

## **FIELD ECOLOGY (BIO 325/525) Fall 2012**

Meeting Times: Lab 8:00-11:00 Thurs (HS 51)

Discussion 8:00-9:00 Tues (HS 456)

### **Contact Information**

<u>Office Hours</u>	<u>Location</u>	<u>Phone</u>	<u>E-mail</u>
Tuesday 9:00-10:00	Halsey 150	424-0845	stelzer@uwosh.edu
Thursday 12:00-1:00			
and by appointment			

### **Objectives of Course**

- to learn a variety of comparative and experimental approaches used to better understand how species interact with other species and with their environment
- to gain experience in the collection, analysis, display, and interpretation of ecological data and to become more proficient at scientific writing; by the course end students should be able to use a spreadsheet to manipulate and summarize simple data sets
- to practice and to improve critical thinking
- to understand how skills acquired in this course can be applied to address emerging ecological and environmental problems

### **Required Books**

A student handbook for writing in biology; third edition. 2009. Karin Knisley. Sinauer Associates, Inc., Sunderland, Massachusetts.

### **Where we will meet**

All meetings for Discussion will take place in Halsey 456 unless otherwise noted or announced. Lab will sometimes meet in HS 51 and sometimes at the Environmental Research and Innovation Center (ERIC) on the Fox River. We will meet in HS 51 on the mornings of field trips. See the Schedule for more details.

### **Evaluation**

You will be evaluated based on three short lab reports, one long lab report, five problem/data sets, a final exam, and participation in class discussions and other class activities. The grading breakdown is as follows:

Assignment	Percentage of Grade
Short lab reports (3)	35 %
Long lab report (1)	15 %
Problem and Data Sets (5)	15 %
Exam	25%
Discussion and participation	10%

To succeed in Field Ecology you should be prepared to participate fully in the labs and other activities! Missing, or being late for, labs or discussions will cause you to lose some or all of the participation points associated with a given activity.

The short lab reports entail answering a series of questions found at the end of each written lab description. Figures and/or tables will need to be included in the report to support your answers. For the long lab report you should use the traditional format for scientific reports (Abstract, Introduction, Methods, Results (including figures and tables), Discussion, and Literature Cited (see “Guidelines for Full Lab Reports” on D2L and “A student handbook for writing in biology”). I would be happy to look over a draft of any of your lab reports a few days or more before the due date. If you would like me to do this please bring a draft of your lab report to class or we can arrange to meet about this outside of class.

I encourage you to consider using resources on campus to enhance your performance in Field Ecology. For example, the Writing Center may be useful as you draft and revise your lab reports. The following statement is from the Writing Center: *All UW Oshkosh students are eligible for free, one-to-one conferencing at the Writing Center. All writers can benefit from talking with engaged, interested readers about their work. Trained peer consultants help writers of all ability levels understand an assignment, envision possibilities for a draft, and improve their writing process. They also can help writers learn to identify and correct their own proofreading errors. Students can make an appointment or stop by to see whether a consultant is available.*  
*<http://www.uwosh.edu/wcenter> • 920-424-1152 • [wcenter@uwosh.edu](mailto:wcenter@uwosh.edu) • Student Success Center, Suite 102 (across from Reeve and Polk on Elmwood Avenue)*

All lab reports and answers to problem sets must be turned in as hard copies. E-mailed versions of these assignments will not be accepted. To facilitate class data pooling, I will usually ask that you submit data generated in lab to me as Excel files using the Drop Box feature in D2L. More details will follow. The exam must be taken and the lab reports and problem sets must be turned in at the beginning of the class period on the due dates indicated in the Schedule. Make-up exams or extensions of due dates will only be given if there is a valid, documented excuse (e.g. illness, family emergency). You will need to contact me within 24 hrs of the missed class period or due date if you have an excused absence so that you can arrange to make up the assignment without penalty. If assignments are turned in late for an unexcused reason (e.g. oversleeping; needing more time to complete the assignment because of busyness, attending the Packers game the night before!) 15% will be deducted from the earned points for every day an assignment is late. After the first late assignment, no further late assignments will be accepted.

Final grades will be given based on the following grading scale:

A	91-100
A-	89-90
B+	87-88
B	80-86
B-	78-79
C+	76-77
C	70-75
C-	68-69
D+	66-67

D 60-65  
D- 58-59  
F < 58

**Electronic Devices:** Cell phones or similar devices must be turned off at all times during all class activities including field trips. If you need to have a cell phone on for some reason (e.g. to receive an emergency message during a field trip) I ask that you let me know ahead of time. You are welcome to take notes with a laptop or tablet device but I request that you restrict the use of these devices to note taking when in class.

