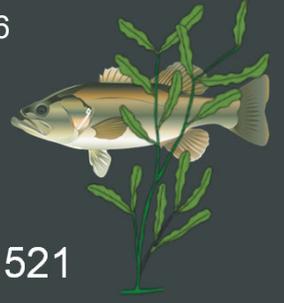




# LIMNOLOGY LAB

Conservation of Aquatic Resources

Fall 2021 | Wed & Thur 1:20 – 5:20 PM | Noland 521



## GENERAL INFORMATION



**Modality & Interaction:** In-person instruction, weekend field trip, regular feedback on assessment



**Designations:**

- Breadth: Biological Sciences
- Level: Intermediate
- Liberal Arts and Science credit (LAS)



**Course Website:** all materials for this course and communication will be through Canvas.

<https://canvas.wisc.edu/courses/271292>



**Pre-requisites:**

Introductory biology (BIO/ZOO 101, 152 or equivalent)



**Credit Hours:** This **3 credit class** meets for one, four hour class periods each week during fall semester. It is expected that students will work on course learning activities (reading, problem sets, studying, etc.) for ~2 hours out of the classroom for every class period. This syllabus includes additional information about meeting times and expectations.

## CO-INSTRUCTORS



Wednesday Section:

**Danny Szydowski** [he/him]

Thursday Section:

**Ellie Socha** [she/her]

**Dr. Hilary Dugan** [she/her]

**Dr. Grace Wilkinson** [she/her]



**Contact:** All messages

regarding course content and student questions should be sent through Canvas **to your section's TA**

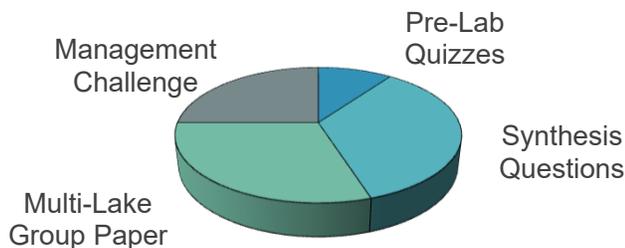


**Office Hours:** By appointment; unless scheduled immediately following lab, meetings will occur virtually

## COURSE DESCRIPTION

This is a general limnology lab, focusing on the physical, chemical and biological characteristics and their interrelationships in Wisconsin lakes and stream.

## OBJECTIVES & GRADING



## Sampling & Analysis Methods



**OUTCOMES:** Understand how & when to use various methods to study aquatic systems



**TOPICS:** Physical & chemical sampling, biotic communities, river ecology, nutrient & chlorophyll analysis, high frequency data, urban streams



**ASSESSMENT:** Pre-Lab Quizzes (10% of grade) and post-lab synthesis questions (35% of grade)

## Lake Management Challenge



**OUTCOMES:** Apply limnological knowledge to diagnose and address water quality problems



**TOPICS:** Water quality data analysis, synthesis, lake management, scientific writing



**ASSESSMENT:** Three-part paper, peer review, public presentation (25% of grade)

## Multi-Lake Group Project



**OUTCOMES:** Ability to generate hypotheses, test with data analysis, and communicate results



**TOPICS:** Urban pond field day, annotated bibliography, hypothesis generation, scientific writing

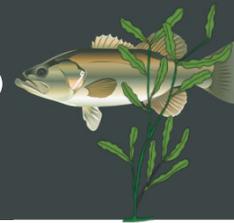


**ASSESSMENT:** Field day participation, group paper, annotated bibliography (30% of grade)



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## COURSE SCHEDULE & ASSIGNMENTS

