

**University of Wisconsin-Madison**  
**ZOOLOGY/ENVIR ST 315 – Limnology: Conservation of Aquatic Resources**

2 credits

<https://canvas.wisc.edu/courses/118450>

**Course Designations and Attributes**

Breadth - Biological Sciences

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

**Meeting Time and Location**

Lectures - Tuesday and Thursday, 9:55-10:45 in 132 Noland Hall

**Instructional Mode**

All face-to-face

**Credit Hours**

This class meets for two 50-minute class period each week over the fall semester and carries the expectation that students will work on course learning activities (reading, writing, problem sets, studying, etc.) for approximately 2 hours out of classroom for every class period. This syllabus includes additional information about meeting times and expectations for student work.

**INSTRUCTORS AND TEACHING ASSISTANTS**

**Instructors**

Hilary Dugan - 226E Hasler Lab of Limnology, [hdugan@wisc.edu](mailto:hdugan@wisc.edu)

Office hours: After class or by appointment

Emily Stanley - 218 Hasler Lab of Limnology, [ehstanley@wisc.edu](mailto:ehstanley@wisc.edu)

Office hours: After class or by appointment

**OFFICIAL COURSE DESCRIPTION**

**Course Description**

General limnology: Physical, chemical and biological characteristics and processes of lakes. Environmental problems and rehabilitation of lakes.

**Requisites**

Students enrolling in this class must have taken Introductory biology (Biology/Botany/Zoology 152; Biology/Zoology 101; Biology/Biocore 301 or the equivalent).

We **strongly** recommend taking an introductory chemistry class prior to enrollment as well (e.g., Chem103/104 or Chem 109) as well.

**LEARNING OUTCOMES**

**Course Learning Outcomes**

Students taking general limnology will be able to:

- Summarize the physical, chemical, and biological processes of lakes
- Understand human impacts on freshwater systems

- Analyze data collected from lakes, formulate hypotheses based on data, and present conclusions in clear, concise, scientific reports
- Read scientific writing and summarize scientific information
- Describe local limnological issues

## **GRADING**

- Exam 1: 20%
- Exam 2: 20%
- Final Exam: 25%
- Quizzes 5%
- Book Report: 15% (due Nov. 29)
- Data Assignment: 15% (due Oct. 16)

## **REQUIRED TEXTBOOK, SOFTWARE & OTHER COURSE MATERIALS**

- There is no required textbook. Many lectures have additional reading assignments, which are posted on Canvas
- Book report and most quizzes will be based on *The Death and Life of the Great Lakes* by Dan Egan (UW Go Big Read book 2018). Free book coupons will be distributed in lecture.
- Copies of several useful Limnology texts will be on reserve at the Steenbock Memorial Library.
- In addition to the course syllabus, Canvas includes pdfs of readings, lecture handouts, and course assignments
- Lecture outlines will be available prior to class on Canvas. Powerpoint slides will not be distributed.

## **EXAMS, QUIZZES, PAPERS & OTHER MAJOR GRADED WORK**

- Exam I and II are in-class during the normal class period
- Exam III is during finals week
- Exams are not cumulative and closed booked
- Quizzes are administered through Canvas
- Make-up exams will only be allowed in the case of emergency

## **HOMEWORK & OTHER ASSIGNMENTS**

- Late assignments will be accepted but will be marked down the equivalent of 10% per day.
- Book report is submitted via Canvas
- Data assignment handed in as a hard copy during lecture

## **RULES, RIGHTS & RESPONSIBILITIES**

- See the Guide's to [Rules, Rights and Responsibilities](#)

## **ACADEMIC INTEGRITY**

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are

held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to [studentconduct.wiscweb.wisc.edu/academic-integrity/](http://studentconduct.wiscweb.wisc.edu/academic-integrity/).

## **ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

**McBurney Disability Resource Center syllabus statement:** “The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.” <http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>

## **DIVERSITY & INCLUSION**

**Institutional statement on diversity:** “Diversity is a source of strength, creativity, and innovation for UW-Madison. 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. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.” <https://diversity.wisc.edu/>

## COURSE SCHEDULE

Lecture	Date	Topic	Lecturer
1	Sept 6	Introduction/history of Limnology	Stanley
2	Sept 11	Lake origins and classification	Dugan
3	Sept 13	Characteristics of water and light	Dugan
4	Sept 18	Stratification and mixing	Dugan
5	Sept 20	Stratification and mixing	Dugan
6	Sept 25	Water movements	Dugan
7	Sept 27	Overview of water chemistry	Stanley
8	Oct 2	Oxygen, CO <sub>2</sub> , photosynthesis	Dugan
	Oct 4	<b>EXAM I (lectures 1-9)</b>	
9	Oct 9	Phosphorus	Stanley
10	Oct 11	Nitrogen	Stanley
11	Oct 16	Eutrophication	Stanley
12	Oct 18	Algae and macrophytes	TBA
13	Oct 23	Zooplankton	Stanley
14	Oct 25	Microbes	McMahon
15	Oct 30	Benthos	Stanley
16	Nov 1	Fish	Vander Zanden
17	Nov 6	Food webs	Vander Zanden
	Nov 8	<b>EXAM II (lectures 10-18)</b>	
18	Nov 13	Reservoirs	Dugan
19	Nov 15	Wetlands	Dugan
20	Nov 20	Extreme lakes	Dugan
21	Nov 22	<b>Thanksgiving break</b>	
22	Nov 27	Groundwater	Dugan
23	Nov 29	Streams and rivers	Stanley
24	Dec 4	Land use effects	Stanley
25	Dec 6	Lake management	Stanley
26	Dec 11	Climate	Dugan
	TBA	<b>EXAM III (lectures 19-27)</b>	