

**Department of Natural Resources and Environmental Sciences**  
www.nres.uiuc.edu

The Department of Natural Resources and Environmental Sciences offers the major in Horticulture, with concentrations in Horticultural Science, Production and Management, and Urban Forestry; and the major in Natural Resources and Environmental Sciences, with concentrations in Fish and Wildlife Conservation, Forest Science, Human Dimensions, Resource Ecology, and Soil and Water Science. Students should select the Natural Resources and Environmental Sciences departmental major and concentration best suited to their major and career interests.

**Major in Horticulture**

The major in Horticulture is designed for students who want a basic knowledge of horticulture. The basic plant sciences are emphasized as a general background for the specialized phases of horticulture. Opportunities for graduates include the production of horticultural crops in greenhouses, nurseries, and farms; residential landscape design and construction; park and golf course management; landscape maintenance; urban forestry; arboriculture; flower shop management and floral design; plant breeding; positions as sales representatives and technicians with seed and plant suppliers, chemical industries, and horticultural supply firms; employment with state or federal government agencies or institutions as teachers, researchers, horticultural advisors, crop inspectors, and consultants; and horticultural mass media work. The major also prepares students for graduate studies.

**Horticultural Science Concentration**

Students in the Horticultural Science concentration study horticulture with a strong emphasis on the physical and biological sciences. This concentration is for students preparing for additional graduate work or those who want a strong science background along with a broad preparation in horticulture.

**Production and Management Concentration**

The Production and Management concentration prepares students for careers in the production, marketing, management, and use of horticultural flower, landscape, and food crops in teaching, research, or a business providing services related to horticultural crops. Students can specialize in landscape, nursery, and turf; floriculture crops and greenhouse management; or food crops by selecting specific courses.

**Urban Forestry Concentration**

Students in the Urban Forestry concentration integrate course work from horticulture and forestry from the perspective of management of plants in urban forests, parks, and other public areas. This concentration serves students with career interests in urban forestry and horticulture and those desiring interdisciplinary preparation in horticulture and forestry.

**Major in Natural Resources and Environmental Sciences**

The Natural Resources and Environmental Sciences major prepares students for careers in managing and protecting natural resources and in business and government agencies that provide services related to environmental and natural resource management. The major also prepares students for teaching, research, and other professional activities, as well as for graduate studies and advanced professional training. Graduates can become environmental consultants, educators, communicators, plant physiologists, researchers, social and environmental impact analysts, resource planners, naturalists, ecologists, biologists, environmentalists, and managers of wildlife parks, forests, and rangelands. They can also seek employment as conservation officers, nature center directors, resource policy analysts, forest economists, watershed managers, soil conservationists, soil scientists, soil test analysts, land-use specialists, plant and animal quarantine officers, lobbyists, plant nutrient consultants, and technical sales representatives. Preparation for graduate studies in natural resources and environmental sciences, as well as environmental law, can be accomplished in any of the concentrations by selecting appropriate course work.

The Natural Resources and Environmental Sciences curriculum consists of the General Education requirements of the University, a core set of courses common to all concentrations, concentration-specific courses, and open electives. All concentrations are designed to develop competence in basic biology and in the chemical, physical, social, and economic sciences that impact natural resource and environmental management. Each concentration provides an additional set of courses intended to provide depth in that area of interest.

#### **Fish and Wildlife Conservation Concentration**

The Fish and Wildlife Conservation concentration is designed for students interested in the fundamental properties of natural resource systems, with emphasis on the ecology, biology, conservation, and management of fish and wildlife resources. The concentration includes advanced course work in wildlife population ecology, fisheries ecology, animal behavior, aquatic ecosystem conservation, and ornithology, mammalogy, ichthyology, and herpetology.

#### **Forest Science Concentration**

The Forest Science concentration prepares students for all phases of the management of natural resources, particularly those associated with forests and forest land. Attention is focused on balancing the protection of environmental quality and ecological integrity with provision of benefits from the forest, including watershed protection, wildlife habitat, recreational enjoyment, and production of wood products. Students in this concentration do advanced course work in silviculture, forest biology and protection, forest management, and wood properties and utilization, as well as field-based course work.

#### **Human Dimensions Concentration**

The Human Dimensions concentration is intended for students interested in environmental sociology and psychology, land-use planning, environmental management, natural resource allocation, social impacts, resource economics, and environmental law. Students concentrate on the economic, sociological, and psychological components of natural resource systems and study political and economic institutions that affect resource management and utilization. The Human Dimensions concentration requires advanced course work in natural resource economics, environmental psychology, communications, social impact assessment, environmental policy, and environmental law.

#### **Resource Ecology Concentration**

The Resource Ecology concentration is designed for students interested in the fundamental properties and management of natural resource systems, including interactions among plants, soil, water, wildlife, and humans. The emphasis is on ecology, biology, and management of aquatic, soil, forest, and wildlife resources. Through lectures, labs, and field exercises, students study biosphere relationships in natural resource systems. The Resource Ecology concentration includes course work in the areas of restoration ecology, aquatic ecosystem management, tree and plant physiology, and advanced ecology.

#### **Soil and Water Science Concentration**

The Soil and Water Science concentration is for students wanting to emphasize the physical environment, primarily relating to soil and water resources. Students develop an understanding of the physical and chemical process of natural systems. The concentration provides students a background in various areas of soil and water science, including soil formation, classification and conservation, soil and water chemistry, water quality and management, hydrology, environmental physics, and soil and water pollution.

**Minor in Fiber Science**

The Fiber Science minor is designed for students who desire a significant background in textiles, paper and pulp, and wood and wood-based products to support study and practice of the major field. A core of four courses, two in textile science and two in wood science, is required.

**Minor in Quantitative Methods  
in Natural Resources and  
Environmental Sciences**

The Quantitative Methods in Natural Resources and Environmental Sciences minor is designed for students who wish to develop competence in applying quantitative methods to natural resources and environmental decision-making to complement skills developed in their major areas of study.

Refer to the major and concentration check sheets on the following pages for specific program requirements.