

Instructor Mark Urban
Office Location BioPharm 200A
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Office Hours By appointment

TA Jonathan Velotta (jonathan.velotta@gmail.com)

Class Schedule Lectures: Tuesdays & Thursdays 9:30 – 10:45 am
Torrey Life Science Room 179
Labs: Thursday 12:00 – 4:00 pm
Torrey Life Science Room 179

Overview of course

The main objective of the course is to introduce you to the dominant physical, chemical, and biological mechanisms determining the ecology of inland waters. A secondary objective is to teach field sampling and research techniques pertinent to aquatic research. Classes will integrate lectures on core concepts with field and laboratory experiences. In addition, an independent research project would be used to integrate concepts and also allow students to design, implement, analyze and communicate their own scientific research.

Limnology can be taught with various foci. I teach the course as an upper level ecology class focused on aquatic systems. If you have not taken ecology or evolution, you may need to do some supplementary work to catch up. See me within the first week to discuss this possibility.

* Field and lab exercises are mandatory. Field trips cannot be made up. If for some reason you think that you will be unable to make any field trips, consult with me in advance.

** We will leave for field trips at exactly 12 pm. Please arrive at the lab on time.

*** This is a field course. Ecologists go out regardless of the weather, and so will we. You are responsible for bringing appropriate rain or cold weather gear.

Reading: The two texts for the course are listed on the below. Both can be purchased from online sources such as Amazon.com or at the UConn Co-op.

Dodson, Stanley. 2005. Introduction to limnology. McGraw Hill. ISBN: 007287935-3
Giller, Paul & Bjorn Malmqvist. 2008. The biology of streams and rivers. Oxford University Press. ISBN: 0198549772

Class requirements and grading: You must attend each class. Your grade will be based on two exams, completion of lab reports, a group research project and participation in field and lab exercises:

Midterm and Final Exams	50
Lab Reports (2)	20
Research Project	20
Participation/Quizzes	10
Total	100 points

Notes on class requirements:

- The two exams will cover material covered in both lectures and labs. The final exam will be cumulative. Also expect one or more pop quizzes on reading materials.
- I require lab reports which provide succinct descriptions and analyses of data collected during lab and field exercises.
- You will also have time to perform a field or laboratory research project, of your design but requiring my permission. These projects can be performed individually or in small groups (3-maximum). Results will be presented by all individuals during the last lab meeting.
- Participation means showing up, completing all assigned readings on time, and actively taking part in lectures and labs.
- All students must adhere to all safety instructions at all times, especially while on water bodies, or you will be prevented from further participation.

Policies

Lateness policy

Assignments will lose 10 percentage points for every 24-hour period that they are late. For example, an assignment that would have received a 100% had it been handed in on time will receive a 60% (an F) if it is handed in 4 days late. Only a note from a physician or the Dean sent to me in advance of the due date will be accepted as a valid excuse.

Missed field trips/labs

Missed field trips or labs cannot be made up and will result in lost points unless the absence has been approved by me at least one week in advance or with a note from the physician or the Dean sent to me in advance of the field trip or lab. If you must miss a field trip or lab because of a legitimate school-sponsored activity or religious observance, then you must seek my permission at least one week in advance. In all approved cases, an equivalent activity will be assigned.

Plagiarism/Cheating

Plagiarism means using someone else's statement word-for-word without quotation marks (even if you cite it) or using someone else's ideas, even if you have paraphrased them, without proper attribution of credit through a citation. The penalty for plagiarism on your research project is a zero. Do not plagiarize – I run all of your written work through software that detects plagiarism. All plagiarism and cheating will be dealt with in the severest manner possible, meaning a zero on affected assignments and referral to the Dean's office.

Course Schedule

Date	Type	Lecture or Lab	Reading	Important Dates
Aug	27	Lecture 1	Syllabus; Introduction to limnology	D, Ch. 1
	29	Lecture 2	Ecology and evolution; Lab notebooks	
	29	Lab 1	Phys./Chem. Sampling, Dunham Pond	
Sept				
	3	Lecture 3	Lake formation; create Kettle pond	D, Ch. 11
	5	Lecture 4	Hydrology and water properties	
	5	Lab 2	Zooplankton Sampling, Dunham Pond	
	10	Lecture 5	TBA	D, Ch. 2
	12	Lecture 6	Temperature gradients	
	12	Lab 3	Zooplankton ID	
	17	Lecture 7	Light and oxygen	D, Ch. 10
	19	Lecture 8	Chemical limnology; Proposals	D, Ch. 3-5
	19	Lab 4	Swan Lake sampling	
	24	Lecture 9	Populations in Lakes	D, Ch. 6
	26	Lecture 10	Species Interactions in Lakes	D, Ch. 7
	26	Lab 5	Zooplankton ID	
Oct				
	1	Lecture 10	Species interactions	D, Ch. 8
	3	Lecture 11	Lake Communities	D, Ch. 9
	3	Lab 6	Fenton sampling	
	8		Catch-up; Review session	
	10	Exam	---	Midterm Exam
	10	Lab	Time allotted for student independent projects	
	15	Lecture 12	Lake Ecosystems	
	17	Lecture 13	Wetland habitats: permanence transition	
	17	Lab 7	Pond Invertebrate ID	
	22	Lecture 14	Amphibian ecology & evolution	
	24	Lecture 15	Service: strategies for macrophyte control	
	24	Lab 8	Stream mapping	
	29	Lecture 16	Stream Environments	GM, Ch. 1
	31	Lecture 17	Key Factors in Streams I	GM, Ch. 2
	31	Lab 9	Stream Biota Sampling	
Nov				
	5	Lecture 18	Key Factors in Streams II	GM, Ch. 3,5
	7	Lecture 19	TBA	
	7	Lab 10	Time allotted for student independent projects	
	12	Lecture 20	Autotrophy/Heterotrophy	GM, Ch. 6
	14	Lecture 21	Stream communities	GM, Ch. 4,7-9
	14	Lab 11	Stream ID	
	19	Lecture 22	Stream Ecosystems	GM, Ch. 8,9
	21	Lecture 23	Conservation challenges I	
	21	Lab 12	Revisit lake chemistry, service class	Stream Lab Due
Dec				
	3	Lecture 24	Conservation challenges II	
	5	Lecture 25	Catch-up; Review	
	5	Lab	Project Presentations	Project papers due