FOREST ECOSYSTEMS AND SOCIETY GRADUATE MAJOR (MF, MS, PHD)

Graduate Areas of Concentration

Forest biology; forest, wildlife and landscape ecology; genetics and physiology; integrated social and ecological systems; silviculture; science of conservation, restoration and sustainable management; social science, policy, and natural resources; soil-plant-atmosphere continuum; sustainable recreation and tourism

This graduate program combines a strong social science faculty with a strong biological and ecological science faculty and so provides a rare opportunity to focus on the interface of social science and ecological science. The FES graduate program provides specific disciplinary opportunities in both ecological and social sciences in natural resource settings and also strives to develop interdisciplinary skills and knowledge. Our program objective is to develop interdisciplinary thinkers, highly capable scientists, and natural resource leaders who are prepared to solve complex socio-ecological problems. The students will be able to identify and contribute to collaborative science-based solutions in ecology and natural resources-related social science.

Master of Forestry (MF) in Forest Ecosystems—Areas of Concentration

1. **Forest Biology.** Management of natural resources is an increasingly complex and technical undertaking. In some cases, breadth or depth of specialization beyond the BS degree is required or is highly desirable in entry-level professional forestry positions or for advancement in non-research professional forestry positions. The MF in Forest Biology program emphasizes graduate course work in one of five areas of emphasis in forest biology, with supporting work in another area. The program can be completed in 12 months, but it may be extended in accordance with personal needs and the policies of the OSU Graduate School.

2. **Silviculture.** The MF in Silviculture program provides graduate-level preparation in the full range of disciplines essential for analyzing opportunities, solving problems, and making decisions in silviculture and forest resource management. Graduates from this program must demonstrate competence in the preparation of well-documented silvicultural prescriptions and in the supervision of prescription implementation. The program also provides the background for sustained career development in forest resource management.

Master of Science (MS) and Doctor of Philosophy (PHD) in Forest Ecosystems and Society—Areas of concentration

MS and PhD students may focus their work in one of these areas of concentration or a hybrid of them: forest, wildlife and landscape ecology; genetics and physiology; integrated social and ecological systems; science of conservation, restoration and sustainable management; social science, policy, and natural resources; soil-plant-atmosphere continuum; sustainable recreation and tourism

1. **Forest, Wildlife and Landscape Ecology.** The many dimensions of biodiversity are the focus of this area of concentration. Species and communities of species, act, react and interact at many spatial and temporal scales. These dynamics take place in an environment that can change gradually or quite rapidly and that can have a large impact on dynamics through direct and indirect effects on species and interspecific relationships.

2. **Genetics and Physiology.** This concentration explores the genetic and physiological mechanisms, from the scale of molecules and tissues to whole organisms, populations, and species, that determine how plants grow, reproduce, respond to the environment, and are managed and modified for human benefit.

3. **Integrated Social and Ecological Systems.** Many issues in the broad natural resources arena are truly interdisciplinary across the biophysical and the social sciences. This area of concentration focuses on the integration of these sciences in developing basic concepts and in resolving management issues.

4. **Science of Conservation, Restoration and Sustainable Management.** The bases for these applied sciences are found in the more basic biophysical and social sciences but their application to these complex goals generates new scientific challenges. This area of concentration seeks to develop these new scientific understandings.

5. **Social Science, Policy, and Natural Resources.** This concentration involves exploration of social aspects, human dimensions, and policy aspects of natural resource issues by examining linkages among humans, society, and the natural resources on which humans and society depend.

6. **Soil-Plant-Atmosphere Continuum.** The movement of energy and matter within and among ecosystems controls how these systems function and the services they provide. This area of concentration investigates the mechanisms controlling ecosystem behavior over a range of levels from the whole-plant to the globe.

7. **Sustainable Recreation and Tourism.** This concentration explores social and/or ecological topics in sustainable recreation and tourism including recreation and tourism behavior; social and ecological impacts; and planning, management, and policy.

For more information, contact the head of the department or any faculty member.

**Major Code: 1100**

All graduate students are required to take FES 520 usually in their first year and FES 525 usually in their second year.

In addition to FES 520 and FES 525, graduate students are required to take FES 526. M.S. students are expected to enroll in this 1-credit course for two terms during their course of study. Ph.D students must enroll for three terms, and M.F. students must enroll for one term.

Students will work with their major professor / advisor and advisory committee to select additional courses specific to their area of interest in order to meet the minimum number of credits required for their degree program.

**Major Code: 1100**