

Wetland Ecology and Management ENVS 465/565 (Winter 2014)

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Office Hours: by appointment

Text: (optional) William J. Mitsch and James G. Gosselink. 2007. *Wetlands, Fourth Ed.* John Wiley & Sons.

Extensive other readings from the primary wetland literature will be given throughout the term. These change from term to term to reflect the needs and interests of the students (and to keep me interested). They will be posted on Blackboard as PDF files.

This course makes extensive use of the UO official course website, Blackboard. To access the course page, go to the UO Blackboard site (<http://blackboard.uoregon.edu>) and follow the links from there. The username and password are the same as for your e-mail using the university server. If you have trouble you can get help from the Information Technology Center (Room 267 of the Knight Library).

Course Description and Objectives

This is an upper-level undergraduate/graduate course that examines management and policy issues relating to wetlands, while providing enough scientific background to understand these issues. The course is divided into three parts (see syllabus). The first section includes an overview of cultural perceptions of wetlands and how these have changed through time, a general description of different types of wetlands, and then a more in-depth discussion of jurisdictional wetland definitions, classification schemes, wetland distributions globally and in the U.S., and current and historical wetland loss rates. The middle section is an introduction to wetland ecology and includes factors controlling their formation and development over time on the landscape, an introduction to hydrology as it pertains to wetlands, hydric soils, and plant community ecology. It focuses on the three main criteria for most definitions of wetlands: hydrology, hydric soils, and hydrophytic vegetation. The last part of the course returns in more depth to the management and policy issues that were introduced in the beginning of the term. We will discuss wetland laws and policy in Oregon, the U.S., and globally, mapping and delineation of wetlands, and wetland restoration and creation.

In a single quarter, we cannot cover all aspects of wetland ecology and/or wetland management. The emphasis of this course is on management and policy issues relating to wetlands, with hopefully enough science provided to properly evaluate these more applied concerns.

Learning Outcomes

- Have a thorough familiarity with the three main criteria for defining wetlands: hydrology, soils, and vegetation
- Have a working knowledge of the main U.S. classification scheme for wetlands

- Know the main trends in the distribution of wetlands and wetland types in the U.S. and the world
- Know the main points about wetland laws and policy in Oregon, the U.S., and globally
- Gain increased ability to critically read primary and secondary scientific articles

Course Framework

A typical class will involve a combination of formal lecture and discussion of papers published in the peer-reviewed literature. *Detailed PowerPoint slides will be put on Blackboard at least 24 hours before lecture. I will also print them and give them as handouts before every lecture to help your note taking.* I also encourage students' questions and comments, which make the classroom experience more interesting and educational for everyone.

Students will be required to read at least one paper from the scientific literature most weeks to provide actual, 'on-the-ground' examples of the topic being covered and to increase their knowledge of how science is communicated in the peer-reviewed literature. All students are required to read every assigned paper before the class in which it will be discussed and to hand in a 1-2 page, typed synopsis of the paper at the beginning of class. These should consist of (1) its main objectives/hypotheses, (2) major findings, (3) how well it met those objectives/hypotheses, (4) other considerations (methodological limitations, etc.), and (5) your personal reactions to it. Additionally, students must submit two questions on the paper(s) to the Discussion Board link within Blackboard **by 8 a.m. the day of class**. You may substitute for questions about recent lectures or the tests. These questions will be used to guide the discussion of the papers.

A **term paper** of at least 6 single-spaced pages (font no larger than 12 point, 1 inch margins), excluding references, is due on the last day of classes. This paper must include an abstract and references in the format used for the journal *Wetlands* (www.sws.org/wetlands/#instauthors). The topic can be on any facet of wetland ecology and management, but it should be cleared with me beforehand. It must include at least 10 references that are appropriate to the topic, emphasizing peer-reviewed literature. These days abundant peer-reviewed publications are available on the web, but use other material on the web sparingly (ask me if you are unsure of the difference). **Additionally, graduate students will be required to give a fifteen-minute oral synopsis of their project using PowerPoint during the last two classes of the term.**

There will also be two all-day field trip to local wetlands on weekend days to be determined. We will visit both degraded and relatively pristine natural wetlands and restored wetlands of a variety of types around Eugene and at the coast in either the Florence or Coos Bay regions. **Attendance on field trips is mandatory.** If a student must miss a field trip because of uncontrollable and unforeseen circumstances (e.g., severe sickness, a death in the family, an out-of-town job interview), he/she will be required to write an additional 5 page, single-spaced term paper on a topic assigned by me. Absences from field trips due to sickness require a doctor's note verifying the severity of the sickness.

