**FIELD ECOLOGY (BIO 325/525) Fall 2016**

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

 Discussion 8:00-9:00 Tues (HS 266)

 Credits - 3

**Contact Information**

# Office Hours Location Phone E-mail

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 skills

● to be able to conduct a thorough review of the peer-reviewed literature in written form

● to understand how skills acquired in this course can be applied to address emerging ecological and environmental problems

In addition to the objectives listed above the following objectives apply to graduate students: 1) Display leadership qualities in lecture and lab, especially during class discussions. 2) Conduct a more thorough literature review than what is required for undergraduates.

**Recommended 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 266 unless otherwise noted or announced. Lab will meet in HS 51 including the mornings of field trips. See the Schedule for more details.

# Evaluation

You will be evaluated based on 2 individual lab summaries, 2 group lab reports, 3 data sets, a literature review project, a final exam, and participation in class discussions and other class activities. The grading breakdown is as follows:

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| --- | --- |
| Assignment | Percentage of Grade |
| Individual Lab Summaries (2) | 12 % |
| Group lab reports (2) | 15 % |
| Data Sets (3) | 8 % |
| Literature Review Project● topic, importance statement, 5 references● outline● paraphrase assignment● draft 1● final drafttotal | 4%4%2%15%10%35% |
| Exam | 20 % |
| 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 those activities.

The lab summaries will consist of submitting summarized data and written answers to one or two questions about the lab activity. The group lab reports will entail answering a series of questions found at the end of each written lab description. Groups will consist of two to three students in most cases. Figures and/or tables will need to be included in the reports, as specified in the lab descriptions, to support your answers. The group lab reports should be written collaboratively by all members of the group. I will be seeking feedback about group dynamics from each lab group to assess the contributions of each group member.

Data sets will consist of data that you summarize and/or analyze and submit to me in electronic form (Excel or Google Sheets). For some of the labs we will pool data collected individually by labs groups. The pooled data will then be used by the entire class to complete the lab summary or group lab report.

The Literature Project is an individual project. See the separate document on D2L for details.

The final exam will be cumulative but will be weighted towards more recent lab activities. The instructor will hold a review session several days before the final exam.

Your Discussion and Participation grade will be based on attendance in lab and discussion periods and the quantity and quality of your participation during class. Participation during discussions of papers in class (see schedule) is particularly important.

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 • Student Success Center, Suite 102 (across from Reeve and Polk on Elmwood Avenue)*

Lab Summaries, Group Lab Reports and Literature Review Project assignments must be turned in as hard copies. In addition to giving me hard copies of your Literature Review papers (Draft 1 and final paper) you will need to also send electronic copies to a Dropbox that I will set up in D2L. Your papers will be screened for plagiarism using Turnitin.

 The exam must be taken and the lab reports and problem sets must be turned in at the start 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 an assignment is turned in late for an unexcused reason (e.g. oversleeping; needing more time to complete the assignment because of busyness, attending a Packers game the night before!) 15% will be deducted from the earned points for every day the assignment is late. After the second 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

Graduate students must earn a C or higher to pass the course. No D grades are available for graduate students.

**Electronic Devices and Software:** 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. Exceptions to this policy would be instances when you need to use your cell phone as a timing device in lab or to look up information after being prompted by your instructor.

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. I especially encourage you to bring a laptop, if you have one, when we are working on data analysis in class. It would be useful if you have a copy of Microsoft Excel. If you don’t have a copy of Excel you can access Excel on any of the campus computers. Alternatively, you can use Google Sheets as long as you can perform all of the necessary analytical functions with this software. Google Docs and Google Sheets are particularly useful for group work.

**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>). 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. Your instructor will be using Turnitin software to screen for plagiarism

**For Graduate Students (enrolled in Bio 525):** In addition to all of the other assignments and activities described in the syllabus, you will be asked to: 1) write a longer and more in-depth paper for the Literature Review Project (see description for details), 2) take a special leadership role during discussions of papers in class (details will follow), and 3) assume other leadership roles as needed during the class.

