Proposed Lecture Syllabus and Class Information
Biology 245
Fall, 2003

Instructor: Dr. Steve Baker
Pierce 117

COURSE OBJECTIVES:

1. Students will acquire a basic knowledge of freshwater ecological principles in stream, lake, and wetland ecosystems.

2. Students will learn the skills and techniques needed to identify most aquatic invertebrates to the taxonomic level of genus.

3. Students will learn techniques for evaluating water quality of streams and lakes based on the evaluation of the pollution tolerances of the organisms they contain.

4. Students will put their new knowledge to work by practical, hands-on field investigations of nearby lakes and streams.

5. Students will learn research skills needed to conduct scientific investigations, develop critical thinking skills used to evaluate their data, and present their results to the class.

COURSE SYLLABUS:

This syllabus is tentative and subject to change due to weather or other needs.

Date	**Topic**
8/28	Course Introduction
9/2	Introduction to Taxonomy-- The role of M and M's in Biology
9/4	Aquatic Ecology Case Study
9/9	Presentations: Student Groups Intro to stream water chemistry
9/11	Water and your health… what's happening in your neighborhood?
9/16	Water and Disease
9/18	Introduction to Biomonitoring and Sampling Design Rapid Bioassessment Protocols

9/23	Introduction to Stream Ecology-Design a stream Geomorphology Temperature and Light Influences Stream channel characteristics Riparian Zones
9/25	Life at the Bottom - role of benthos in stream ecosystems Habitat adaptations-Benthic movements
9/30	Energy Flow: River Continuum Concept
10/2	Student Presentations: Major Insect Orders
10/7	Student Presentations
10/9	Stream Fishes
10/21	**Exam I – through stream fishes**
10/23	Introduction to Lake Ecology-- Classification Temperature and Stability Water Quality
10/28	Bear Creek, Quantitative Sampling / Fish Collection
10/30	Plankton
11/4	Aquatic Macrophytes, Lentic Insects and Fishes Introduction to Aquaculture
11/6	Aquaculture
11/11	Trip to Buford Fish Hatchery
11/13	Introduction to Fisheries Management
11/14	Fisheries Management/Farm Ponds
11/18	**Exam 2**
11/20	Student Project Presentations: **2003 Freshwater Ecology Symposium**
11/25	Wetland Ecology
11/26-11/28	Thanksgiving Holiday

12/2	Human Impacts-What's happening to Freddy?
12/4	Endangered and Exotic Species
12/9	Course wrap-up

EVALUATION

These are general guidelines for evaluation and may vary somewhat!

Exams 2 @ 10%	**20%**
Final Exam	**15%**
Presentation (insect order)	**5%**
Project and Presentation	**20%**
Aquatic Invertebrate Collection	**15%**
Lab Quizzes	**20%**
Field Book, etc.	**5%**
Total (hopefully)	**100%**

Additional Notes:

Student project will consist of a research project conducted **with a lab partner** and presented to the class. It will involve a field-oriented project and will include a written report.

Collection will be prepared by **each student** throughout the semester. Organisms will include those collected on lab trips, specimens obtained in project work above, but must also include out of class sampling trips taken with another member of your class.

Field book will include notes taken in the field and documentation of your personal sampling trips.

More specific information about these class components will be distributed at a later date.

Honor Code:
Students in Biology 245 must adhere strictly to the Honor Code of Oxford College. It will be strictly enforced!

- We will discuss in class acceptable styles of citations for various sources, sharing of data and/or other information, and other information relative to the Honor Code.

Additional Information:

- The Biology Department absence policy will be distributed and reviewed. Excessive absences can result in a reduction in your grade! Tardiness is also part of the absence policy and, if it occurs frequently, will result in a grade reduction.

- Text: An Introduction to the Aquatic Insects of North America, by Merritt and Cummins. This is basically a book of identification guides for various aquatic insects.

  I will also provide additional internet sites to review and handouts to supplement the lecture material.

- Office Hours: I am generally here 8:30-5 PM each day. My office hours are T-Th 8-11 unless I am giving an exam. I am also in the office from 10:30-12:00 MWF. Feel free to make an appointment at any time. I am always glad to see you!

Tentative Lab Syllabus / Biology 245
Fall, 2003

9/2	Introduction to Use of Taxonomic Keys Investigation Basics / Prepare leaf packs
9/9	Collect: Croom Creek, Land Application Area Install leaf packs
9/16	Collect: Yellow River
9/23	Lab Day: ID / Collection Prep
9/30	**Keying Quiz I**
10/7	Bioassessment Investigation Present Results in Class, 10/28
10/21	Lentic Sampling, City Pond or other area lake
10/28	Quantitative Sampling/Fish Collecting Bear Creek
11/4	**Keying Quiz 2**
11/11	Buford Fish Hatchery Collections Due@12:30 PM
11/18	Plankton Investigation
11/25	Open lab or weather buffer
12/2	Semi-Aquatics Leaf Pack Data Analysis
12/9	**Final Keying Quiz**