

ESP 411: Methods of Field Analysis

Instructor: Dr. Merrie Cartwright; 105D Bailey Hall, Phone: 780-5395,
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Office Hours: M 11:00-2:00 & W 11:00-12:00

Lecture/Lab: F 11:00-5:00, 213 Bailey Hall

Texts: 1. Brower, J.E., J.H. Zar and C.N. von Ende. 1998. Field and Laboratory Methods for General Ecology. McGraw-Hill Science/Engineering/Math.
2. McMillan, V.E. 2001. Writing Papers in the Biological Sciences. Bedford/St. Martin's
Supplemental Readings may also be assigned periodically throughout the course.

Course Description: This course is designed for the investigation of ecological issues using combined skills typically employed by environmental scientists, including journal article interpretation, descriptive field techniques, hypothesis testing, and computer analysis. This course is writing-intensive, which means there will be a strong emphasis on enhancing your scientific writing skills, including the thoughtful organization of ideas and clarity in presentation.

Date	Topics - <i>subject to change</i>	Reading	
		Brower	McMillan
9/3	Introduction, making observations, asking questions, literature assignment, scientific writing; lake intro	1-6, 22-25, 54-76	51-87, 38-50
9/10	Lake sampling – Sand Pond (field day)	(54-76),	126-151
9/17	Lake sampling – Chaffin Pond (field day)	115-123, 217-228	
9/24	Lake results; statistics and forest intro	(22-25), (115-123), 7-21, 27-39	(38-50), 31-37
10/1	Forest intro continued; lake paper due	87-109,	
10/8	Forest sampling (field day)	171-176	
10/15	Statistics, distributions, means comparisons (computer lab)	(1-21), (87-109)	
10/22	Stream intro; statistics continued; diversity, species-area curves, dispersion ratios; forest paper due	(115-123), (2-6), (171-176)	
10/29	Stream sampling (field day)	(115-123),	
11/5	Stream sampling (field day)	177-187	
11/12	Macroinvertebrate identification, sample processing (lab day)		
11/19	Population studies; mammal intro; locate and set up grids, pre-bait; stream paper due	124-136, 152-162	
11/26	<i>Thanksgiving Break – no class</i>		
11/29-12/3	Mammal marking and recapturing (field days – sign-up sheets)		
12/3	Mammals finished, summary data, trap clean-up		
12/10	Class review; mammal paper due		
12/17	Take-home exam due by 12:45		

Field trip safety: We will spend extensive time in this course collecting field data, regardless of weather. Appropriate clothing must be worn at all times! Late fall/winter sampling can be hazardous if clothing gets wet, so wear impermeable gear on feet and during precipitation events. Always have a hat – and spare socks and gloves are recommended for stream trips. Long pants are required for terrestrial trips. Hard hats must be worn at all times in the forest, and life jackets must be worn while on the boat. No smoking is permitted while on field trips.

Attendance: Participation and attendance are essential in this course, as all field activities require data collection by groups. Field work can not be made up at a later date. Therefore, attendance is mandatory, and ¼ of a letter grade will be deducted from your overall course grade for every unexcused absence. If a legitimate and serious circumstance arises whereby you have to miss class, you must notify the instructor 24 hours prior (documented illness being the only exception). Any other absence will be considered unexcused.

Grading:	Lake Report:	10%
	Forest Report:	20%
	Stream Report:	20%
	Mammal Report:	20%
	Take-home Exam:	20%
	Other Assignments:	5%
	Participation:	5%

All grades will be posted on Blackboard, along with any announcements or supplemental material. The Blackboard site for this class may be found at <http://www.courses.maine.edu>. This course will not have plus or minus grading.

Writing assignment criteria: The four reports will each be written as though you are lead author of a research paper designed for submittal to the journal *Ecology*. In the reports, you will present the data you collect on our field outings, while providing ecological background and context for the questions at hand. You will then perform statistical analyses on the data and interpret them within this context. Grading will reflect scientific accuracy, comprehensiveness, and organization – as well as writing quality (style, sentence structure, grammar and spelling).

All papers are due by 11:00 on the dates given. One letter grade per day will be deducted for each day a paper is late, and papers will not be accepted more than two days late.

Plagiarism: Plagiarism is not acceptable and will not be tolerated. If you have any questions regarding proper citation formats, please ask Dr. Cartwright. If you are caught plagiarizing information you will receive an automatic F for the course.

ADA: Support for Students with Disabilities – Students who may need assistance due to a disability are encouraged to contact the Office of Support for Students with Disabilities, Luther Bonney 242. Phone: 780-4706, TTY: 780-4395.