses):			
FE 530*	Watershed Processes	4	g
FE 536	Forest Disturbance Hydrology	4	g
SOIL 523	Principles of Stable Isotopes	3	G
SOIL 535	Soil Physics	3	G
Example Pool of Supporting Coursework:			
FE 536	Watershed Impacts of Forest Disturbance	4	G
FE 544	Forest Remote Sensing & Photogrammetry	4	g
FE 545	Fluvial Geomorphology	4	G
FES 524	Natural Resource Data Analysis	4	G
FES 545*	Ecological Restoration	4	g
BEE 512*	Physical Hydrology	3	G
BEE 542	Vadose Zone Transport	4	G
BEE 546	River Engineering	4	g
BEE 549	Regional Hydrologic Modeling	3	G
CE 544	Open Channel Flow	3	G
FW 556*	Freshwater Ecology and Conservation	5	g
GEOG 596	Field Research in Geomorphology & Landscape Eco	3	G
SOIL 525	Mineral Organic Matter Interactions	3	G
SOIL 545*	Environmental Soil Chemistry	3	g
SOIL 566	Soil Morphology and Classification	4	g
ST 513	Methods for Data Analysis III	4	g
ST 515*	Design and Analysis of Planned Experiments	3	g
Other Required:			
FE/FOR 603	Dissertation	36+	G
FOR XXX	Seminar – *see Communication Training*		
	Total	**108+**	

**Course may be offered as on campus section or as Ecampus only. Ecampus credits carry higher tuition cost and should be discussed with major professor before registering*

Engineering for Sustainable Forestry (PhD)

An example of a program for a PhD in Engineering for Sustainable Forestry might look like:

		Credits	Level
SFM Core:			
FOR 530	Sustainable Forestry Research	4	G
or			
FOR 550	Sustainable Forest Management	3	G
and			
GRAD 520	Responsible Conduct of Research	2	G
ST 511/512	Methods of Data Analysis I & II	8	g
or higher			
Required Concentration Course (6+ credits, pick two courses):			
FE 515	Forest Road Engineering	3	g
FE 516	Forest Road System Management	4	g
FE 536	Forest Disturbance Hydrology	4	g
FE 571	Harvesting Management	3	g
Example Pool of Supporting Coursework:			
FE 530	Watershed Processes	4	g
FE 540	Forest Operations Analysis	4	g
FE 570	Logging Mechanics	4	g
FOR 534	Economics of the Forest Resource	3	G
FOR 561	Forest Policy Analysis	3	G
CE 579	Slope and Embankment Design	3	g
IE 521	Industrial Systems Optimization I	3	G
IE 522	Industrial Systems Optimization II	3	G
IE 545	Human Factors Engineering	4	G
Other Required:			
FE 603	Dissertation	36+	G
FE XXX	Seminar – *see Communication Training*		
	Total	**108+**	

Program of Study Guidance

Digital Program of Study (MF, MS, PhD)
The digital program of study is an online form that outlines the student's course plan for meeting the coursework degree requirements (45-credit for Masters, 108-credits for PhD). The digital program of study is accessible from the Office of Graduate Education's forms webpage. *When logging in, students will be asked to use the OSU Login button.*

Once logged into the system, students must select their major (Sustainable Forest Management), as well as their degree level (MF, MS, or PhD), and their program start date (typically their first date of enrollment). The webpage is divided into the following program of study specific sections: Program Information*, Checklist, Courses, Committee, and Additional Requirements. Included in each of these sections are informational videos accessed via the orange 'Help' links in the upper right corner. Students and faculty are encouraged to use these Help videos if unsure of how to proceed. Students may also consult the FERM Curriculum Coordinator for assistance.

*MF students must click the 'Capstone' button to generate a coursework column for Non-Thesis/Capstone Project credits (FE/FOR 506).

Once the Checklist section reflects only green checkmarks, the student will be able to 'Finalize' their program of study. *Students should use the 'Preview' section to review the draft with their major professor and advisory committee.* The system will ask the student if they are sure they want to 'Finalize' the form. *When the 'Finalize' button is selected, the system auto-routes the form to the student for electronic signature in DocuSign.* The form then routes to the FERM Curriculum Coordinator for audit and verification. If denied, the Curriculum Coordinator will provide notes for edit and ask the student to resubmit when fixed. If approved, the form will move forward to the advisory committee and Unit Chair for signatures. Once all signatures have been received, the form will receive its final audit by Office of Graduate Education staff. A final approved copy will be provided to the student and Curriculum Coordinator when available.

Students and members of their advisory committee are encouraged to attend 'Graduate Information Sessions' hosted each academic year by the College of Forestry Graduate Program Coordinators. Students and faculty are notified of these sessions by email prior to each session but may contact a department program coordinator for specific dates.

Dual Degree Program of Study
Students choosing to complete a dual degree program (offered to MS or PhD students) may be required to complete a different program of study form, as provided by the Office of Graduate Education. Visit their forms webpage for additional guidance.

Program of Study Changes
If changes need to be made to a program of study form after it has been approved by the Office of Graduate Education, the student must complete a Petition to Change in Program form prior to scheduling the final examination.