**Academic Integrity:** If you decide to cheat on an exam or to engage in other forms of academic dishonesty you will be subject to the Student Academic Disciplinary Procedures as outlined in the Student Disciplinary Code (<http://www.uwosh.edu/dean>). Discussion of lab results and other material with other students in class, particularly your lab partner, is encouraged. However, all lab reports, problem sets, and article summaries must be completed individually. Plagiarism has serious consequences. Examples of plagiarism are 1) “lifting” whole sentences/paragraphs from a source and including this material in your paper or lab report in an unaltered or slightly altered form, 2) copying the work of another student and including it in your paper or lab report and 3) paraphrasing from a source without citing that source

**For Graduate Students (enrolled in Bio 525):** In addition to all of the other assignments and activities described in the syllabus, you will be assigned an additional project suitable for graduate students. The project will account for 10% of your grade. Short and Long Lab reports will account for 25% and 10% of your grade respectively (the percentages for the other categories are the same as given above). I ask that the graduate students in class arrange a meeting with me some time in September so that we can discuss potential projects as a group.

Week	DISCUSSION	LAB
Sept 3-7	-----	Introduction to course
Sept 10-14	Review of Competition, Introduction to crayfish and <i>Crayfish Competition Lab</i> .	<i>Crayfish Competition Lab</i> : field collection, measuring and marking (meet in HS 51, then to Waukau Cr.)
Sept 17-21	Discuss “A long-term rusty crayfish ( <i>Orconectes rusticus</i> ) invasion: dispersal patterns and community changes in a north temperate lake” by Wilson et al. 2004	<i>Crayfish Competition Lab</i> : Class Experiments (HS 51); <b>Data due by end of the day on Sept. 21</b>
Sept 24-28	Discuss results from Class Experiments and hypotheses and experimental designs for Group Experiments	<i>Crayfish Competition Lab</i> : Group Experiments (HS 51)
Oct. 1- 5	<i>Crayfish Competition Lab</i> : Group Experiments (HS 456 or 51 TBA)	<i>Forest Community Structure</i> (meet in HS 51, then to Waukau Cr. Forest Reserve);
Oct. 8-12	Introduction to forest community ecology and <i>Forest Community Structure Lab</i> ; <b>Data from Forest Community Structure Lab due</b>	Discussion of “Dynamics in late-successional hemlock-hardwood forests over three decades” by Woods 2000 (HS 51); <b>Crayfish Competition Short Lab Report due</b>
Oct 15-19	Discuss results from <i>Forest Community Structure Lab</i>	Introduction to nitrogen cycle, groundwater-surface water interactions and <i>Water Quality Lab (HS 51)</i> ; <b>Forest Community Structure Problem Set due</b>
Oct 22-26	Discuss results from <i>Forest Community Structure Lab</i>	<i>Water quality: sample collection</i> (Radley Cr.) Meet in HS 51 at 7 am!
Oct 29- Nov 2	Introduction to nutrient analysis using ion chromatography; <b>Forest Community Structure Long Lab Report due</b>	<i>Water quality: nitrate analysis</i> (HS 51 and HS 510); <b>Water Quality Lab Problem Set due</b>
Nov 5-9	Discuss results from <i>Water Quality Lab</i> ; Identify and measure chromatogram peaks (outside of class)	Discuss “Nitrate retention in riparian ground water at natural and elevated nitrate levels in North Central Minnesota” by Duff et al. 2007; <b>Data from Water Quality Lab due</b>
Nov 12-16	Biological diversity, biotic integrity and introduction to <i>Stream Invertebrate Biodiversity Lab</i>	<i>Stream Invertebrate Biodiversity: Field Sampling</i> (Mosquito Cr. and Pine River); Meet in HS 51 at 7 am! Dress warmly!!
Nov 19-23	Discuss “Biological integrity: a long-neglected aspect of water resource management” by Karr 1991; <b>Water Quality Short Lab Report due</b>	<b>No lab</b> 
Nov 26-30	Introduction to aquatic invertebrate identification	<i>Stream Invertebrate Biodiversity: Invertebrate identification</i> (ERIC)
Dec 3-7	<i>Stream Invertebrate Biodiversity: Invertebrate identification</i> (ERIC);	<i>Stream Invertebrate Biodiversity: Invertebrate identification and diversity calculations</i> (ERIC)
Dec 10-14	Review for Final Exam; <b>Stream Invertebrate Biodiversity Short Lab Report due</b>	<b>Exam</b>