

ESM 424
Wetland Ecology and Regulations
Summer 2020

Instructors:

Brian Turner, Ph.D.

E-mail: bcturner@pdx.edu

Office Hours: Fridays 11:00 am - 1:00 pm

Office Hours Zoom Link: <https://pdx.zoom.us/j/94154571753>

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 man'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.

Lectures: Lectures will take place via Zoom from 9:15 am – 11:05 am Tuesday and Thursday. Attendance is encouraged but not required. Lectures will be posted to D2L the day they occur.

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:

Late work:

There are no penalties for late work this term. However, all outstanding work must be submitted by 11:59 pm on 8/27/2020.

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.

Grading:

<i>Undergraduate Students</i>	
Short Exam	100
Long Exam	100
Research Proposal	125
Discussion Posts	50
Proposal Check-Ins	25
Total	400

Exams:

Over the term, you will have two take home essay exams. You will have 1.5 weeks to work on and submit each open-note and open-book exam.

Research Proposal:

Each student will write an individual term paper in the form of a research proposal (approximately 5 - 7 pages in length). The subject of the proposal is the student's choice, but must first be approved by the instructors.

Discussion Posts:

All students will post a response on the discussion thread for a given topic. The response can be to the original prompt or another student's response. Please keep in mind the posts must adhere to the PSU Code of Conduct (don't be a jerk) and be thoughtful and engaged. Simply typing something that amounts to "I agree" is not sufficient. Discussion posts are due by Sunday of each week. There will be 14 posts in total, but each student only needs to complete 10 of them.

Check-Ins:

Students will submit a one paragraph outline of their proposal topic for instructor approval. Additionally, twice during the term, students will submit updates on the progress of their proposal (max 1 page) to receive feedback from the instructor.

Text and Readings:

Required text: Mitsch, W.J. and J.G. Gosselink. 2007. *Wetlands*, 4rd 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.

Course Outline:

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

Week	Date	Lectures	Chapters	Article and Discussion Topics
1	23-Jun	1. Introduction: What is a Wetland?	2, 3 (56-74)	
	25-Jun	2. Proposals Proposal topic due 6/28		
2	30-Jun	3. Wetland Hydrology	4	1. Wetland Hydrology
	2-Jul	4. Wetland Soils	5 (163-177)	2. Wetland Soils
3	7-Jul	5. Wetland Organisms & Delineation	6, 14 (477-481)	3. Wetland Organisms
	9-Jul	6. Wetland Biogeochemistry; Check in 1 due 7/12	5 (177-206)	4. Nutrient Cycling
4	14-Jul	7. Types of Wetlands: Tidal	7, 8	5. Wetland Ecosystem Development
	16-Jul	8: Types of Wetlands: Inland		6. Wetland Communities
5	21-Jul	9. Wetland Values and Functions	11	7. Wetland Functions and Values
	23-Jul	10. Remote Field Trip Exam 1 Due 7/26		
6	28-Jul	11. Wetland Alterations 1	1(3-18), 9 (287-305)	8. Historic and Present Attitudes and Use of Wetlands
	30-Jul	13. Wetland Regulations Federal	14	9. Wetland Regulations
7	4-Aug	14. Wetland Regulations: State and Local		
	6-Aug	15. Remediation 1 Check-In 2 due 8/9	9 (305-312), 12,13	11. Wetland Management
8	11-Aug	16. Remediation 2		12. Treatment Wetlands
	13-Aug	17. Mitigation		13. Wetland Mitigation
9	18-Aug	18. Climate Change	10	14. Climate Change
	20-Aug	Exam 2 due by 8/23		
10	25-Aug	Research Proposals Due 8/27		
	27-Aug			