Note for student Veterans: Students receiving Veterans Assistance (VA) benefits may be required to submit the program of study within the **first term** of enrollment to maintain VA benefit eligibility. Visit the Military and Veteran Resource Center's website for additional information.

Course Scheduling

Below is a compilation of all courses listed in the Sustainable Forest Management Advising Guide and the quarter in which they are typically offered. *Some courses at Oregon State University are offered on alternate years or via Ecampus instruction (Ecampus marked with an *).* To find a complete list of courses offered by Oregon State University, visit the online General Catalog.

College of Forestry

Course Number and Title		Term Offered
FE 515	Forest Road Engineering	Winter
FE 516	Forest Road System Management	Spring
FE 523	Unmanned Aircraft System Remote Sensing	Fall
FE 530*	Watershed Processes	F / W – Alt YR
FE 536	Watershed Impacts of Forest Disturbance	Winter
FE 540	Forest Operations Analysis	Winter
FE 544	Forest Remote Sensing & Photogrammetry	Fall
FE 545	Fluvial Geomorphology	Winter – Alt YR
FE 555	Forest Supply Chain Management	Spring – Alt YR
FE 557	Techniques for Forest Resource Analysis	Fall
FE 570	Logging Mechanics	Winter
FE 571	Harvesting Management	Spring
FOR 508	Principles of Wildland Firefighting	Spring
FOR 513	Forest Pathology	Winter
FOR 520	Geospatial Forest Analysis	Winter – Alt YR
FOR 524	Forest Biometrics	Winter – Alt YR
FOR 525	Forest Modeling with Machine Learning	Winter – Alt YR
FOR 526	3-PG Forest Growth Model	Fall – Alt YR
FOR 530	Sustainable Forestry Research	Fall
FOR 531*	Economics and Policy of Forest Wildland Fire	Spring
FOR 534	Economics of the Forest Resource	Spring – Alt YR
FOR 536	Wildland Fire Science and Management	Fall
FOR 542	International Intensive Silviculture	Fall – Alt YR
FOR 543	Silvicultural Practices	Spring
FOR 549	Silvicultural Influences on Forest Eco. Dynamics	Fall
FOR 552	Prescribed Fire Practicum	Fall
FOR 561	Forest Policy Analysis	Winter – Alt YR

Additional College of Forestry course offerings from the Departments of Forest Ecosystems and Society and Wood Science and Engineering, as well as other OSU Colleges, are listed on the following pages.

College of Forestry cont.

Course Number and Title		Term Offered
FES 512	Forest Entomology	Spring
FES 522	Research Methods Social Science	Winter
FES 523	Quantitative Analysis in Social Science	Fall
FES 524	Natural Resources Data Analysis	Winter
FES 527*	Forest Carbon Analysis for Assess. & Policy Agree.	Spring
FES 536*	Carbon Sequestration in Forests	Winter
FES 540	Wildland Fire Ecology	Winter
FES 542	Wildlife Landscape Ecology	Fall - Alt YR
FES 545*	Ecological Restoration	F / W/ Sp / Su
FES 548*	Biology of Invasive Plants	Winter
FES 552*	Forest Wildlife Habitat Management	Winter – Alt YR
FES 555*	Urban Forest Planning, Policy, & Mgmt	Fall
FES 577	Agroforestry	Alt YR
FES 585*	Consensus and Natural Resources	F / W/ Sp / Su
FES 586*	Public Lands Policy & Management	F / W/ Sp / Su
WSE 553	Forest Products Business	Winter
WSE 561	Intro to Wood Products Manufacturing	Winter

College of Agricultural Sciences

Course Number and Title		Term Offered
AEC 512	Microeconomic Theory I	Fall
AEC 532*	Environmental Law	Spring
AEC 534*	Environmental and Resource Economics	Fall / Spring
AEC 546*	Intro to Applied Econometrics	Winter
AEC 620	Advanced Microeconomic Theory I	Fall
AEC 621	Advanced Microeconomic Theory II	Winter
AEC 622	Advanced Microeconomic Theory III	Spring
AEC 624	Advanced Econometrics I	Fall
AEC 625	Advanced Econometrics II	Winter
AEC 626	Advanced Econometrics III	Spring
BOT 525	Flora of the Pacific Northwest	Spring
BOT 551	Plant Pathology	Fall
BOT 561	Mycology	Fall
BOT 588	Environmental Physiology of Plants	Winter
CROP 540*	Weed Management	Fall / Winter
ECON 517*	Microeconomic Theory for MPP	Fall
FW 556*	Freshwater Ecology and Conservation	Spring
RNG 521*	Rangeland Restoration and Management	Fall / Spring
RNG 557	Habitat Analysis 1: Habitat Use and Movement	Fall
SOIL 523	Principles of Stable Isotopes	Winter – Alt YR
SOIL 525	Mineral Organic Matter Interactions	Winter
SOIL 535	Soil Physics	Winter – Alt YR
SOIL 545*	Environmental Soil Chemistry	W / Sp – Alt YR
SOIL 566	Soil Morphology and Classification	Fall / Spring

