

MPS APPLIED ECOLOGY

Rationale:

There is a need for individuals to have graduate training in the area of applied ecology, but many such individuals do not require the major research and thesis requirement of a traditional M.S. degree. These prospective MPS students include individuals who will work for environmental groups and consulting firms as well as municipalities and state and federal agencies. This option will also be particularly useful for secondary school teachers seeking permanent certification in New York State and students who have a major orientation in environmental policy, planning or law but wish to solidify their background in applied ecology. This MPS option will be distinctly beneficial to professionals returning for "retooling." The MPS option in Applied Ecology differs substantially from the M.S. degree in EFB with respect to the type of students, requirements and overall educational goals.

Requirements:

Incoming students will be introduced to the Applied Ecology Option and key topics in the field of applied ecology at a three-day orientation in August before beginning the Fall semester at one of the ESF field facilities (e.g., Cranberry Lake Biological Station, Thousand Island Biological Station, and Adirondack Ecological Center at the Huntington Wildlife Forest) with access to nearby aquatic and terrestrial sites including both natural and anthropogenically impacted systems.

Coursework requirements include a total of 15 credit hours selected in 5 of the 7 focus areas listed below, 2 credit hours of graduate seminars and additional 19 credit hours in graduate courses for a minimum of 36 credit hours.

Catalog Statement:

Applied Ecology Option: Designed for students who desire to solidify their background in applied ecology and professionals who would return for "retooling"; suitable for careers in environmental oversight, policy, planning, law, and education. This program begins with a 3-day orientation in August at one of the ESF field facilities. Coursework requirements include 3 credit hours each from 5 of the 7 focus areas, 2 credit hours in graduate seminars (EFB 797) and additional 19 credit hours of graduate coursework for a total of 36 credit hours.

Current List of Courses in 7 Focus Areas: One course each from 5 of the 7 areas for a total of 15 graduate credit hours (each course carries 3 credit hours except as noted)

(1) GIS tools (3 hours)

EFB 519 GEOGRAPHIC MODELING

ERE 550 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

FOR 557 PRACTICAL VECTOR GIS

FOR 558 ADVANCED TOPICS IN GIS

(2) Statistical tools (3 hours)

APM 510 STATISTICAL ANALYSIS

APM 620 ANALYSIS OF VARIANCE

APM 625 INTRO/SAMPLING TECHNIQUES

APM 630 REGRESSION ANALYSIS

APM 635 MULTIVARIATE STAT METHOD

APM 645 NONPARAMETRIC STATS&CAT DATA ANALYSES

(3) *Specialty Tools (3 hours)*

APM 500 INTRODUCTION TO COMPUTER PROGRAMMING FOR GRADUATE STUDENTS

APM 653 SIMULATION DESIGN AND ANALYSIS

EFB 601 MOLECULAR BIOLOGICAL TECHNIQUES

ERE 552 FUNDAMENTALS OF REMOTE SENSING

ERE 566 GLOBAL POSITIONING SYSTEMS I

ERE 645 HYDROLOGIC MODELING

FCH 515 METHODS OF ENVIRONMENTAL CHEMICAL ANALYSIS

FOR 546 FOREST SOIL GENESIS, CLASSIFICATION, AND MAPPING

FOR 635 FOREST SOILS AND THEIR ANALYSES

FOR 645 HYDROLOGICAL TECHNIQUES

EFB 625 PLANT BIOTECHNOLOGY

EFB 733 TECHNIQUES IN PLANT PHYSIOLOGY

(4) *Ecosystem Ecology (3 hours)*

EFB 516 ECOSYSTEMS

EFB 518 SYSTEMS ECOLOGY (4)

EFB 523 TROPICAL ECOLOGY

EFB 524 LIMNOLOGY

EFB 610 ECOLOGICAL BIOGEOCHEM

EFB 623 MARINE ECOLOGY (5)

EFB 644 BIOGEOGRAPHY (4)

(5) *Organismal Ecology (3 hours)*

EFB 505 MICROBIAL ECOLOGY

EFB 535 SYSTEMATIC BOTANY

EFB 542 FRESHWATER WETLAND ECOSYSTEMS

EFB 554 AQUATIC ENTOMOLOGY

EFB 628 MYCORRHIZAL ECOLOGY

EFB 640 MYCOLOGY

EFB 645 PLANT ECOLOGY

EFB 646 ECOLOGY OF MOSSES

EFB 662 ANIMAL PHYSIOL:ENVRN&ECOL

EFB 693 WILDLIFE HABITATS AND POPULATIONS (4)

(6) *Human Dimensions in Ecology (3 hours)*

APM 650 OPERATIONS RESEARCH

EFB 502 ECOLOGY AND MANAGEMENT OF INVASIVE SPECIES

EFB 513 ADIRONDACK FOREST ECOLOGY AND MANAGEMENT (2 – 3)

EFB 551 FOREST INSECT ECOLOGY AND MANAGEMENT

EFB 600 TOXIC HEALTH HAZARDS (4)

EFB 611 TOPICS IN ENVIRONMENTAL TOXICOLOGY
EFB 687 FISHERIES SCIENCE AND MANAGEMENT
EFB 692 ECOL AND MGT OF WATERFOWL
EFB 693 WILDLIFE HABITATS AND POPULATIONS (4)
ERE 506 HAZARDOUS WASTE MANAGEMENT
ERE 691 AIR POLLUTION ENGINEERING
FOR 533 MANAGERIAL ECONOMICS FOR ENVIRONMENTAL PROFESSIONALS
FOR 560 PRINCIPLES OF MANAGEMENT
FOR 630 AGROFORESTRY
FOR 665 NATURAL RESOURCES POLICY
FOR 670 RESOURCE AND ENVIRONMENTAL ECONOMICS
FOR 673 PLANNING AND MANAGEMENT OF OUTDOOR RECREATION AREAS
FOR 678 WILDERNESS AND WILDLANDS MANAGEMENT
FOR 687 ENVIRONMENTAL LAW AND POLICY
FOR 688 NATURAL RESOURCES ADMINISTRATION LAW
FOR 753 ADVANCED NATURAL RESOURCE AND ENVIRONMENTAL POLICY

(7) Communications in Ecology (3 hours)

EFB 616 INTRODUCTION TO ENVIRONMENTAL INTERPRETATION
EFB 617 INTERPRETIVE DESIGN