

MIDDLESEX COUNTY COLLEGE  
EDISON, NEW JERSEY

Course Title: **Natural History of New Jersey**      Catalog #: **Sci.108**

Class Hours: 2                      Laboratory Hours: 2                      Credit Hours: 3

Department Head: \_\_\_\_\_ Division Dean: \_\_\_\_\_ Date: 2006-2007

Prerequisite: None

**Textbooks for Course:**

<b><u>Author</u></b>	<b><u>Title</u></b>	<b><u>Publisher</u></b>	<b><u>Copyright</u></b>
<b>Collins, Beryl R. Anderson, Karl H.</b>	<b>Plant Communities of New Jersey</b>	<b>Rutgers Univ. Press</b>	<b>1994</b>
<b>Watts, May</b>	<b>Master Tree Finder</b>	<b>Nature Study Guild</b>	<b>1991</b>
<b>Newcomb, Lawrence</b>	<b>Newcomb's Wildflower Guild</b>	<b>Little Brown</b>	<b>1977</b>
<b>Peterson, Roger T.</b>	<b>A Field Guide to the Birds of Central and North America 5th. Edition</b>	<b>Houghton Mifflin Co.</b>	<b>1996</b>

**Catalogue Description:**

The chief goal of this course is to expose students to the diversity of natural habitats found within New Jersey. Bogs, freshwater marshes, swamps, hardwood forests, the Pinelands, and seashore environments are explored on field trips. Students observe and study species of animals and plants which are characteristic of these habitats, learn about the physical and chemical factors that affect their survival, and become aware of the impact that human activities have on the natural environment both historically and presently.

### **Course Goals:**

The student should be able to:

1. Identify in the field and from preserved specimens representative species of insects, fish, amphibians, reptiles, birds, mammals, wildflowers, and trees which are native to the state of New Jersey.
2. Use and understand appropriate ecological terminology. This includes: food chain and web, energy pyramid, biological magnification, primary and secondary succession, climax community, decomposers, producers, consumers, niche, nutrient cycling.
3. Distinguish the major structural differences which characterize the various groups of plants and animals.
4. Recognize the interrelationships of living organisms in an ecosystem.
5. Determine the distinguishing features of the different types of ecosystems which exist in New Jersey. These ecosystems include hardwood forests, the Pinelands, freshwater marsh, salt water marsh, bog (fen), swamp, open fields and the seashore (beach and dunes).
6. Recognize the major land forms in New Jersey and be familiar with the geological history of our state.
7. Recognize the effects that human activities have had on New Jersey's ecosystems historically and how they presently impact on these ecosystems.
8. Provide examples of past and present conservation measures in New Jersey. Also provide examples of conservation research that demonstrate the proper usage of the scientific method.
9. Obtain suitable references in the library and/or Internet in order to prepare a written report on a specific environmental issue in New Jersey.
10. Recognize an important environmental problem in New Jersey, be able to discuss its historical perspectives and social implications, understand its effects on wildlife, identify solutions, and write a letter to an elected official concerning this problem.
11. Prepare a collection of specimens from one of the major animal or plant groups studied.  
(Note: Only commonly found species will be collected and none that require a special collector's permit).

### **Course Objectives:**

Each student will be evaluated on his or her performance on the following:

1. Periodic quizzes on the specimens studied and the material covered in the lecture or observed on field trips.
2. A grade for a specimen collection.
3. A grade on a written report concerning an environmental issue.
4. A grade on the environmental problem letter.
5. Evaluation of answers to reading assignments.

### **COURSE OUTLINE**

1. New Jersey Features- 1 hour
2. Introduction to Trees- 2 hours
3. Birds- Characteristics and Bird Identification Lab- 3 hours
4. Ecological Terms and Principles- 4 hours
5. Hardwood Forests- 3 hours (Field Trip)
6. Rivers, Floodplains and a Historical Canal- 3 hours (Field Trip)
7. New Jersey Insects - 2 hours
8. Salt Marshes- 3 hours (Field Trip)
9. N.J. Wildflowers- 2 hours
10. Seashore Environment- 3.5 hours (Field Trip)
11. New Jersey Amphibians, Reptiles and Mammals- 2 hours
12. Swamps and Freshwater Marshes - 6 hours (Field Trip)
13. Pinelands and Bogs- 6 hours (Field Trip)
14. Conservation and Environmental Issues- 4 hours
15. New Jersey Habitats- Museum Study- 3 hours (Field Trip)