College of Business

Course Number and Title		Term Offered
BA 513*	Business Legal Management	W / Sp / Sum
BA 515*	Managerial Decision Tools	W / Sp / Sum
BA 517	Markets & Valuation	F / Sp / Sum
BA 540*	Corporate Finance	Fall / Winter
BA 561*	Supply Chain Management	Winter / Spring
BA 562*	Managing Projects	Fall
BA 563	Family Enterprise Governance	Spring – Alt YR
FIN 542*	Investments	Winter
FIN 543*	Portfolio Management	Spring – Alt YR

College of Earth, Ocean, and Atmospheric Sciences

Course Number and Title		Term Offered
GEOG 512	Social-Ecological Systems	Winter
GEOG 551*	Plan. Principles & Pract. For Resilient Comms.	Fall
GEOG 560*	GIScience I: Intro to Geographic Info. Science	F / W/ Sp
GEOG 561*	GIScience II: Analysis and Applications	Winter / Spring
GEOG 562*	GIScience III: Programming for Geospatial Analysis	Spring
GEOG 563	GIScience IV: Spatial Modeling	Spring – Alt YR
GEOG 564*	Geospatial Perspectives on Intelligence, Security, and Ethics	Fall / Spring
GEOG 565	Spatio-Temporal Variation in Ecology and Earth Science	Fall
GEOG 566	Advanced Spatial Statistics and GIScience	Spring
GEOG 580*	Remote Sensing I: Principles and Applications	Fall
GEOG 581 *	Satellite Image Analysis	Winter / Spring
GEOG 596	Field Research in Geomorph and Landscape Eco	Fall

College of Engineering

Course Number and Title		Term Offered
BEE 512*	Physical Hydrology	Fall
BEE 542	Vadose Zone Transport	Fall – Alt YR
BEE 546	River Engineering	Spring – Alt YR
BEE 549	Regional Hydrologic Modeling	Fall – Alt YR
CE 512	Hydrology	Fall / Spring
CE 516	Stormwater Design and Management	Winter
CE 544	Open Channel Flow	Winter – Alt YR
CE 561	Photogrammetry	Winter
CE 562	Digital Terrain Modeling	Spring – Alt YR
CE 564	Global Navigation Satellite System	Winter – Alt YR
CE 566	3D Laser Scanning and Imaging	Fall
CE 579	Slope and Embankment Design	Spring
CS 553	Scientific Visualization	Fall
IE 515	Simulation & Decision Support Systems	Winter
IE 521	Industrial Systems Optimization I	Fall – Alt YR
IE 522	Industrial Systems Optimization II	Fall – Alt YR
IE 545	Human Factors Engineering	F / Sp – Alt YR
IE 563	Advanced Production Planning and Control	Winter

College of Health

Course Number and Title		Term Offered
H 594*	Applied Ergonomics	Winter / Spring

College of Liberal Arts

Course Number and Title		Term Offered
ANTH 591	Ethnographic Methods	Winter
ANTH 593	Statistical Applications in Anthropology	Spring

College of Science

Course Number and Title		Term Offered
ST 511	Methods of Data Analysis I	F / W / Sum
ST 512	Methods of Data Analysis II	Winter / Spring
ST 513	Methods of Data Analysis III	Spring
ST 515*	Design and Analysis of Planned Experiments	Winter / Spring
ST 521	Introduction to Mathematical Statistics I	Fall / Summer
ST 522	Introduction to Mathematical Statistics II	W / Sum
ST 525*	Applied Survival Analysis	Fall
ST 531*	Sampling Methods	Fall
ST 541	Probability, Computing, & Simulation in Statistics	Fall
ST 551	Statistical Methods I	Fall
ST 552	Statistical Methods II	Winter
ST 553	Statistical Methods III	Spring
ST 555	Advanced Experimental Design	Fall – Alt YR
ST 557	Applied Multivariate Analysis	Fall – Alt YR
ST 561	Theory of Statistics I	Fall
ST 562	Theory of Statistics II	Winter
ST 563	Theory of Statistics III	Spring
ST 565	Time Series	Winter – Alt YR
ST 567	Spatial Statistics	Winter – Alt YR
ST 623	Generalized Regression Models I	Fall
ST 625	Survival Analysis	Winter – Alt YR

Outcomes Assessment of Graduate Programs

Master's (MF, MS) Degree Programs

The Graduate Council approved (February 25, 2011) the following motion regarding Graduate Learning Outcomes for all Master's students:

1. Conduct research or produce some other form of creative work,
2. Demonstrate mastery of subject material, and
3. Conduct scholarly or professional activities in an ethical manner.

MF Degree – Program Specific Learning Outcomes

1. Demonstrate proficiency in the area of study.
2. Define goals and motivation for professional project.
3. Demonstrate sound knowledge of literature and prior work in subject.
4. Demonstrate potential value of solution or application of research.
5. Apply state-of-the-art tools and methodologies.
6. Communicate effectively in written and verbal formats.
7. Demonstrate awareness of broader implications.
8. Produce publication from findings.
9. Justify awareness of responsible and ethical conduct of research.

MS Degree – Program Specific Learning Outcomes

1. Define goals and motivation for research.
2. Demonstrate sound knowledge of literature and prior work in subject.
3. Demonstrate potential value to research in advancement of knowledge.
4. Apply state-of-the-art tools and methodologies.
5. Analyze and interpret results effectively.
6. Communicate effectively in written and verbal formats.
7. Demonstrate capability for independent research and expertise in area of study.
8. Demonstrate awareness of broader implications.
9. Produce publication from findings.
10. Justify awareness of responsible and ethical conduct of research.