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| Week | DISCUSSION | LAB |
| Sept 5-9 | ---------- | Introduction to course |
| Sept12-16 | Introduction to Zebra Mussels and *Zebra Mussel* *Lab* | Zebra Mussel Lab: Filter Feeding *(HS 51, then to Lake Winnebago); sample filtration will extend outside of class time* |
| Sept 19-23 | Introduction to Literature Review Project | Field Trip to observe DNR Fish Sampling.Location TBD |
| Sept 26-30 | Discuss “Transformation of the offshore benthic community in Lake Michigan: recent shift from the native amphipod *Diporeia* to the invasive mussel *Dreissena rostriformis*”  | *Zebra Mussel Lab: Chlorophyll a analysis* (HS 51); Introduction to chlorophyll a analysis; Discuss results; **Literature Review: Topic, Importance Statement, 5 references due Sept. 29** |
| Oct 3-7 | Discuss results from *Zebra Mussel Lab;***Filter feeding data from Zebra Mussel Lab due Oct. 5** | Discuss results from *Zebra Mussel Lab;* Introduction to phytoplankton identification; *Zebra Mussel Lab: Do they feed selectively?* *Phytoplankton community composition* (HS 51) |
| Oct 10-14 | Introduction to forest community ecology and *Forest Community Structure Lab;* **Literature Review: Outline due Oct. 11** | *Forest Community Structure Lab* (meet in HS 51, then to Waukau Cr. Forest Reserve); **Zebra Mussel Group Lab Report due Oct 15** |
| Oct 17-21 | Discuss “Dynamics in late-successional hemlock-hardwood forests over three decades”; **Data from Forest Community Structure Lab due Oct. 18** | Discuss results from *Forest Community Structure Lab*(HS 51); Individual meetings with students about literature review outlines; **Literature Review: Paraphrase assignment due Oct. 20** |
| Oct 24-28 | Discuss results from *Forest Community Structure Lab* | Introduction to nitrogen cycle, groundwater-surface water interactions and *Water Quality Lab* (HS 51) |
| Oct 31-Nov. 4 | Introduction to nutrient analysisusing ion chromatography;**Forest Community Structure Lab Summary due Nov. 1** | *Water Quality Lab: sample collection* (Radley Creek). Meet in HS 51 at 7 am! |
| Nov 7-11 | Standard curves; Work through practice data set (bring laptops); **Literature Review: Draft 1 due Nov. 8** | *Water Quality Lab*: *nitrate analysis* (HS 51 and HS 510) |
| Nov 14-18 | Discuss results from *Water Quality Lab* | *Stream Invertebrate Biodiversity Lab: Field Sampling* (Mosquito Cr. and Pine River); Meet in HS 51 at 7 am! Dress warmly!!; **Nitrate Concentration Data from Water Quality Lab due Nov. 17** |
| Week | DISCUSSION | LAB |
| Nov 21-25 | Discuss results from *Water Quality Lab*  | MCj04345790000[1] |
| Nov 28-Dec. 2 | Biological diversity, biotic integrity and introduction to *Stream Invertebrate Biodiversity Lab* | Introduction to aquatic invertebrate identification; *Stream Invertebrate Biodiversity Lab: Invertebrate identification* (HS 51); **Water Quality Group Lab Report due Dec. 1** |
| Dec. 5- Dec. 9 | *Stream Invertebrate Biodiversity Lab: Invertebrate identification (*HS 51*)* | *Stream Invertebrate Biodiversity Lab: Invertebrate identification (*HS 51*);* Discuss results of Biodiversity Lab; **Literature Review: Final Paper due Dec. 8** |
| Dec. 12-16 | Review for Final Exam | **Exam (HS 51 or other room TBA) Dec. 15;****Stream Invertebrate Lab Summary due Dec 16** |