Applied Ecology (11AECM)

Description

The minor in Applied Ecology is intended for students interested in applying ecological concepts and principles to solving real world problems. Students with expertise in applied ecology will be well equipped to address local and global challenges associated with a wide variety of important issues such as water quantity and quality, natural resource management, environmental conservation and restoration, climate change, and maintenance of biodiversity. To receive a minor in Applied Ecology students will be required to complete challenging courses and an in-depth research experience.

Requirements

For admission, students should first complete BIO 181 and BIO 360 with letter grades of C- or better before contacting the Minor Coordinator.

For completion:
Students must complete BIO 360, AEC 400, AEC 492 (At least 3 CR) and at least two additional courses from the ‘optional courses’ list. This will result in a minimum of 16 credit hours. All letter-graded courses must be completed with a C or better.

Required Courses (Total of 7 credit hours)

- BIO/PB 360-Ecology (Pre-requisite: C- or better in BIO 181)- 4 credit hours
- AEC 400-Applied Ecology (Pre-requisite: BIO/PB 360)-3 credit hours

Minor Electives (Must choose a minimum of two courses from this list) - at least 6 credit hours:

- AEC 295-Special Topics in Applied Ecology (pre-requisite: BIO 181)
- AEC 419-Limnology (prerequisite: C- or better in BIO/PB 360)
- AEC 420-Introduction to Fisheries Science (pre-requisite C- or better in BIO/PB 360)
- AEC 441- Biology of Fishes (pre-requisite C- or better in BIO/PB 360)
- AEC 495-Advanced Special Topics in Applied Ecology (pre-requisite: BIO 181)
- BIO 220-Marine Biology (pre-requisite: BIO 181)
- BIO/FW 353- Wildlife Management (pre-requisite: BIO 181)
- BIO 460- Field Ecology (pre-requisite: C- or better in BIO 360 and ST 311)
- CS 213-Crops: Adaption & Production
- CS 230-Introduction to Agroecology (pre-requisite: BIO 105 or BIO 181 or BIO/ZO 160 or BO 200 or BO 205 or HS 201 or CS 213)
- CS 411- Crop Ecology (pre-requisite PB 321 or PB 421)
- CS 430-Advanced Agroecology
- ENT 203-An Introduction to the Honey Bee and Beekeeping
- ENT 207-Insects and Human Disease
- ENT 212-Basic Entomology
- ENT 425-General Entomology (pre-requisite: BIO 181 or BIO 140 or BIO 350)
- FOR 404- Forest Wildlife Management
- FW 221-Conservation of Natural Resources
- FW 312-Fisheries Techniques and Management (one week of FWCB summer camp; 1 credit)
- FW 314-Coastal Ecology and Management (one week of FWCB summer camp; 1 credit. pre-requisite: BIO 181)
- FW 403-Urban Wildlife Management
- FW 405-Tropical Wildlife Ecology in Nicaragua
- FW 453-Principles of Wildlife Science (pre-requisite: FW 353 and ST 311)
- HS 201-The World of Horticulture: Principles and Practices
- HS 302-Gardening with Herbaceous Perennials (pre-requisite: BIO 183 or BO 200)
- HS 303- Ornamental Plant Identification I (pre-requisite: BIO 181)
- HS 304-Ornamental Plant Identification II (pre-requisite: BIO 181)
- MEA 150-Environmental Issues in Water Resources
- MEA 200-Introduction to Oceanography
- MEA 210-Oceanography Lab
- MEA 250-Introduction to Coastal Environments (pre-requisite: MEA 200/210 or MEA 100/110)
- MEA 251-Introduction to Coastal Environments Laboratory
- MEA 469-Ecology of Coastal Resources (pre-requisite: MEA 250 and MEA 220 or MEA 449)
- NR 300-Natural Resource Measurements (pre-requisite: PB 360 or BIO 360 and ST 311)
- NR 303-Humans and the Environment
- NR 350-International Sustainable Resource Use
- NR 420-Watershed and Wetlands Hydrology (pre-requisite: SSC 200 and PB 360 or BIO 360)
- PB 200-Plant Life
- PB 213-Plants and Civilization (pre-requisite: BIO 125, BIO 105 or PB 200)
- PB 220-Local Flora (pre-requisite: BIO 125 or PB 200)
- PB 250-Plant Biology
- PB 403-Systematic Botany (pre-requisite: PB 200, PB 250, BIO 183)
- PB 405-Wetland Flora (pre-requisite: PB 200 or PB 250 or PB 403 or FOR 212)
- PB 464-Rare Plants of North Carolina (pre-requisite: One of the following-PB 200, PB 220, PB 403, or PB 405)
- PB 480-Introduction to Plant Biotechnology (pre-requisite: BCH 454 or BIT 510 or CS 211 or GN 311 or PB/BIO 414 or PB 421)

**Research Experience: 3-6 credits**

- AEC 492-External Learning Experience in Applied Ecology
- AEC 493-Internal Learning Experience in Applied Ecology

**Administration of the Minor**

Erin McKenney  
Minor Coordinator  
Department of Applied Ecology  
126 David Clark Laboratory  
[eamckenn@ncsu.edu](mailto:eamckenn@ncsu.edu)

**SIS Code: 11AECM**