Program learning outcomes will be assessed at the final examination using the attached rubrics for MF or MS students (pgs. 53-54). Benchmark for satisfactory performance: The majority of the examining committee rates the achievement of the individual program learning outcome at a level of "Meets Expectations" or above. The assessment of program specific learning outcomes will inform the assessment of the three Graduate Learning Outcomes from the Graduate Council.

Students in a MF or MS program must maintain a 3.00 GPA on all required coursework. Any term that GPA falls below this average, the student will meet with the major advisor and the FERM Graduate Program Chair to develop an educational plan for addressing difficulties.

For SFM degree requirements and official degree program rubrics,
download the MF and MS degree program checklists and rubrics at:
http://ferm.forestry.oregonstate.edu/current-graduate-student-information

Doctoral (PhD) Degree Programs

The Graduate Council approved (February 25, 2011) the following motion regarding Graduate Learning Outcomes for all PhD students:

1. Produce and defend an original significant contribution to knowledge,
2. Demonstrate mastery of subject material, and
3. Conduct scholarly activities in an ethical manner.

PhD Degree – Program Specific Learning Outcomes

1. Define goals and motivation for research.
2. Demonstrate sound knowledge of literature and prior work in subject.
3. Demonstrate potential value to research in advancement of knowledge.
4. Apply state-of-the-art tools and methodologies.
5. Analyze and interpret results effectively.
6. Communicate effectively in written and verbal formats.
7. Demonstrate capability for independent research and expertise in area of study.
8. Demonstrate awareness of broader implications.
9. Produce publication from findings.
10. Justify awareness of responsible and ethical conduct of research.

Program learning outcomes will be assessed twice during the PhD program:

- For the oral preliminary examination, SFM PhD students will be assessed using the program rubrics on pg. 55, which encompass learning outcomes 1-9. Alternatively, assessment of learning outcomes 1-5 can be completed at a research proposal meeting (pg. 56) with learning outcomes 6-9 assessed separately at the preliminary oral examination (pg. 57).
- For the final oral examination, student learning outcomes are assessed using the final exam rubrics (pg. 58). Benchmark for satisfactory performance: The majority of the examining committee rates the achievement of the individual program learning outcome at a level of "Meets Expectations" or above. The assessment of program specific learning outcomes will inform the assessment of the three Graduate Learning Outcomes from the Graduate Council.

Students in the PhD program must maintain a 3.00 GPA on all required coursework. Any term that GPA falls below this average, the student will meet with the major advisor and the FERM Graduate Program Chair to develop an educational plan for addressing difficulties.

For SFM degree requirements and official degree program rubrics,
download the PhD degree program checklists and rubrics at:
http://ferm.forestry.oregonstate.edu/current-graduate-student-information

EVALUATION RUBRIC: PROJECT (MF) DEFENSE EXAM

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
1. Critical Thinking: Has demonstrated proficiency in the area of study.				
2. Project Definition: Has stated the goals of the professional project clearly, providing motivation for undertaking the project.				
3. Literature and Previous Work: Demonstrates sound knowledge of literature in the area, and of prior work on the specific problem.				
4. Impact of Proposed Project: Demonstrates the potential value of solution or application within the area of study.				
5. Solution Approach: Has applied sound state-of-the-field methods/tools to solve the defined problem and has described the methods/tools effectively.				
6. Quality of Written and Oral Communication: Communicates project results clearly and professionally in both **(a)** written and **(b)** oral form.				
7. Broader Impact: Demonstrated awareness of broader implications of the project. Broader implications may include social, economic, technical, ethical, business, etc. aspects.				
8. Publications: Journal or conference publications have resulted (or are anticipated) from this project.				
9. Ethics: Has received training in **(a)** responsible and ethical conduct of research, OR **(b)** professional conduct through specific coursework, workshops, or mentoring.	YES/NO			

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 1-9 above.

CRITERIA	PERFORMANCE RATINGS		
	Does NOT PASS FINAL DEFENSE Exam	Passes Final Defense Exam	
OVERALL, My rating of the Examination	Does not meet expectations	Meets Expectations	Exemplary Performance

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

EVALUATION RUBRIC: THESIS (MS) DEFENSE EXAM

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
1. Problem Definition: Stated the research problem clearly, providing motivation for undertaking the research.				
2. Literature and Previous Work: Demonstrates sound knowledge of literature in the area, and of prior work on the specific research problem.				
3. Impact of Proposed Research: Demonstrates the potential value of solution to the research problem in advancing knowledge within the area of study.				
4. Solution Approach: Has applied sound state-of-the-field research methods/tools to solve the defined problem and has described the methods/tools effectively.				
5. Results: Analyzed and interpreted research results/data effectively.				
6. Quality of Written and Oral Communication: Communicates research results clearly and professionally in both **(a)** written and **(b)** oral form.				
7. Critical Thinking: Has demonstrated capability for independent research results in the area of study and expertise in the area.				
8. Broader Impact: Demonstrates awareness of broader implications of the concluded research. Broader implications may include social, economic, technical, ethical, business, etc. aspects.				
9. Publications: Journal or conference publications have resulted (or are anticipated) from this research.				
10. Ethics: Has received training in responsible and ethical conduct of research (RCR) through specific coursework or workshops.	YES/NO			

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 1-10 above.