Attendance will be taken at the beginning of every class. Three unexcused absences within a term will result in your grade being reduced by one-third letter grade, and each additional unexcused absence will result in a similar reduction your grade.

Grading Criteria

Undergraduates

Mid-term	30
Final	30 (not cumulative)
Term Report	25
Blackboard Questions	5
<u>Literature Write-Ups</u>	<u>10</u>
Total	100

Graduate Students

Mid-term	25
Final	25 (not cumulative)
Term Report	25
Presentation	10
Blackboard Questions	5
<u>Literature Write-Ups</u>	<u>10</u>
Total	100

Early Final Examinations (Quoted from UO website)

Final examinations must be given during the scheduled final examination period. Faculty legislation prohibits the early administration of final examinations. Final examination week is considered to be a part of the regular term, and to end the term prior to its scheduled date reduces instructional days to which students are entitled.

Disabilities and Unexpected Crises

It is my goal to create an inclusive learning environment. Please notify me if there are aspects of this course that result in barriers to your participation. You may also wish to contact Disability Services in 164 Oregon Hall at 346-1155 or disabsrv@uoregon.edu.

In a more general sense, I realize that personal crises sometimes happen. If you are having problems that are interfering with your ability to do the work in this class, please let me know promptly. I am willing to make special arrangements when the need is real **and** when you have done your best to deal with the situation in a timely manner.

Classroom Conduct

You are expected to follow University rules and guidelines for behavior. **Academic dishonesty**, which includes cheating and plagiarism, is a serious offense and will be treated according to the guidelines in the Student Conduct Code (see Office of Student Life website).

Plagiarism is the inclusion of someone else's product, words, ideas, or data as one's own work. When a student submits work for credit that includes the product, words, ideas, or data of others, the source must be acknowledged by the use of complete, accurate, and specific references, such as footnotes. Expectations may vary slightly among disciplines. By placing one's name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgements. On written

assignments, if verbatim statements are included, the statements must be enclosed by quotation marks or set off from regular text as indented extracts.

A student will avoid being charged with plagiarism if there is an acknowledgement of indebtedness. Indebtedness must be acknowledged whenever:

- 1. one quotes another person's actual words or replicates all or part of another's product;*
- 2. one uses another person's ideas, opinions, work, data, or theories, even if they are completely paraphrased in one's own words;*
- 3. one borrows facts, statistics, or other illustrative materials--unless the information is common knowledge. (UO Policy on Academic Dishonesty, <http://tep.uoregon.edu/workshops/teachertraining/learnercentered/syllabus/academicdishonesty.html>)*

Syllabus

<u>Date</u>	<u>Topic</u>	<u>Text Reading</u>
	<u>I. Wetland Types, Definitions, Classification, and Distributions</u>	
Jan. 7	Course Overview, Cultural Perceptions of Wetlands	Ch. 1, 11
Jan. 9	Wetlands Definitions	Ch. 2
Jan. 14	Classification Systems	Ch. 8
Jan. 16	Distributions, Loss Rates, <i>Literature Discussion</i>	pp. 287-305
Jan. 21	Distributions, Loss Rates, cont.	
	<u>II. Introduction to Wetland Ecology</u>	
Jan. 23	Formation and Development, <i>Literature Discussion</i>	Ch. 2
Jan. 28	Formation and Development, cont.	
Jan. 30	Hydrology, <i>Literature Discussion</i>	Ch. 4
Feb. 4	Hydrology, cont.	
Feb. 6	Hydric Soils, <i>Literature Discussion</i>	pp. 169 - 177
Feb. 11	Test 1	
Feb. 13	Hydric Soils	
Feb. 18	Plant communities	Ch. 6, 7
Feb. 20	Plant communities, cont., <i>Literature Discussion</i>	
	<u>III. Wetland Management and Policy</u>	
Feb. 25	Wetland Regulation and Policy	Ch. 14
Feb. 27	Wetland Regulation and Policy, cont., <i>Literature Discussion</i>	
Mar. 4	Wetland Regulation and Policy, cont.	
Mar. 6	Wetland Creation and Restoration, <i>Literature Discussion</i>	Ch. 12
Mar. 11	Wetland Creation and Restoration, cont.	
Mar. 13	<i>Grad Student Oral Presentations, (Term Papers Due!)</i>	
Mar. 19	Final (8:00 - 10:00)	

There will be additionally two weekend days for mandatory field trips.

Bring food, water, rubber boots, warm clothes, and rain gear to all field trips. They happen rain or shine!