

JEFFERSON COLLEGE

COURSE SYLLABUS

BIO224

FIELD BIOLOGY

4 Credit Hours

Prepared by:

Ms. Dora Mitchell

Revised Date: November 2005

by

Ms. Dora Mitchell

Arts and Science Education
Dr. Mindy Selsor, Dean

BIO224 Field Biology

I. CATALOGUE DESCRIPTION

Prerequisite: Either General Biology, General Botany, General Zoology or consent of instructor.

This course is designed to acquaint the student with the taxonomy, ecology and life histories of Missouri fauna and flora with an emphasis on local species. Field trips are required. Field Biology will count as an elective toward the Associate of Arts and Associate of Applied Science degrees. (D)

II. GENERAL COURSE OBJECTIVES

Field Biology will provide the student with a basic understanding of the natural history and identification of local species. In addition, the student will learn to perform research, analyze data and present results in a clear and concise manner.

III. COURSE OUTLINE (course content will be drawn from this)

- A. Ornithology (study of birds)
 - 1. Natural History
 - 2. Ecology
 - 3. Identification
 - 4. Species diversity data collection

- B. Mammalogy
 - 1. Natural History
 - 2. Ecology
 - 3. Identification
 - 4. Species diversity data collection

- C. Herpetology (study of reptiles and amphibians)
 - 1. Natural History
 - 2. Ecology
 - 3. Identification
 - 4. Species diversity data collection

- D. Missouri Wildflowers
 - 1. Natural History
 - 2. Ecology
 - 3. Identification
 - 4. Species diversity data collection

IV. UNIT OBJECTIVES

A. Ornithology

1. Natural History
 - a. Understand the typical characteristics and unique organ systems of birds.
 - b. Have a basic understanding of avian reproduction.
 - c. Be familiar with the evolutionary history of birds.
2. Ecology
 - a. Have an understanding of some of the basic habitat and food requirements of birds.
 - b. Know the avian distributions of the seven zoogeographical regions.
3. Identification
 - a. Identify a selected group of birds using slide presentations and study skins.
 - b. Know how to identify birds in the field using available resources.
4. Species diversity data collection
 - a. Know how to census avian diversity in a study area.

B. Mammalogy

1. Natural History
 - a. Understand the typical characteristics and unique organ systems of mammals.
 - b. Have a basic understanding of mammalian reproduction.
2. Ecology
 - a. Know mammalian diversity as it relates to the zoogeographic regions.
3. Identification
 - a. Know selected mammals from slide presentations and study skins.
4. Species diversity data collection
 - a. Know how to trap and census mammals in a study area.

C. Herpetology

1. Natural History
 - a. Understand the typical characteristics and unique organ systems of reptiles and amphibians.
 - b. Have a basic understanding of reptile and amphibian reproduction.
 - c. Understand the evolutionary history of reptiles and amphibians.
2. Ecology
 - a. Recognize typical reptile and amphibian habitat.
 - b. Know world-wide reptile and amphibian diversity patterns.
3. Identification
 - a. Know selected reptile and amphibians from slide presentations and preserved specimens.
 - b. Know how to identify reptile and amphibians in the field using available resources.
4. Species diversity data collection
 - a. Know how to census reptile and amphibian diversity in a study area.

D. Missouri Wildflowers

1. Natural History
 - a. Understand the typical reproductive techniques employed by flowering plants.
2. Ecology
 - a. Know the Natural Divisions of Missouri and understand how the characteristics of each effects species diversity.
3. Identification
 - a. Know selected Missouri wildflowers using photographs, slide presentations and museum specimens.
 - b. Know how to identify Missouri wildflowers in the field using available resources.
4. Species diversity data collection
 - a. Know how to census Missouri wildflower diversity in a study area.

V. METHOD OF INSTRUCTION

- A. Lectures
- B. Laboratory Activities
 - 1. Slide presentations
 - 2. Videos
- C. Class Discussion
- D. Field Work

VI. REQUIRED TEXTBOOK(S) WITH PUBLICATION INFORMATION

None

Recommended Field Guides:

Robbins, Bruun, Zim & Singer, A Guide to Field Identification of North American Birds, Golden Press, New York

Johnson, T., The Amphibians and Reptiles of Missouri, Missouri Department of Conservation, 2000

Dennison, E., Missouri Wildflowers, Missouri Department of Conservation, 1998

VII. REQUIRED MATERIALS (Student)

None

Recommended Materials:

Binoculars

VIII. SUPPLEMENTAL REFERENCES

- A. Various faunal and floral field guides.

IX. METHOD OF EVALUATION (Student)

- A. Lecture Examinations
- B. Laboratory Practicals