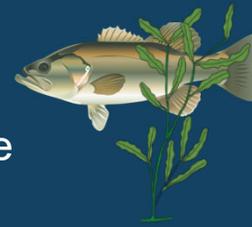




AQUATIC ECOLOGY

Fall 2020 | Tues & Thur 9:30 – 10:30 AM | Online



INSTRUCTOR



DR. GRACE WILKINSON
[pronouns: she/her]



Contact: Send direct messages in Canvas
Questions about the lectures? Post in the current module's discussion forum



Office Hours: Wednesdays 2-5 PM
By appointment through Canvas Webex system on the course page

COURSE DELIVERY



Synchronous: The class will meet online on Tuesdays and Thursdays for discussion, review, and small group activities that will reinforce and expand on the concepts presented in the pre-recorded lectures.



Asynchronous: All lectures, assignments and exams are on the course's Canvas page. Students are responsible for viewing the lectures on their own.

COURSE FORMAT & OBJECTIVES

The course is divided into five modules, each with pre-recorded lectures. **Students are responsible for reviewing the lecture material on their own.** There is an online discussion forum for each module where you're encouraged to post questions and the instructor will respond regularly. Additionally, questions about the material answered during synchronous discussion will be posted in the discussion forum by the instructor.

#1: Inland Waters



August 17 – Sept 2



GOAL: Apply the ecosystem concept to the study of inland waters



TOPICS: Intro in Aquatic Ecology, Water Resources & Budgets, Lakes as Ecosystems, Rivers & Streams



ASSESSMENT: Ecosystem Services and Water Budgets Assignments; EXAM 1

#2: Physical Limnology



Sept 2 – Sept 20



GOAL: Understand how physical processes govern aquatic ecosystem dynamics



TOPICS: Morphometry, Temperature, Light, Salinity, Alkalinity, and pH



ASSESSMENT: Morphometry, Thermocline ID, Light Extinction, and Buffering & pH Assignments; EXAM 2

#3: Nutrient Cycling



Sept 21 – October 11



GOAL: Analyze nutrient data from inland waters to assess ecosystem functioning



TOPICS: Dissolved Oxygen, Organic Matter, Sediments, Nitrogen, Phosphorus



ASSESSMENT: DO dynamics, Stoichiometry, Nitrogen and Phosphorus Cycling Assignments; EXAM 3

#4: Aquatic Food Webs



October 12 – November 1



GOAL: Explain how various functional groups of aquatic organisms influence ecosystem function



TOPICS: Eutrophication, Primary Production, Zooplankton & Zoobenthos, Fish & Waterfowl



ASSESSMENT: Trophic State Index, Phytoplankton, Zooplankton Communities, Fish Management Assignments; EXAM 4

#5: Emerging Threats



November 2 – November 18



GOAL: Generate & test hypotheses regarding the influence of human activities on aquatic ecosystems



TOPICS: Trophic Cascades, Biodiversity & Conservation, Aquatic Invasive Species, Emerging Contaminants

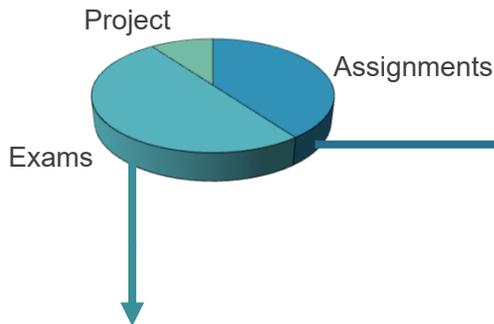


ASSESSMENT: Invasive Species, Contaminant Threats Assignments; EXAM 5

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TOTAL POINTS



ASSESSMENT

Your course grade will be a combination of points from exams (200 points), assignments (160 points), and a final project (40 points). All assignments and exams are on the course Canvas site and are due at the end of each module. **There are no extra credit assignments.**

EXAMS



Taken at the end of each module through the Canvas course page. The exam covers the content (lectures, assignments) in the current module only (not cumulative).



Exams are available to access during a 4 day window, but must be completed by 11:59PM on the due date.



You are expected to take the exam **alone** and not share the answers. The questions are **open book**.



The exams are written to take approximately 1 hour to complete. However, the test is programmed to allow access for 2 hours.

ASSIGNMENTS



You will be assigned a **study lake** for the semester. For each of the assignments on Canvas you will use the data and information provided for that lake to complete the assignments.



All assignments are on Canvas and due at the end of each module at the same time as the exam.

LAKE MANAGEMENT CHALLENGE

For the final project you will assess the water quality issues in your study lake and propose a management plan to restore the ecosystem that is driven by data and your knowledge of limnology. **The data analysis for this project will largely be completed during the semester in assignments.** The project will require you to synthesize that analysis and then build a management plan.

DUE DATES & COURSE SCHEDULE



There is one due date per module for all assignments and the exam. There will be regular reminders of upcoming due dates both through Canvas and during synchronous instruction.



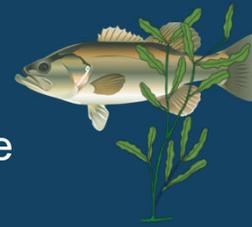
If you are experiencing a major life disruption (e.g. you or a family member contracts COVID), please contact the instructor to work out a modified schedule.

MODULE	DUE DATE
#1: Inland Waters	Sept 2 nd at 11:59 PM
#2: Physical Limnology	Sept 20 th at 11:59 PM
#3: Nutrient Cycling	Oct 11 th at 11:59 PM
#4: Aquatic Food Webs	Nov 1 st at 11:59 PM
#5: Emerging Threats	Nov 18 th at 11:59 PM
Management Challenge	Nov 25 th at 11:59 PM



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ACCOMODATIONS

Please work with SAS for accommodations



All recorded lectures will be closed captioned. Other accommodations available with documentation.



Extra time on exams available with accommodation documentation



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

ACADEMIC INTEGRITY

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

Anyone suspected of academic dishonesty will be reported to the ISU Dean of Students Office.

INCLUSIVE CLASSROOM

In this class people of all ethnicities, gender identities, religions, ages, sexual orientations, disabilities, socioeconomic backgrounds, regions, and nationalities are strongly encouraged to share their rich array of perspectives and experiences.

As the instructor, I will work to create and maintain an inclusive space for our learning.

If you feel your differences may in some way isolate you in this class or if you have a need for specific accommodations, please speak with me about your concerns. We will work together to ensure that you can be an active and engaged member of our class community.

ATTENDANCE

All of the content you are responsible for learning is available asynchronously through the course website. Any content questions that are asked during the synchronous portion by students will also be posted on the discussion forum.

The purpose of the synchronous instruction is to provide further discussion and opportunities to engage with additional material and **skill-building**. Attendance during synchronous instruction is not required, although strongly encouraged. Attending the synchronous meetings will result in **0.5 points per lecture of extra credit** that can be applied to the upcoming exam for that module.

OTHER RESOURCES



Staying healthy is vital for your academic success and personal wellbeing. The **Thielen Student Health Center** allows for online scheduling and same-day appointments.

<https://health.iastate.edu/>



College can be stressful and that stress can be magnified by the pandemic, personal situations, and social unrest. Taking care of your mental health is essential. ISU **Student Counseling Services** can help.

<https://www.counseling.iastate.edu/>



If you are having trouble with your coursework or would like additional assistance, the **Academic Success Center** has fantastic resources for students including tutoring and academic coaching.

<https://www.asc.dso.iastate.edu/>



It's important to stay up-to-date on changes to the policies pertaining to the pandemic at the university. Use the **ISU COVID website** as a central resource for this information.

<https://web.iastate.edu/covid19>