CRITERIA	PERFORMANCE RATINGS		
	Does NOT PASS FINAL DEFENSE Exam	**Passes Final Defense Exam**	
OVERALL, My rating of the Examination	**Does not meet expectations**	**Meets Expectations**	**Exemplary Performance**

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

EVALUATION RUBRIC: PRELIMINARY (PhD) EXAM – PROPOSAL PRESENTATION

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
1. Problem Definition: States the research problem clearly, providing motivation for undertaking the research.				
2. Literature and Previous Work: Demonstrates sound knowledge and ability to synthesize literature in the area, and of prior work on the specific research problem.				
3. Impact of Proposed Research: Demonstrates the potential value of solution to the research problem in advancing knowledge within the area of study.				
4. Solution Plan: Provides a sound plan for applying state-of-the-field research methods/tools to solving the defined problem and shows a good understanding of how to use methods/tools effectively.				
5. Expected Results: Provides a sound plan for analyzing and interpreting research results/data.				
6. Quality of Written and Oral Communication: Communicates information clearly and professionally in both **(a)** written and **(b)** oral form.				
7. Critical Thinking: Demonstrates capability for independent research in the area of study, preparedness in core disciplines, including field measurements and analytic techniques.				
8. Broader Impact: Demonstrates awareness of broader implications of research in the study area. Broader implications may include social, economic, technical, ethical, business, etc. aspects.				
9. Ethics: Has received training in responsible and ethical conduct of research (RCR) through specific coursework or workshops.	YES/NO			

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 1-9 above.

CRITERIA	PERFORMANCE RATINGS		
	Does NOT PASS PRELIMINARY Exam	**Passes Preliminary Exam**	
OVERALL, My rating of the Examination	**Does not meet expectations**	**Meets Expectations**	**Exemplary Performance**

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

EVALUATION RUBRIC: PROPOSAL PRESENTATION

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
1. Problem Definition: States the research problem clearly, providing motivation for undertaking the research.				
2. Literature and Previous Work: Demonstrates sound knowledge and ability to synthesize literature in the area, and of prior work on the specific research problem.				
3. Impact of Proposed Research: Demonstrates the potential value of solution to the research problem in advancing knowledge within the area of study.				
4. Solution Plan: Provides a sound plan for applying state-of-the-field research methods/tools to solving the defined problem and shows a good understanding of how to use methods/tools effectively.				
5. Expected Results: Provides a sound plan for analyzing and interpreting research results/data.				

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 1-5 above.

CRITERIA	PERFORMANCE RATINGS		
OVERALL, My rating of the Performance	**Does not meet expectations**	**Meets Expectations**	**Exemplary Performance**

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

EVALUATION RUBRIC: PRELIMINARY (PhD) EXAM

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
6. Quality of Written and Oral Communication: Communicates information clearly and professionally in both **(a)** written and **(b)** oral form.				
7. Critical Thinking: Demonstrates capability for independent research in the area of study, preparedness in core disciplines, including field measurements and analytic techniques.				
8. Broader Impact: Demonstrates awareness of broader implications of research in the study area. Broader implications may include social, economic, technical, ethical, business, etc. aspects.				
9. Ethics: Has received training in responsible and ethical conduct of research (RCR) through specific coursework or workshops.	YES / NO			

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 6-9 above.

CRITERIA	PERFORMANCE RATINGS		
	Does NOT PASS PRELIMINARY Exam	**Passes Preliminary Exam**	
OVERALL, My rating of the Examination	**Does not meet expectations**	**Meets Expectations**	**Exemplary Performance**

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

EVALUATION RUBRIC: DISSERTATION (PhD) FINAL EXAM

Candidate Name: _____ Date: _____

Title of Project: _____

Evaluation / Guidance	Does not meet Expectations	Meets Expectations	Exemplary Performance	Not Observed
1. Problem Definition: Stated the research problem clearly, providing motivation for undertaking the research.				
2. Literature and Previous Work: Demonstrates sound knowledge and ability to synthesize literature in the area, and of prior work on the specific research problem.				
3. Impact of Proposed Research: Demonstrates the potential value of solution to the research problem in advancing knowledge within the area of study.				
4. Solution Plan: Has applied sound state-of-the-field research methods/tools to solve the defined problem and has described the methods/tools effectively.				
5. Results: Analyzed and interpreted research results/data effectively.				
6. Quality of Written and Oral Communication: Communicates research results clearly and professionally in both **(a)** written and **(b)** oral form.				
7. Critical Thinking: Has demonstrated capability for independent research in the area of study, <u>significant expertise in the area</u>, including field measurements and analytic techniques, and ability to make original contributions to the field.				
8. Broader Impact: Demonstrates awareness of broader implications of the research in the study area. Broader implications may include social, economic, technical, ethical, business, etc. aspects.				
9. Ethics: Has received training in responsible and ethical conduct of research (RCR) through specific coursework or workshops.	YES / NO			
10. Publications: Journal or conference publications have resulted (or are anticipated) from this research.				

