

FOREST ECOSYSTEMS, B.S.

Seven Penn State campuses are scheduled for closure after Spring 2027: DuBois, Fayette, New Kensington, Mont Alto, Shenango, Wilkes-Barre, and York. New students are not being admitted at these campuses.

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Description

The mission of the B.S. program in Forest Ecosystems is to help students develop the knowledge, skills, and professional ethics for understanding and sustaining forest ecosystems and living as responsible members of society.

The Forest Ecosystems major provides for the education necessary for students to pursue professional careers in one of the following options:

1. Biodiversity and Conservation
2. Forest Management
3. Forests, Trees, and People
4. Watershed Ecohydrology

These options also will prepare students for graduate studies in continuing professional education.

Biodiversity and Conservation Option

This option helps students develop skills to conserve native forest species in managed and natural forest systems; to address ecological threats to forest ecosystems such as climate change, biodiversity loss, land-use changes, and invasive species; and to sustain forest ecosystem services including nontimber products and carbon storage. This option builds awareness of interconnectedness of ecosystems at multiple scales including global impacts from human and natural disturbances.

Forest Management Option

This option provides professional training in the management of forest lands consistent with the needs of ownership objectives and in the face of current challenges such as climate change and invasive species. Employment opportunities include forest management positions with public agencies, industry, and private consulting.

Forests, Trees, and People Option

This option provides students with a foundation in forest management, and helps develop skills to make positive change by understanding, conversing with, and teaching a variety of stakeholders about natural resources and societal and ecosystem resilience. Students will gain the ability to incorporate stakeholder information and human values to promote sound decision making, and to better understand opportunities to engage with the development and assessment of public policy.

Watershed Ecohydrology Option

This option focuses on the integrated study of forested watersheds, considering dynamic relationships among landscapes, soil, and water. Students will also gain skills in watershed and ecosystem assessment. The option prepares students for employment in both government and private sectors, or for graduate study.

What is Forest Ecosystems?

Professional foresters are challenged with the conservation, restoration, and sustainable provision of a wide range of forest ecosystem services, including timber and nontimber forest products, wildlife habitat, biodiversity, clean water, healthy soils, carbon sequestration, recreational opportunities, and the aesthetics of both rural and urban landscapes. Foresters need specialized knowledge to manage for this wide range of ecosystem services. The Forest Ecosystems program teaches students to identify, measure, and quantify a variety of forest ecosystem attributes; communicate effectively with diverse groups; analyze and interpret natural resources information in an ecological, economic, and social context; and integrate the relevant ecological, economic, and societal aspects of contemporary problems in natural resources management and use this understanding to develop, support, and implement effective solutions.

You Might Like This Program If...

- You enjoy working outdoors
- You have a concern for natural resources and an appreciation of nature
- You have an analytical mind to manage complex ecological systems and resolve environmental, economic, and social challenges
- You have an aptitude for innovation and strategic thinking