

Aquatic Ecology
BIO 330.501 ENVR 611.501
Spring Term 2000 (99-3)
Dr. Susan S. Kilham

Goals:

This course introduces the major concepts that govern the distribution and abundance of freshwater plants and animals, especially emphasizing the processes involved in interactions of biota. The first part of the course gives an overview of the historical roots, the origin of lakes and the physical and chemical structure. The remainder of the course focuses on the ecology of organisms in aquatic habitats.

Date	Topic	Reading: Limnoecology
March 28	Introduction/History Origin of Lakes Morphometry/Water balance	1-15, 338-340
April 4	Temperature, Light, Movement	16-33
April 11	Principal dissolved salts O ₂ , CO ₂ , pH	33-46
April 18	Nutrient ions	47-91, 295-306
April 25	Bacteria Rooted Aquatics Phytoplankton Survey	89-120 (handout)
May 2	EXAM	
May 9	Phytoplankton (continued) Nutrition Ecology Primary Productivity	123-159 160-186 324-331 83-109; 308-311
May 16	Benthic communities Zooplankton Survey	278-279
May 23	Zooplankton Grazing Predation/Competition Cyclomorphosis	187-203 206-271 227, 242-246
May 30	Food Webs/Energetics Cultural Eutrophication Paleolimnology Special topics	288-287 313-320

FINAL EXAM June 6, 5-7 pm

COURSE FORMAT

Lectures are one 3-hour lecture each week. Exams are in-class. I do not take attendance. Lecture notes are generally distributed. I welcome questions during class.

TEXT

Limnoecology: The Ecology of Lakes and Streams. W. Lampert and U. Sommer (translated by J. Haney). Oxford University Press. 1997. (382 p.) ISBN: 0-19-509592-8

FIELD TRIPS (dates are tentative at the moment)

April 15: Tincum Marsh (8am-ca. 2pm)

May 6-7: Weekend overnight trip to Lake Lacawac, PA
(7:30am Sat-ca. 4pm Sun)

These field trips are highly recommended! They introduce you to the organisms in various habitats. Field trip reports are required; alternative assignments can be arranged if you are unable to go on the field trips.

GRADING

Exams = 100 points each. Exams generally cover the material in the preceding five lectures. I give **NO** make-up exams and **NO** incompletes.

Field trip reports = 25 for one-day trip, 50 points for two-day trip.

Graduate students are held to a higher standard in the field trip reports.

Field trip reports should include: description of environment, weather, organisms (including Phylum of each, and scientific name when possible), habitats where organisms are found, any physical/chemical measurements, and a discussion of your observations.

Substitutions for those not going on field trips: 2 paper critiques for one-day trip and 4 critiques for two-day trip. These should be on PRIMARY RESEARCH ARTICLES published within the past 12 months. The papers should be 2-3 pages and include the major ideas being tested, the approach used, the major findings, and YOUR EVALUATION. You may choose papers from the following journals: *Limnology & Oceanography*, *Canadian Journal of Fisheries and Aquatic Science*, *Freshwater Biology*, *Ecology* (freshwater papers ONLY), *Water Research* (related to topics covered in this course), *Journal of Great Lakes Research*. Other sources are possible WITH MY PERMISSION. Turn in the article with your critique.

ACCESS

I am available for individual appointments as needed. I remain after class each night to answer any questions.

Kilham's Office: Room 605 Nesbitt Hall Phone: 215-895-2628 kilhams@drexel.edu

Assistant for Field Trips: