EEOB 4950: Field Ecology

Semester Credit Hours – 2 undergraduate/graduate*

*Graduate students may enroll in and receive graduate credit for 4000-level courses outside their own graduate program.

Prerequisites: At least junior standing by the summer of enrollment, minimum GPA of 2.5, and completion of 18 quarter or 12 semester hours of biological sciences including introductory ecology OR permission of instructor.

Description: This course is an intensive one-week introduction to field ecology for teachers, upper-level undergraduates, and graduate students. This course will be a broad, field-based introduction to the distribution and abundance of animals and plants (both macroscopic and microscopic), aquatic and terrestrial habitats, and techniques for the collection and identification of these organisms, as well as analyzing their environments. Pond, lake, river, marsh, beach, field, and woodland habitats will be investigated. Basic statistical and data analysis techniques will also be covered.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>4 Quizzes</td>
<td>100</td>
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<tr>
<td>Field Notebook</td>
<td>50</td>
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<tr>
<td>Statistics Assignment</td>
<td>75</td>
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<td>Data Analysis Assignments</td>
<td>75</td>
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<td>Lab Practical</td>
<td>100</td>
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<td>Written Exam</td>
<td>100</td>
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<td>Total</td>
<td>500</td>
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Texts: Various texts will be available for use in class. No text is required for purchase.

Materials for Student Purchase: Field notebook (Write-In-the-Rain)

Equipment Used For Class (provided by the Lab): Seines, dip-nets, plankton nets, Secchi disks, DO meter, SONDE, light meter, DBH tape, jars, microscopes

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continued
Schedule:

Sunday
Afternoon: Introduction to course

Monday
Morning: Lecture: Plant succession and geology of Lake Erie Islands
Afternoon: Terrestrial Fieldtrip- South Bass Island (Fields)
Activity: Determine forest composition and observe stages of succession.
Evening: Quiz. Work on statistics assignments.

Tuesday
Morning/Afternoon: Terrestrial Fieldtrip- Kelleys Island (Quarries)
Goal: Examine geology/fossil organisms and terrestrial habitats.
Terrestrial Fieldtrip- Kelleys’ Island (Woods)
Activity: Determine forest composition and compare with Monday
Terrestrial /Aquatic Fieldtrip- Carp Pond (Beach/Marsh)
Activity: Examine transitional zones between aquatic and terrestrial habitats.
Evening: Quiz. Lecture: River ecosystems

Wednesday
Morning: Aquatic Fieldtrip- Old Woman Creek (Lake, Lacustuary, Upstream Reaches)
Activity: Collect fish and macroinvertebrates and determine IBI and SQM
Afternoon: Aquatic Fieldtrip- Huron River
Activity: Collect fish and macroinvertebrates and determine IBI and SQM and compare these with Old Woman Creek.
Evening: Quiz. Lecture: Lake ecosystems

Thursday
Morning: Aquatic Fieldtrip- Lake Erie (near Rattlesnake Island)
Activity: Collect fish, zooplankton, phytoplankton, and benthos and take physical measurements.
Afternoon: Laboratory: Identification of fish, zooplankton, phytoplankton, and benthos.
Activity: Determine density and diversity of fish and zooplankton.
Evening: Quiz. Lecture: Pond ecosystems, wetlands, and aquatic macrophytes
Guest Lecture: TBA

Friday
Morning: Aquatic Fieldtrip- Terwilliger’s Pond, Hatchery Bay and Alligator Bar
Goal: Collect aquatic macroinvertebrates and aquatic macrophytes.
Laboratory: Identification of macroinvertebrates and aquatic macrophytes.
Afternoon: Review for written test and laboratory practical. Course evaluations.
Evening: Field notebooks due. Study for lab practical and written exam.

Saturday
Morning: Laboratory Practical Exam- (1 hour-stations, 1 hour-quantitative), Written Exam- (1 hour).

Note: Morning sessions will last from 8AM until noon, afternoon sessions will last from 1PM until 4PM, and evening sessions will last from about 6:30PM until 8:30PM.