Syllabus – IB 449

IB 449—Limnology
Fall 2013
Lecture, Tues & Thurs, 9:30 - 10:50 am, 170 Everitt
Lab, Tues, 1- 4:50 pm, 403 Natural History Building

Instructor:	Dr. Carla E. Cáceres Professor Department of Animal Biology 477 Morrill Hall, caceres@life.illinois.edu 244-2139 Office Hours—by appointment
Teaching Assistant:	John Crawford PhD student Department of Animal Biology 471 Morrill Hall, jwcrawf2@illinois.edu Office Hours – by appointment

Lab Manual (Required if enrolled in the lab):	Course manual for Limnology Laboratory Posted on Compass
Webpage:	Compass 2g Compass login - all relevant information will be put here

Overview: This course is an introduction to inland aquatic systems. We will discuss the physics and chemistry of lakes, rivers and ponds as well as the biology of the organisms that inhabit these systems. We will also discuss how humans use inland freshwater systems.

If you are working on a computer that does not have PowerPoint, you can download a free program that will allow you to view these files from http://www.openoffice.org/ .

General Course Policies: The course follows all policies and expectations outlined in the *Student Code* http://admin.illinois.edu/policy/code/.

Accommodations: Please notify Dr. Cáceres (the sooner the better) if you require special accommodations. University policy regarding special accommodations is listed in Article I-110 of the *Student Code*.

Academic Integrity/Plagiarism: Article I, Part 4 of the *Student Code* explains the University (and course) Policy on Academic Integrity. Section I-401 b states "Students have been given notice of this rule by virtue of its publication. Regardless of whether a student has actually read this rule, a student is charged with knowledge of it. Ignorance of a rule is never a defense." If

there is anything in the Student Code that you feel you do not fully understand, please contact one of your instructors.

Structure and expectations (See also slides from lecture 1):

All students attend two lectures each week. Students who are taking the class for 4 credit hours also attend a 4-hour lab each week. The learning in both the lecture and laboratory will be as active as possible. Outlines for each lecture will be posted on Compass, usually the day before each lecture. The expectation is that you will annotate these posting with your own set of notes. Final presentations will be posted after each lecture, but may not contain the material written on the board or discussed during group work. *Not everything we talk about in lecture will be listed on the posted powerpoint presentation, so you are advised to take your own set of notes.*

Each lecture will also include several small-group or individual activities, which will be turned in for credit. For some lectures, you will also be given a reading assignment and handout to be completed prior to coming to class. Handouts will be turned in for credit. These handouts and in class activities will count for a total of 200 points. Lecture attendance is highly recommended and you will not be allowed to complete the in class assignments (including turning in handouts) associated with unexcused absences. Excused absences are given only for observing a religious holiday that falls on the day of the lecture, a medical emergency or tragedy in your immediate family or serving as a volunteer emergency worker as defined in the Volunteer Worker Job Protection Act. Please let me know in advance if you will miss a class to observe a religious holiday. All other requests for an excused absence must be accompanied by documentation from the Emergency Dean. If you miss an exam or assignment as the result of an excused absence, you will be allowed to complete a make-up exam/assignment. Depending on the length of your absence, Dr. Cáceres will determine the amount of time you have to complete the work. No credit will be given for exams or assignments missed due to unexcused absences.

Please respect the learning environment of your classmates. Please refrain from activities that are disruptive or distracting to other students (talking, arriving late/leaving early, websurfing, etc.). Be prepared to be an active participant in group activities.

Grading:

Lecture (600 points)		
1st In class exam		100 pts.
2nd In class exam		100 pts.
3rd In class exam		150 pts.
In class work		200 pts.
Group Project on Stressors		50 pts.
Lab (200 points)		
Worksheets	6 @ 10 pts. each	60 pts.
Short reports	3 @ 15 pts. each	45 pts.
Presentation		20 pts.
Peer Review of first draft of paper*		10 pts.
Final Paper**		65 pts.

*If you do not bring copies of your paper to turn in and be peer reviewed, you will not be able to earn the points associated with this assignment.
**If you do not turn in the hypothesis, abstract and/or citations, 5 points each will be deducted from the final project.

All assignments are due at the beginning of class. Any assignment that is handed in late will receive a 20% deduction per day. After 3 days, the assignment will no longer be accepted.

Grading Scale
For students enrolled for 3 credit hours – 600 total points
For students enrolled for 4 credit hours – 800 total points

97-100%	A+	77-79%	C+
93-96%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-

Lecture Topics

Date	Topic
Geology, Physics and Chemistry	
August 27	Introduction
August 29	Origin of lake basins
September 3	Physics and ionic content of water
September 5	Light and heat in lakes
September 10	Distribution of heat in lakes
September 12	Water movement in lakes
September 17	Oxygen, carbon, alkalinity and pH
Biology	
September 19	Brief introduction to rivers and streams
September 24	**1st Exam (In class—covers Aug 29-Sept 19)**
September 26	Diversity of Aquatic Organisms: Single Celled and Colonial Organisms
October 1	Diversity of Aquatic Organisms: Invertebrates
October 3	Diversity of Aquatic Organisms: Invertebrates and Fish
October 8	Lake classification and cultural eutrophication

October 10	Nutrient dynamics
October 15	Population dynamics: phytoplankton
October 17	Population dynamics: zooplankton
October 22	Community Ecology I (essay question for 2nd exam handed out)
October 24	Community Ecology II
October 29	Community Ecology III, Food Webs and Energy Flow
October 31	Paleolimnology
November 5	**2nd Exam (In class—covers all material to date)**
November 7	Introduction to GLEAM (http://greatlakesmapping.org/home)
November 12	Aquatic habitat alteration
November 14	Effects of Climate Change on aquatic systems
November 19	Acid deposition and other non-point sources of pollution
November 21	Invasive Species
November 26 & 28	THANKSGIVING BREAK
December 3	Group work on Stressors
December 5	Killer Lakes
December 10	**In-class Final Exam (covers all material)**
December 13	Last day to upload group project (5:00 pm)
December 20	Last day to comment on 2 other group reports (5:00 pm)