

ESM 424
Wetland Ecology and Regulations
Summer 2021

Class Meeting Time: Monday and Wednesday 9:15 am – 11:05 am
Zoom link: <https://pdx.zoom.us/j/83011037107>

Instructors:

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Office Hours: Fridays 1:00 pm - 3:00 pm

Zoom Office Link: <https://pdx.zoom.us/my/dr.b.zoom.office>

COVID-19:

Please note the content outlined below is for an ideal situation. Due dates, course content, or any other aspect of the course may be subject to change as the situation evolves. If these changes occur, you will be notified via email and it will be announced on the course D2L page. If you have any questions or concerns at any time please do not hesitate to contact the instructor.

Course Objective:

The objective of this course is to expose the students to the science of wetlands, as well as humanity's intrusion (protection and development) into wetland systems.

Course Description:

This course will introduce and discuss the definition of a wetland; characteristics of wetland systems; the principles of wetland ecology; the functions of wetlands; and regulations and permitting process regarding development near and within wetlands. This course will include a series of lectures, one field trip and student projects and discussions.

Instructors Inclusivity Statement:

It is our intent that students from all backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. But there is always room for improvement. Your suggestions are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, please let us know of any religious or other events that may conflict with any of our class meetings this term so that we can make arrangements.

Land Acknowledgement:

Portland State is located in the traditional homelands of the Multnomah, Wasco, Cowlitz, Kathlamet, Clackamas, Watlala Bands of Chinook, Tualatin Kalapuya, Molalla, and many other indigenous nations who made their homes along the Columbia and Willamette Rivers. By recognizing these communities, we honor their legacies, their lives, and their descendants.

Lectures:

In a new effort to have a more engaging and effective lecture format in these remote circumstances, the course lecture will be divided into two components: Pre-Recorded Lectures and Class Meetings.

- Pre-Recorded Lectures will be posted on D2L no later than Monday for the week they are associated with (though attempts will be made to post sooner). These will serve as a general overview of the course materials and assignments for the week.
- Class Meetings will take place on Wednesday from 9:15 am – 11:05 am via Zoom at <https://pdx.zoom.us/j/83011037107>. They will include a brief overview of the material for the week, opportunities to ask questions, and short exercises.

Required Technology: To successfully complete this course, you will need access to a computer and an internet connection. The word processing and spreadsheet work for this course can be completed in the Google suite, which you have access to through your PSU account. Assignments may also be completed in the Microsoft suite, no Pages, please.

Course Policies and Responsibilities:

Course Expectations:

- *Ask questions:* If something is unclear, please ask and we will try to clarify. Ask your classmates or ask the instructor.
- *Be respectful:* This course has several online discussion sections. Please be respectful of the shared space and of other people as you interact with them online. Being respectful means not only approaching discussions and interactions in a responsible and thoughtful manner, but it also refers to being respectful of everyone's time by turning in assignments and participating in discussions in a timely manner. Adhere to the code of conduct: <http://www.pdx.edu/dos/codeofconduct>
- *Watch Lectures:* You cannot learn if you do not participate. Students are expected to view all lectures posted.
- *Turn in work on time:* While we will be flexible and accommodating to late work given the current situation, falling behind in your work will make it difficult to keep up with the course. Also, keep in mind that all work must be submitted no later than 11:59pm on 8/27 to receive credit.
- *Make mistakes:* Mistakes are NOT a waste of time. Mistakes mean you are trying and by fixing the mistakes you are persevering and learning.

Miscellaneous:

- When emailing me, please include the course, your last name and a clue about your purpose in the subject line (for example, if you were writing with a question about an assignment, you might write, “ESM 424: Smith week 5 assignment question” in the subject line).
- Unless otherwise stated, all work is due by Sunday at 11:59 pm of the week it is assigned.

Late work:

While we will be flexible and accommodating to late work given the current situation, falling behind in your work will make it difficult to keep up with the course. If you are unable to submit work on time, contact the instructor for late submission approval. Also, keep in mind that all work must be submitted no later than 11:59 pm on 8/27 to receive credit.

