

Biology 306, Ecological Methods

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Tentative Syllabus, Spring 2019

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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 for about \$6 - \$7 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 one exam (about 80 points); test format generally is short answer, brief essay, calculations, data interpretation, and identification and use of sampling equipment. **Exam is on 3 April** and term paper is due in my office at noon on **1 May (we'll discuss the term paper first meeting of semester and finalize its construct by second week of spring semester, that said, it must be ≥ 12 pages in length [excluding Literature Cited section], double-spaced, single-sided; Literature Cited section can follow format of a technical paper you read; paper must be turned into my office by noon 1 May)**. 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 tests!! I reserve the right to randomly check calculators 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; 346-4255; office hours are 1400-1600 hrs Monday. 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 these times – thanks!

Let's have some fun.