Overall Assessment: The assessment of the overall performance of the candidate based on the evidence provided in items 1-10 above.

CRITERIA	PERFORMANCE RATINGS		
	Does NOT PASS FINAL DEFENSE Exam	**Passes Final Defense Exam**	
OVERALL, My rating of the Examination	**Does not meet expectations**	**Meets Expectations**	**Exemplary Performance**

Name of the Examining Committee Member: _____

Signature of the Examining Committee Member: _____

Sustainable Forest Management Graduate Program
MF Checklist

STARTING OUT

What to do	When to do it	Has it been done?
Attend FALL orientation (even if you were admitted in winter or spring)	Within 1st year in the program	☐
Seek advice from Major Professor and register for courses	Before registration opens each term	☐
Review the University Continuous Enrollment Policy https://catalog.oregonstate.edu/college-departments/graduate-school/#continuous-enrollment Be sure to register for a minimum of three (3) credits per term, unless otherwise specified (e.g. graduate assistantship)	Within 1st term, review as needed	☐
Form your graduate committee; must meet OSU Graduate Committee requirements: https://graduate.oregonstate.edu/current-students/graduate-committee Major Professor Minor Professor or Co-Major Professor (*if applicable*) Committee member from Grad Faculty at-large **MF committee must consist of at least three (3) faculty; at least two (2) must be from the FERM Department**	By end of 1st term or during 2nd term	☐
Develop Program of Study* with committee https://graduate.oregonstate.edu/forms <u>Required Courses</u> FOR 530 3 credits of graduate-level statistics (e.g. ST 511) 6-8 credits from area of concentration 3-6 credits of FE/FOR 506 (Project) *Communication Training: PoS must include participation in CoF Graduate Research Symposium **or** committee-approved conference substitution that allows the student an opportunity to present their research **Total number of credits for MF: 45 credits**	After you have formed your committee, before completion of 18 credits. ***Must submit form no later than 15 weeks before your final exam***	☐

MID-PROGRAM

What to do	When to do it	Has it been done?
Submit digital Program of Study form	At least 15 weeks before defense/exam	☐
Present project as oral presentation at Confluence Graduate Symposium or other approved conference	By end of 3rd term	☐

MID-PROGRAM

Meet with Major Professor to discuss performance, progress, and goals for upcoming year. Submit annual evaluation form to Curriculum Coordinator	By end of the 3rd term, and at least once annually thereafter	☐
Update your committee with a progress report and project update	Annually	☐

DEFENDING

What to do	When to do it	Has it been done?
File diploma application online: https://graduate.oregonstate.edu/forms	At least 15 weeks before defense/final exam	☐
Work with your Major Professor to finalize your project paper *They should review and provide edits before a defendable copy is distributed to your committee*	Beginning of final registered term	☐
Determine date and time of defense with your entire committee	At least four weeks before your defense	☐
Arrange room reservation with Curriculum Coordinator	Once your committee has finalized date and time	☐
Schedule Final Exam with the Office of Graduate Education's form; if committee membership has changed, note updates on this form: https://graduate.oregonstate.edu/forms	At least two weeks before your defense	☐
Distribute defendable copy of your project paper to your entire committee	At least two weeks before your defense	☐
Submit defense information to Curriculum Coordinator (title & photo) for advertisement. *Defense must be a public announcement!*	At least two weeks before your defense	☐
Be prepared to "meet expectations" or better on Program's MF Final Exam Evaluation Rubric: https://ferm.forestry.oregonstate.edu/current-graduate-student-information	Review at least one week before your defense	☐

FINISHING UP

What to do	When to do it	Has it been done?
Complete Qualtrics SFM Program Exit Survey	Emailed to student after exam has been scheduled	☐
Optional Schedule Exit Interview with Department Head; *see Curriculum Coordinator for scheduling*	Exit Interview should take place after your defense	☐
Submit a personal email address to Curriculum Coordinator for network account closure and email forwarding	Before you leave	☐
Clean up desk space	Before you leave	☐
Return keys (building/office/gate) to the OSU Key Shop https://facilities.oregonstate.edu/facilities-services/shops/key-shop	Before you leave	☐

Sustainable Forest Management Graduate Program
MS Checklist

STARTING OUT

What to do	When to do it	Has it been done?
Attend FALL orientation (even if you were admitted in winter or spring)	Within 1st year in the program	☐
Seek advice from Major Professor and register for courses	Before registration opens each term	☐
Review the University Continuous Enrollment Policy https://catalog.oregonstate.edu/college-departments/graduate-school/#continuous-enrollment Be sure to register for a minimum of three (3) credits per term, unless otherwise specified (e.g. graduate assistantship)	Within 1st term, review as needed	☐
Form your graduate committee; must meet OSU Graduate Committee requirements: https://graduate.oregonstate.edu/current-students/graduate-committee Major Professor Minor Professor or Co-Major Professor (if applicable) At least one committee member from Grad Faculty at-large Graduate Council Representative (GCR)* *Select using the online GCR list generation tool: https://graduate.oregonstate.edu/forms *You may only generate one GCR list per day.* **MS committee must consist of at least four (4) faculty; at least two (2) must be from the FERM Department**	By end of 1st term or during 2nd term	☐
Develop Program of Study* with committee https://graduate.oregonstate.edu/forms <u>Required Courses</u> FOR 530 6-8 credits of graduate level statistics or econometrics 6-8 credits from area of concentration 6-12 credits of FE/FOR 503 (Thesis) *Communication Training: PoS must include participation in Confluence Graduate Symposium **or** committee-approved conference substitution that allows the student an opportunity to present their research **two times** (*first as proposal poster then as oral presentation*) **Total number of credits for MS: 45 credits**	After you have formed your committee, before completion of 18 credits *If applying for specific funding/awards, submit your PoS sooner than 15 weeks before your exam*	☐
Present research proposal as poster presentation at Confluence Graduate Symposium or other approved conference	In first year	☐