Dates	Activities	Quiz	Synthesis	Multi-Lake Group	Management Challenge
Sept 8 - 9	Course Logistics Major Project Intro	Lab 1 Quiz (take in class)	[none]	[none]	[none]
Sept 15 - 16	Physical & Chemical Limnology	Lab 2 Quiz	[none]	[none]	[none]
<b>Sept 17-19</b>	<b>Urban Pond Field Days #1 - 2</b>				
Sept 22 - 23	Lake Biological Communities	Lab 3 Quiz	Lab 2 Questions	Annotated Bibliography	[none]
<b>Sept 24-26</b>	<b>Urban Pond Field Days #3 - 4</b>				
Sept 29 - 30	Stream Ecology	Lab 4 Quiz	Lab 3 Questions	[none]	Part 1: Lake Description
Oct 6 - 7	Nutrient Analysis Generating Hypotheses	Lab 5 Quiz	Lab 4 Questions	[none]	[none]
Oct 13 - 14	Chlorophyll Analysis Group Presentations	Lab 6 Quiz	Lab 5 Questions	Group Hypotheses	[none]
Oct 20 - 21	Scientific Writing Workshop	[none]	Lab 6 Questions	[none]	[none]
Oct 27 - 28	Lake Management Scenarios	Lab 8 Quiz	[none]	Group Outline and Figures	[none]
Nov 3 - 4	High Frequency Data Analysis	Lab 9 Quiz	Lab 8 Questions	[none]	Part 2: WQ Diagnosis
Nov 10 - 11	Group Work Time	[none]	Lab 9 Questions	[none]	[none]
Nov 17 - 18	Peer Review Activity	[none]	[none]	Group Full Draft Due	Part 3: WQ Plan
<b>Nov 24 - 25</b>	<b>Thanksgiving Break</b>				
Dec 1 - 2	Urban Streams	Lab 12 Quiz	[none]	[none]	Peer Review
Dec 8 - 9	Independent Work Time	[none]	Lab 12 Questions	[none]	[none]
Dec 15	[no class]	[none]	[none]	Group Final Paper Due	Final Paper

complete prior to lab,  
open note quizzes, due by  
1 PM on Canvas the day  
of your section's meeting

due the week after lab by  
1 PM on Canvas the day of  
your section's meeting

group work  
mainly  
completed  
in-class

mainly  
completed  
outside of class



## MULTI-LAKE SAMPLING FIELD DAY

**WHAT:** The purpose of this one-day field trip is to collect data for the multi-lake survey group project. Students will work in teams and the data will be pooled for all students to use for their group projects.

**WHEN:** Students are required to attend one of the four weekend field days for the FULL day

- Day #1: Sept 18<sup>th</sup> (8 AM – 5 PM)
- Day #2: Sept 19<sup>th</sup> (8 AM – 5 PM)
- Day #3: Sept 25<sup>th</sup> (8 AM – 5 PM)
- Day #4: Sept 26<sup>th</sup> (8 AM – 5 PM)

**WHERE:** We will be sampling urban ponds and lakes around Dane County in the morning and processing/analyzing those samples in the classroom lab in the afternoon.

**HOW:** Transportation and canoes will be provided for sampling.

## ACCOMODATIONS



Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. We will work either directly with you or in coordination with the **McBurney Center** to identify and provide reasonable instructional accommodations. This includes accommodations for activities in the field, during the field trip, and boating.



Accommodations for religious observances can easily be made. Please send us a message through Canvas to begin a conversation.

## INCLUSIVE CLASSROOM

Diversity is a source of strength, creativity, and innovation. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community.

***As the instructors, we will work to create and maintain an inclusive space for our learning.*** If you have concerns about your ability to freely participate in class, please speak with us about your concerns. We will work together to ensure that you can be an active and engaged member of our class community.

## USE OF COPYRIGHT MATERIAL

Lecture materials and recordings for this course are protected intellectual property. Students may use the materials and their notes for personal use related to participation in this class. You are not authorized to record the lectures without our permission unless you are considered to be a qualified student with a disability requiring accommodation. ***Students may not post lecture materials on internet sites or sell to commercial entities.*** Students are also prohibited from providing or selling their personal notes to anyone or being paid for taking notes by any person or commercial firm. Unauthorized use of copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies (UWS Ch 14 & 17).

## ACADEMIC INTEGRITY

Academic integrity is vital to your success. If you cheat you are taking away an opportunity to learn and develop skills. ***Cheating also hurts your future.*** You are preparing for a career to help others and the environment. If you do not learn how to do this work, you have cheated those you are working to help out of a knowledgeable professional.

Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.