

Zooplankton Ecology (FAS 6932)
Spring 2010, W 1-4 PM – Revised February 24, 2010
Instructor: Karl Havens (khavens@ufl.edu), phone 392-5870

Course Objectives

This course provides a comprehensive overview of classical and contemporary aspects of the biology and ecology of freshwater plankton, with particular consideration of how zooplankton structure and function relates to fisheries and water quality. The course includes classroom, field and laboratory experiences, critical evaluation of methods used to collect and analyze zooplankton, and it examines current focus areas in plankton research. The emphasis is on freshwater plankton, however, selected marine literature will be examined and most of the principles covered apply across the freshwater – marine continuum. Students will participate in discussions regarding selected papers from the plankton ecology literature, and will conduct an independent analysis of an unpublished plankton / water chemistry dataset from a Florida lake. Using knowledge acquired in the course, students will develop tables and figures to summarize major aspects of the data, draw conclusions about patterns observed in those data, cite the appropriate literature, establish hypotheses, and develop a research plan for hypothesis testing. The products of this exercise will include a written report and oral presentation to the class.

Outcomes

Students who successfully complete the course will be able to independently develop and execute field and laboratory procedures for estimating zooplankton population density, biomass, productivity and grazing rates. They also will have a solid understanding of the major biotic and abiotic factors that control zooplankton dynamics in aquatic ecosystems and be able to critically analyze both published literature on the subject and raw data collected from observational or experimental studies. This course also will help students develop competencies in the following general areas: implementing projects efficiently and effectively; evaluating information and formulating high-quality arguments; and communicating effectively through oral and written materials.

Reading Material

The assigned readings are a selection of articles from the peer-reviewed literature on zooplankton ecology. Readings augment the lectures with enhanced detail and/or practical examples. Assigned readings are listed on pages provided with this syllabus and a back up copy of the syllabus or reading list can be downloaded from the website <http://fishweb.ifas.ufl.edu/planktonweb/> on the page called 'class.' Readings should be done in advance of the identified dates, when they either will be discussed, or they will relate to the lecture material. For the exams, I will assume that students have read and understand what is presented in the readings, so if you have questions about anything covered in assigned readings, ask me well in advance of the exam dates. All of the assigned readings can be downloaded as PDF files either online from the UF library or from the webpage identified above. The reading list indicates the most readily accessible location of each paper.

Grading

Grades will be based on mid-term (100 pts) and final essay exams (100 pts), oral and written report (50 pts each), and participation in discussion sessions (25 pts). Exams will test students' ability to use knowledge and skills acquired in the course to interpret data, critically evaluate different points of view or technical approaches, and describe important processes. Grades will be determined as follows: A = 293 or higher out of 325 total points, B = 260 to 292 points, C = 228 to 259 points, D = 195 to 227 points, E = below 195 points.

UF Grading policies: <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>

Schedule

(L = lecture; F = field, lab, or data analysis; D = discussion)

<u>Date</u>	<u>Subject</u>
Jan 6	Course overview, biology and taxonomy of zooplankton (L,F)
Jan 13	Critical evaluation of zooplankton sampling methods (L,F)
Jan 20	Methods for counting and biomass estimation (L,F)
Jan 27	Zooplankton productivity (L,D)
Feb 3	Final report guidelines and review session (L)
Feb 10	Algal-zooplankton interactions (L,D)
Feb 17	Estuarine and brackish water plankton (F, Dr. Mary Cichra)
Feb 24	MID-TERM EXAM
Mar 3	Zooplankton diet and grazing rates (L,F)
Mar 10	SPRING BREAK
Mar 17	Bioenergetics and the plankton food web (L,D)
Mar 24	Predation (L,D)
Mar 31	Trophic cascade and biomanipulation (L,D)
April 7	NO CLASS
April 14	ORAL REPORTS
April 21	NO CLASS, FINAL REPORTS DUE BY 5 PM FRIDAY APRIL 23
April 28	FINAL EXAM

Office Hours: W 10 AM to noon, FAS Administration Bldg., or by appointment

Academic Honesty

As a result of completing the registration form at the University of Florida, every student has signed the following statements: “I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and to understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”

Software

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

We, the members of the University of Florida, pledge to hold ourselves and our peers to the highest standards of honesty and integrity