STARTING OUT

Meet with Major Professor to discuss performance, progress, and goals for upcoming year. Submit annual evaluation form to Curriculum Coordinator	By end of 3rd term, and at least once annually thereafter	☐

MID-PROGRAM

What to do	When to do it	Has it been done?
Update your committee with a progress report and research update	Annually	☐
Submit digital Program of Study form *If applying for specific funding/awards, you need to file your PoS sooner than 15 weeks*	At least 15 weeks before defense/final exam	☐
Present research as oral presentation at Confluence Graduate Symposium or other approved conference	In final year	☐

DEFENDING

What to do	When to do it	Has it been done?
File diploma application online: https://graduate.oregonstate.edu/forms	At least 15 weeks before defense/final exam	☐
Work with your Major Professor to finalize your thesis *They should review and provide edits before a defendable copy is distributed to your committee*	Beginning of final registered term	☐
Determine date and time of defense with your entire committee	At least four weeks before your defense	☐
Arrange room reservation with Curriculum Coordinator	Once your committee has finalized date and time	☐
Schedule exam with the Office of Graduate Education's online form; if committee membership has changed, note updates on this form: https://graduate.oregonstate.edu/forms	At least two weeks before your defense	☐
Distribute defendable copy of your thesis to your entire committee (GCR included)	At least two weeks before your defense	☐
Submit defense information to Curriculum Coordinator (title & photo) for advertisement. *Defense must be a public announcement!*	At least two weeks before your defense	☐
Submit pretext pages (everything before page 1 of your thesis) to Graduate Thesis Editor https://graduate.oregonstate.edu/current-students/thesis-guide	At least two weeks before your defense	☐
Be prepared to "meet expectations" or better on Program's MS Final Exam Evaluation Rubric: https://ferm.forestry.oregonstate.edu/current-graduate-student-information	Review at least one week before your defense	☐

FINISHING UP

What to do	When to do it	Has it been done?
Complete Qualtrics SFM Program Exit Survey	Emailed to student after exam has been scheduled	☐
Optional Schedule Exit Interview with Department Head; *see Curriculum Coordinator for scheduling*	Exit Interview should take place after your defense	☐
Upload final copy of thesis to ScholarsArchive* https://graduate.oregonstate.edu/current-students/thesis-guide *Must be uploaded within 6 weeks after defense **or** before the 1st day of the following term, whichever comes first, to avoid having to register for the next term (3 credit min.)	After all necessary corrections suggested by committee have been made	☐
Submit online Electronic Thesis/Dissertation (ETD) form to Office of Graduate Education: https://graduate.oregonstate.edu/forms	After uploading final copy of thesis to ScholarsArchive	☐
Submit a personal email address to Curriculum Coordinator for network account closure and email forwarding	Before you leave	☐
Clean up desk space	Before you leave	☐
Return keys (building/office/gate) to the OSU Key Shop https://facilities.oregonstate.edu/facilities-services/shops/key-shop	Before you leave	☐

Sustainable Forest Management Graduate Program
PhD Checklist

STARTING OUT

What to do	When to do it	Has it been done?
Attend FALL orientation (even if you were admitted in winter or spring)	Within 1st year in the program	☐
Seek advice from Major Professor and register for courses	Before registration opens each term	☐
Review the University Continuous Enrollment Policy https://catalog.oregonstate.edu/college-departments/graduate-school/#continuous-enrollment Be sure to register for a minimum of three (3) credits per term, unless otherwise specified (e.g. graduate assistantship)	Within 1st term, review as needed	☐
Form your graduate committee; must meet OSU Graduate Committee requirements: https://graduate.oregonstate.edu/current-students/graduate-committee Major Professor Co-Major Professor or Minor Professor *(if applicable)* At least two committee members from Grad Faculty at large Graduate Council Representative (GCR)* *Select using the online GCR list generation tool: https://graduate.oregonstate.edu/forms. **PhD committee must consist of at least five (5) faculty; at least two (2) must be from the FERM Department**	By end of 2nd term or during 3rd term	☐
Develop Program of Study* with committee: https://graduate.oregonstate.edu/forms <u>Required Courses</u> FOR 530 6-8 credits of graduate level statistics or econometrics 6-8 credits from area of concentration FE/FOR 603 – minimum of 36 credits *Communication Training: PoS must include participation in Confluence Graduate Symposium **or** committee-approved conference substitution that allows the student an opportunity to present their research **two times** (*first as proposal poster then as oral presentation*) **Total number of credits for PhD: 108 credits**	After you have formed your committee, before completion of 5th term and oral preliminary exam *If applying for specific funding/awards, submit your PoS sooner than term5*	☐
Meet with Major Professor(s) to discuss performance, progress, and goals for upcoming year. Submit annual evaluation form to Curriculum Coordinator	By end of 3rd term, and at least once annually thereafter	☐