Grading:

Grade Breakdown	
Discussion Lead	25
Essay Questions (8 questions, 20 pts each)	160
Literature Review Proposal	25
Literature Review Draft Methods	25
Literature Review Draft Results	25
Literature Review	120
Wetland Hunt	20
Total	400

Discussion Lead:

Over the term, you will read 8 papers related to the course topics. For weeks 2-9, we will have breakout sessions on **Wednesdays during our class meetings** to discuss the weeks paper. **Each student will sign up to lead one discussion breakout session.** The leader of a breakout session will be responsible for leading a 15-minute discussion, including a brief overview of the paper and asking prompting questions to promote discussion. **The papers are broadly split into two categories: Ecology and Regulations.**

To sign up as a discussion leader for a given topic, simply visit <https://docs.google.com/spreadsheets/d/1lue4l4dUWTd41lxUfXSp04zRupYIYYzTbzLxcLlk03w/edit?usp=sharing> and write your name in one of the Discussion Leader cells for that topic. Please note that there are only 4 slots for a given topic. If all cells are filled, you cannot select that topic.

The number of papers we will read has been reduced to accommodate the shorter Summer term and stresses of the ongoing pandemic. If you are interested in looking over the 14 papers usually covered, you can access them at <https://drive.google.com/file/d/1N8oDgKJi-31u72hoqOhYzXPBV0PQa7uw/view?usp=sharing>.

Essay Questions:

Over the term, you will be assigned eight essay questions related to the course content. Each question will be worth 20 points and each is open-note and open-book.

Literature Review:

Each student will write an individual term paper in the form of a literature review (approximately 5 - 7 pages in length). The subject of the review is the student's choice but must first be approved by the instructor. We will discuss the review in greater detail during the second lecture. We will also cover separate components of the paper (Question, Methods, Results) and you will submit draft versions to receive feedback throughout the term.

Wetland Hunt:

In an effort to go see a real-life wetland, each student will participate in the first annual Wetland Hunt. You will go to a wetland and record a short video. This video will say who you are, the name of the wetland (can be a description of the general location), and how you know it is a wetland (what conditions that you can see convince you this is a wetland). The video will then be posted along with a marker to a google map collecting all the wetlands found by the class. More information will be presented later in the term.

Text and Readings:

Required text: Mitsch, W.J. and J.G. Gosselink. 2007. *Wetlands*, 4th Edition. John Wiley & Sons, Hoboken, NJ, 582 pp.

This textbook can be accessed for free online via the PSU Library at <https://search.library.pdx.edu/permalink/f/p82vj0/CP71144637970001451>

Supplemental readings: To be determined. Selected readings attached to specific discussion post forums, and posted in the *Readings* subsection of the course D2L Content page.

Student Conduct:

Please adhere to the code of conduct: <http://www.pdx.edu/dos/codeofconduct>; e.g., no academic dishonesty or negligence; no harassment, no plagiarism. Failure to follow the academic code of conduct will result in loss of points and may result in further academic prosecution. All work should be written in your own words and cited appropriately. Plagiarized work will receive a zero. For more information, please see the resources on D2L.

Course Outline:

Please note that the topics and schedule of discussions listed in this syllabus may change.

Week	Date	Lectures	Chapters	Article and Discussion Topic
1	6/21	1. Introduction: What is a Wetland?	2, 3 (56-74)	
	6/23	2. Literature Review Questions Lit Review Proposal Due 6/27		
2	6/28	3. Wetland Hydrology	4	1. Wetland Hydrology
	6/30	4. Wetland Soils Essay Question Due 7/4	5 (163-177)	
3	7/5	5. Literature Review Methods		2. Wetland Soils
	7/7	6. Wetland Organisms & Delineation Essay Question Due 7/11	6, 14 (477-481)	
4	7/12	7. Wetland Biogeochemistry	5 (177-206)	3. Nutrient Cycling
	7/14	10. Remote Field Trip Essay Question Due 7/18 Lit Review Draft Methods Due 7/18		
5	7/19	8. Types of Wetlands: Tidal	7, 8	4. Wetland Communities
	7/21	9: Types of Wetlands: Inland Essay Question Due 7/25		
6	7/26	11. Wetland Values and Functions	11	5. Wetland Functions and Values
	7/28	12. Literature Review Results Essay Question Due 8/1		
7	8/2	13. Wetland Alterations	1(3-18), 9 (287-305)	6. Wetland Regulations
	8/4	14. Wetland Regulations Federal Essay Question Due 8/8	14	
8	8/9	15. Wetland Regulations: State		7. Permitting
	8/11	16. Management Essay Question Due 8/15 Lit Review Draft Results Due 8/15	9 (305-312), 12,13	
9	8/16	17. Mitigation		8. Wetland Mitigation
	8/18	18. Climate Change Essay Question Due 8/22	10	
10	8/23	Work on Literature Review Literature Review Due 8/27		
	8/25			