

Biology 306, Ecological Methods

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Tentative Syllabus, Fall 2017

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Course description: Application of ecological methods in the field, laboratory analysis of data, and study and discussion of applied ecology. We will practice collecting, summarizing, analyzing statistically, and interpreting ecological data on species, populations, and the communities in which they reside.

Learning Outcomes: I expect students to be able to define scientific, ecological theories, and to sample, analyze, and objectively infer ecological relations pertinent to the physical and chemical characteristics and biotic components of ecosystems. I too expect students to be able to interpret coherently data and findings in technical papers pertinent to ecology and to local and global conservation issues.

Text: Manual prepared principally by C.M. White, UWSP, and possibly assigned readings. Available to purchase for about \$5.50 in University Bookstore. Bring the manual to every class.

Topics: (see Lab Manual)

Introduction and Planning a Scientific Study

Vegetation/habitat sampling and data analysis

Topographic Maps

Statistics in Biological Decisions

Population Ecology: demography, life tables, population growth and cycles, quadrat sampling, density, mark-recapture studies

Diversity Indices

Conservation Biology

Attendance, Testing, and Grading: Attendance is mandatory (you will drop one whole course grade for each unexcused class meeting that you miss). Probably two exams (about 50-60 points on each exam); test format generally is short answer, brief essay, calculations, data interpretation, and identification and use of sampling equipment. **First Exam** is during **24 and 25 October** and the second and **Final Exam (not comprehensive)** is during **12 and 13 December**, the last week of regular classes. Fill in your manual as we go along as it's your main reference medium; you do not have to hand in manual to me. Interactions with the instructor could influence your grade – verbal participation is encouraged! You will lose 10 UNANNOUNCED points for each episode of disruptive behavior or excessive chatting while the instructor is lecturing (cell phone use in class constitutes disruptive behavior). Please be courteous to your neighbor's learning and my teaching environment.

Student Responsibilities:

It is your responsibility to know your rights and responsibilities; please read the following link (it is the same for all your other classes at UWSP):

<http://uwsp.edu/admin/stuaffairs/rights/rightschap14.pdf>

You'll need a calculator—one that you can operate the natural logarithm and exponent keys; **bring YOUR calculator to all tests!!** I reserve the right to randomly check calculators, etc., used by students to ensure that test material for this class is not programmed within their electronic devices. Be prepared to go outside during any lab.

My office is CNR 474; office hours are 1130– 1300 hrs Tuesdays. My schedule can change quickly depending on unforeseen departmental, field, and campus activities. I sincerely appreciate your understanding and patience. Leave a note under my door or send an email if I'm not in the office at this time – thanks!

Let's have some fun.