STARTING OUT

Update your committee with a progress report and research update	Annually	☐

MID-PROGRAM

What to do	When to do it	Has it been done?
Present research proposal as poster presentation at Confluence Graduate Symposium or other approved conference	In second year	☐
Submit digital Program of Study form *If applying for funding/awards, you need to file your PoS before the 5th term*	Before completion of 5th term	☐
Sit for Written Preliminary Exam	Determined by student's committee near the completion of coursework	☐
Determine date and time of Oral Preliminary Exam* with your committee after successful completion of the written portion of the examination *Student will have the option to hold a combined preliminary exam consisting of the research proposal and oral exam **or** may conduct these meetings separately.	At least two weeks before your prelim exam	☐
Arrange room reservation with Curriculum Coordinator	Once your committee has finalized date and time	☐
Schedule Oral Preliminary Exam with the Office of Graduate Education's online form; if committee membership has changed, note updates on this form: https://graduate.oregonstate.edu/forms	At least two weeks before your prelim exam	☐
Distribute research proposal to your entire committee (GCR included)	At least two weeks before your exam (or meeting)	☐
Be prepared to "meet expectations" or better on Program's PhD Preliminary Exam Evaluation Rubric(s): https://ferm.forestry.oregonstate.edu/current-graduate-student-information *Upon successful completion of preliminary oral exam, student is "advanced to candidacy" for doctorate*	Review at least one week before your exam	☐
Present research as oral presentation at Confluence Graduate Symposium or other approved conference	In final year	☐

DEFENDING

What to do	When to do it	Has it been done?
File diploma application online: https://graduate.oregonstate.edu/forms	At least 15 weeks before defense/final exam	☐
Work with your Major Professor to finalize your dissertation *They should review and provide edits before a defendable copy is distributed to your committee*	Beginning of final registered term	☐

DEFENDING CONT.

Determine date and time of defense with your entire committee	At least four weeks before your defense	☐
Arrange room reservation with Curriculum Coordinator	Once your committee has finalized date and time	☐
Schedule Final Exam with the Office of Graduate Education's online form; if committee membership has changed, note updates on this form: https://graduate.oregonstate.edu/forms	At least two weeks before your defense	☐
Distribute defendable copy of your dissertation to your entire committee (GCR included)	At least two weeks before your defense	☐
Submit defense information to Curriculum Coordinator (title & photo) for advertisement *Defense must be a public announcement!*	At least two weeks before your defense	☐
Submit pretext pages (everything before page 1 of your dissertation) to Graduate Thesis Editor https://graduate.oregonstate.edu/current-students/thesis-guide	At least two weeks before your defense	☐
Prepared to "meet expectations" or better on Program's PhD Final Exam Evaluation Rubric: https://ferm.forestry.oregonstate.edu/current-graduate-student-information	Review at least one week before your defense	☐

FINISHING UP

What to do	When to do it	Has it been done?
Complete Qualtrics SFM Program Exit Survey	Emailed to student after exam has been scheduled	☐
Optional Schedule Exit Interview with Department Head; *see Curriculum Coordinator for scheduling*	Exit Interview should take place after your defense	☐
Upload final copy of dissertation to ScholarsArchive* https://graduate.oregonstate.edu/current-students/thesis-guide *Must be uploaded within 6 weeks after defense **or** before the 1st day of the following term, whichever comes first, to avoid having to register for the next term (3 credit min.)	After all necessary corrections suggested by committee have been made	☐
Submit online Electronic Thesis/Dissertation (ETD) form to the Office of Graduate Education: https://graduate.oregonstate.edu/forms	After uploading final copy of thesis to ScholarsArchive	☐
Submit a personal email address to Curriculum Coordinator for network account closure and email forwarding	Before you leave	☐
Clean up desk space	Before you leave	☐
Return keys (building/office/gate) to OSU Key Shop https://facilities.oregonstate.edu/facilities-services/shops/key-shop	Before you leave	☐

Research Authorization Statement

Authorization for Dissertation / Thesis Research Involving Humans, Animals, and Plants

Many types of research involving human subjects, animals, and plants, both in the laboratory and through field studies, may require specific permits and authorization from University, State, and/or Federal agencies. Graduate students should work with their major professor and committee to ensure that all necessary permits have been obtained. Failure to do so may render all or part of the data collected through such studies unusable in the thesis or dissertation.

A starting point for information on these topics is the OSU Office of Research Integrity at https://research.oregonstate.edu/ori/irb. Also see the Institutional Animal Care and Use Committee (IACUC) site which contains information on the use of vertebrate animals: Rule compliance, approval process, permits for field studies and IACUC forms at https://research.oregonstate.edu/ori/iacuc.

If work involves human subjects in any way, you must review the materials and requirements of the Human Research Protection Program and Institutional Review Board at https://research.oregonstate.edu/ori/irb.