BIOLOGY 3800 ECOLOGY: LABORATORY **Fall 2010**

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GENERAL: The laboratory portion of this course is designed to provide students with a "hands-on" introduction to ecological principles. Equally important, the lab should also demonstrate techniques for collecting, analyzing, and interpreting ecological data. Students will also gain experience in scientific writing.

REQUIRED MATERIALS: There is one required text for this course:

Brower, J.E., J.H. Zar, and C.N. von Ende. 1998. Field & Laboratory Methods for General Ecology, 4th edition. McGraw-Hill Inc. New York.

Several of the labs have a field element – please dress appropriately for these exercises.

ATTENDANCE: Attendance in the laboratory is **MANDATORY**. Any student who accumulates *TWO* unexcused absences will receive a grade of zero for the laboratory portion of the course. For promptness in leaving for field excursions and general courtesy please avoid tardiness!!

GRADING: Your lab assignments will be worth the following points (**400 total***):

Assignment	Points*
Lab #1	10
Lab #2 and #3	40
Lab reports (4 @ 20 pts. each)**	80
Literature Presentation	20
Scientific Paper (1)	150
Comprehensive Lab Exam (1)	100
Lab Total	400

* Subject to change at the instructors discretion

* *highest 4 scores will count

Note that the 400 points from lab assignments will be combined with 450 points from lecture exams to determine your final grade (based on ***850 total points***). Thus, you must earn ≥ 90% for an "A", 80-89% for a "B", 70-79% for a "C", 60-69% for a "D", and <60 = "F". At my discretion, grades from this class may be curved upward based on the normal distribution; however, any grade ≥ 90 will always result in a grade of A for the course.

Format of the labs will consist of short answer and essay some questions will challenge you to use statistical calculations. Please make every effort to use proper grammar and correct spelling on these exercises.

The use of excel or another spreadsheet program will aid in the analysis of some of the data from these labs. If you are unfamiliar with the use of simple spreadsheet functions please let me know and I will give you a quick rundown of simple tasks.

Labs 1, 2 and 3 will have exercises that **all** students should complete (no option). They will be due one week after the lab period. "**Lab reports**" are assigned for labs #4-11. These should be typed (double-spaced) where appropriate. Each lab report should contain an ***abstract*** (a concise summary of the results and conclusions of the exercise). Although grades for these reports will be based primarily on data analysis and interpretation, neatness and writing style are also important. Lab reports will be due 2 weeks after the exercise is assigned. *Your grade will be reduced 10% for each day that the assignment is late.* Note that only the 4 highest scores that you receive for the lab reports (of 6 possible) will be counted.

For the **scientific paper**, worth 100 points, we require the following sections: ***Title, Abstract, Introduction, Methods, Results, Discussion, and Literature Cited***. We require that you cite at least 5 journal articles from the ecological literature (a list of appropriate journals is on reserve). You can choose one of two laboratory exercises (#8 or #9) as a basis for your paper (see schedule on back). A lab report will be due for the lab not chosen for the scientific paper. However, you should not turn in a lab report for the lab you choose for your scientific paper. Writing style will count significantly toward the grade you receive on this assignment. The following categories (along with their relative importance) will be used to grade this assignment: data analysis (10%), interpretation of results (15%), writing style and scientific format (20%), endeavor (effort) (15%), appropriateness and thoroughness of literature cited (15%), neatness and grammar (15%), originality of interpretation or presentation of results (10%). You may work ***singly or in pairs*** on this paper. This paper will be **DUE *2 DECEMBER***. Your grade will be reduced 10% for each day this assignment is late.

The "**Literature presentation**" (week 12) will consist of a ~5-minute oral report (using Powerpoint slides) in which you summarize one of your 6 articles from peer-reviewed scientific journals (selected by yours truly!) that you turned in on week 10. This paper should clearly be relevant to our scientific paper and part of your presentation will be to describe this relevance.

A **lab exam** (100 pts) will be given during the last scheduled lab period (9 December). It will be COMPREHENSIVE, but will only cover material from our labs. Without **PRIOR** arrangement failure to attend the final will result in a grade of zero on the exam.

Disabilities: Any student with a disability is asked to contact me so that we can discuss any accommodations. Also, the university has services available should you need them:

Disability Services: 581-6583	Career Services: 581-2412
Learning Assistance: 581-6696	Counseling Center: 581-3413

Academic integrity**: "It is assumed that students will honor the tradition of academic honesty. Should incidents of suspected classroom cheating or plagiarism occur, however, the following steps will be taken:

1. The instructor who has witnessed academic dishonesty or who has other evidence that academic dishonesty has occurred will confront the student to inform him/her of the allegation. Time permitting; the instructor will contact the Office of Student Standards prior to talking with the student. If the student admits the violation, the instructor will assess an appropriate academic penalty and will inform the Office of Student Services using a Notation of Academic Misconduct form.
2. If the student disputes the allegation, or if a sanction greater than a failing grade for the course is warranted, a hearing will be provided by the Office of Student Standards in

accordance with provisions of the Student Conduct Code. If as a result of the hearing the student is found responsible for the violation, the instructor will assess an appropriate academic penalty. Other sanctions such as disciplinary probationary status or separation from the institution can be imposed by the University's disciplinary system. Full conditions and explanations are cited in the Student Conduct Code. A student accused of academic dishonesty in a course may not drop the course until such time as disciplinary action, if any, is concluded. A grade (A, B, C, D, F, CR, NC, AU, I, W, X) may be changed to reflect the disciplinary sanction, if any, imposed as a result of academic dishonesty. In the event that the alleged violation occurs at the end of a term, no grade shall be assigned pending conclusion of the disciplinary process. All students are subject to the provisions of the University's Student Conduct Code, available online at www.eiu.edu/~judicial."**

** from http://catalog.eiu.edu/content.php?catoid=17&navoid=435#acad_inte

Cell Phones: Please refrain from using cell phones during the lab. Make sure that your cell phone is set to all sounds off during the class periods.

LABORATORY SCHEDULE (tentative)

Week #	Topic	Location	Reading*
1	Into. to lab, writing scientific papers, ecological literature##	LS1071	1c
2	Doing science/doing ecology, statistics in ecology##	LS1071	1b
3	Ecological sampling (desert vegetation)##	LS1071	1a
4	**Habitat selection –drey site location in tree squirrels on EIU's campus**	**Field**	**2a-c**
5	Effects of slope & aspect on tree species**	Field	3a-c
6	Population Ecology; dispersion of plants**	Field	4c
7	Population Ecology: life tables & population growth**	LS1071	4a,b
8	Community structure; competition/ niche overlap within a guild**	Field	4d
9	Community structure; predation- functional response**	LS1071	4e
10	Community diversity and similarity; comparison of 2 aquatic habitats**	Field	5a,b,c
11	Community diversity..., continued	LS1071	"
12	Literature presentations	LS1071	TBA
13	Scientific paper review	LS1071	TBA
14	Lab review (**scientific papers due**)	LS1071	---
15	***COMPREHENSIVE*** Lab Exam	LS1071	---

*readings from Brower et al. ## Assignment due (in 2 weeks). ** Lab report due on this exercise (in 2 weeks).