Faculty in the Department of Natural Resource Ecology and Management (NREM) have expertise in conducting interdisciplinary instruction, research and extension education which focus on the natural resources of fisheries, forests, rangeland and wildlife within and beyond the boundaries of Oklahoma. Increased public understanding of the ecology and management of these natural resources which are important in agriculture, hunting and fishing, ecotourism, forest production and use, as well as the conservation of wildlife habitat is an important goal of the faculty in NREM.

The NREM faculty support undergraduate and graduate programs in the general areas of fisheries, forestry, rangeland and wildlife. The NREM curriculum prepares students to plan, implement and research the management, protection and sustainable use of natural resources within Oklahoma and throughout the world. The department provides an integrated education in renewable natural resource management, conservation and utilization, as well as a valuable perspective for understanding and solving critical contemporary environmental problems at local, regional and global scales.


Natural Resource Ecology and Management Undergraduate Degree Options

Fisheries and Aquatic Ecology is designed for students with interest in the management of fish populations and habitats. Courses offer research techniques and methodology in fisheries science, including habitat measurements, sampling techniques and abundance estimation, age and growth analysis, recreational surveys, data analysis and report writing.

Forest Ecology and Management emphasizes the science-based conservation and management of forest lands, ecosystems and related natural resources. Students gain the skills that are necessary for the measurement, assessment, valuation and development of management strategies for forests and related natural resources. Successful completion of the curriculum will provide competency in the general areas of basic science, forest biology, forest mensuration, forest plant species identification, forest economics, natural resource policy, decision-making and problem-solving, and communications. The option is accredited by the Society of American Foresters (SAF). Requirements for this option include the successful completion of field camps in May, which are scheduled to follow the sophomore and junior years, and are held annually in diverse forest settings. Field forestry skills, forest ecology, integrated natural resource management, timber cruising and resource economics are emphasized at camp and integrated in the senior-level capstone course.

Rangeland Ecology and Management emphasizes understanding management of grasslands, shrub lands, and savannas for forage and habitat production. This includes the effects of livestock grazing, fire, invasive species and other disturbances on biotic and abiotic processes. The importance of prescribed fire as rangeland restoration tool, livestock management and the identification and value of native grass and forb species for livestock forage and other uses are emphasized. Students learn to integrate their knowledge of soil, water and vegetation attributes and natural resource policies into management of public or private wild lands for multiple uses.

Wildlife Ecology and Management provides insights into the biological basis for management of wildlife populations and habitats, with emphasis on current management problems. This option combines research techniques, including aging and sexing, wildlife and vegetation sampling, and wildlife population and habitat analysis with the methodology of wildlife science.

Wildlife Biology and Pre-veterinary Science provides the ecological background and training in natural wildlife science and population dynamics in addition to the basic sciences necessary to prepare students for graduate education in wildlife biology or veterinary medicine. The option combines research and management training in population ecology with basic biology and chemistry.

Students entering the NREM department are encouraged to join and become active members of one of the many student organizations: Society of American Foresters, Society for Range Management, The Wildlife Society and the American Fisheries Society. Participation in one or more of these organizations provides students the opportunity to attend state, regional or national meetings where they will gain valuable advantages through networking, student competitions and interacting with various career-related activities.