

# Course Syllabus

**Department:** Science and Technology

**Date:** February 7, 2012

**I. Course Prefix and Number:** BIO 214

**Course Name:** Herpetology: Natural History and Field Techniques of NY State  
Amphibians and Reptiles

**Credit Hours and Contact Hours:** 4 Credits / Combination of Lecture and Residential  
Field Course

**Catalog Description including pre- and co-requisites:**

An investigation of amphibians and reptiles of NY State, specifically the Finger Lakes Region, including, but not limited to ecology, behavior, natural histories, environmental impact and evolutionary relationships. A 5 day residential component for Amphibian and reptile identification and learning field sampling techniques will be an integral part of this course. Evaluation of students is based on 1) class participation, 2) group summary of field project, 3) critique of oral presentation of natural history of a species, 4) maintenance of a field journal, 5) identification of amphibians and reptiles of northeast. Prerequisites: BIO 122.

**II. Course Outcomes and Objectives**

**Student Learning Outcomes:**

Students will:

- Summarize literature research of the natural history of an amphibian and a reptile whose home ranges include the Finger Lakes region in an oral presentation.
- Describe the morphological, physiological and behavioral adaptations of herps.
- Apply techniques associated with inventory sampling and monitoring of herps in the field.
- Demonstrate proficiency in identification, collection and handling of herps according to protocol during class field trips.
- Recognize the importance of herps in the ecology of local habitats.
- Evaluate habitat requirements for amphibians and reptiles.

## Relationship to Academic Programs and Curriculum:

Herpetology: Natural History and Field Techniques of NY Sate Amphibians and Reptiles, BIO 214 is a science elective.

### College Learning Outcomes Addressed by the Course:

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> writing     | <input type="checkbox"/> computer literacy |
| X oral communications                | <input type="checkbox"/> ethics/values     |
| X reading                            | <input type="checkbox"/> citizenship       |
| <input type="checkbox"/> mathematics | <input type="checkbox"/> global concerns   |
| X critical thinking                  | X information resources                    |

## III. Instructional Materials and Methods

### Types of Course Materials:

An appropriate course book, as well as various peer reviewed published articles relevant to ecology and natural history of amphibians and reptiles.

### Methods of Instruction (e.g. Lecture, Lab, Seminar ...):

BIO 214 will be taught during the first summer session on alternating years. The first two weeks are in the traditional lecture/discussion format. The third week is a 5 day (8 AM Monday – approximately 2 PM Friday) residential course at Muller Field station. The five days at Muller will consist of primarily field work learning sampling, inventory collect and handling of amphibians and reptiles. A combination of lecture, case study evaluation, relevant literature research, oral presentations field natural history and field research methodology experience over a three week time period will be the method of instruction.

#### **IV. Assessment Measures (Summarize how the college and student learning outcomes will be assessed):**

Student's competency will be assessed using the following measures:

- A. Comprehensive exams and group discussions will assess mastery of content.
- B. Individual oral presentations of natural and evolutionary history of an amphibian and a reptile will be used to assess oral communication and critical thinking.
- C. Individual and group oral presentations using relevant literature research will assess aptitude in reading and information resources
- D. A Habitat Assessment Report evaluating habitat utilization and identification of environmental importance of amphibians and reptiles in relationship to a specific habitat will be used to assess critical thinking

#### **V. General Outline of Topics Covered:**

Being a combination traditional lecture and residential field course offers the flexibility of time.

The traditional lecture/discussion will include:

- a) anatomical and physiological characteristics of amphibians and reptiles
- b) a brief overview of evolution and taxonomy of amphibians and reptiles
- c) an examination of the ecological role of herps in the environment
- d) survey of local, as well as northeast in general, amphibians and reptiles
  - 1. identification
  - 2. natural history
  - 3. environmental status
- e) open discussion of current research related to northeast herps

The residential course will include:

- a) inventory techniques for amphibians and reptiles
- b) handling protocol of amphibians and reptiles
- c) collection field trips for the purpose of identification and sampling of herps
- d) Habitat delineation
- e) Student presentations of an amphibian and a reptile