



## BIOL 2225

**Division:** Natural Science and Mathematics

**Department:** Biology

**Course:** BIOL 2225

**Title:** General Ecology for Life Science Majors Lab

**Catalog Description:**

Basic concepts of ecology will be studied in the field. The students will also be introduced to some of the field techniques used by ecologists. The course will require participation in a four-day field trip. This course is designed for life science majors.

**General Education Requirements:** N/A

**Semesters Offered:** Spring

**Credit/Time Requirement:** Credit: 1; Lecture: 0; Lab: 3

**Clock/Hour Requirements:** 0

**Offered for Non-Credit:** No

**Corequisites:** BIOL 2220

**Justification:**

General Ecology for Life Science Majors Lab is a basic field ecology course for life science majors. An ecology laboratory class is required as part of the curriculum at all colleges in the state. This course will transfer to Utah State University, Southern Utah University, and Weber State University. Southern Utah University and Weber State University require the lab to be taken concurrently with the ecology course.

**Student Learning Outcomes:**

As a result of taking this course, students will:

- gain a working knowledge of ecological principles
- gain experience in identifying different ecotypes
- be able to identify important ecotypic variations
- be able to identify certain ecological problems
- gain a working knowledge of ecological sampling techniques
- gain a basic understanding of how ecological data is analyzed
- reinforce principles learned in the lecture portion of the class.
- 80% Report on field trip, 20% Report on Service Learning Project. This report is then submitted to State and Institutional Trust Lands Administration.

- General observations made throughout the field trip

- Sampling Aquatic Communities

Measuring the physical environment, sampling biological populations

- Intraspecific Competition

- Vegetation Sampling

Measurements and terms used in vegetation analysis, plot method, line intercept method

- Population Dispersion

- Terrestrial Vertebrate Sampling

- Foliage Invertebrates

- Species Diversity

- Community Similarity

- Service Learning Component

### **General Education Outcomes:**

5) Apply a cultural and historical awareness to a variety of phenomena.

Students will be taught how ecosystems evolved under different historical contexts. Students will be required to determine the ecological history of an area by looking at plants, animals and abiotic characteristics.

7) Apply scientific reasoning to a variety of contexts.

Laboratory discussions are centered on expanding and developing the knowledge obtained in the classroom, with an emphasis on how scientists know things. Students also apply scientific reasoning in analyzing and writing their report.

### **Key Performance Indicators:**

Progress of the students in achieving the course objectives will be measured by oral questions and answers during the field trip. Students will take notes and data during the field trip. After the field trip students will be required to analyze data and write a report on principles learned and results of sampling. Students are graded on their participation and the quality of their report. 80% Report on field trip, 20% Report on Service Learning Project. This report is then submitted to State and Institutional Trust Lands Administration. The above percentages are approximate and will vary by instructor.

### **Representative Text and/or Supplies:**

Handouts prepared by A. R. Stevens

**Optimum Class Size:** 24

**Maximum Class Size:** 24

**Signatures:**

I hereby submit this course syllabus:

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Allan Stevens, , Professor

I hereby find this course consistent with the goals and resources of the Biology Department:

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Allan Stevens, , Professor, Chair

I hereby find this course consistent with the goals and resources of the Natural Science and Mathematics Division:

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Dan Black, EdD, Associate Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

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Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)