Course Syllabus

Wetland Ecology

Course numbers:

11:216:421 (undergraduate Wetland Ecology)
16:375:519 (graduate Wetland Ecology)
16:215:599 (graduate Special Topics)
3 cr.

Instructor: Dr. Marci Meixler (meixler@aesop.rutgers.edu)

Prerequisite: *11:216:351* or equivalent

Meeting times/places

This is a hybrid course:

Online lectures every week
In class meetings or field trips alternate weeks (see schedule for timing)

In class sessions will meet in ENR 145; field sessions will meet in ENR lobby
M 34: 12:35 PM-3:35

Course Website: Logon to eCollege.rutgers.edu. If you are registered for this course, you should have access to the course website.

Description

This course is designed to introduce you to the major conceptual and factual bases for understanding, studying, managing and utilizing wetlands. The course covers topics common to all wetlands such as hydrology, biogeochemistry, and soils. We also review human impacts and wetland value. Finally, we examine management, utilization and conservation of wetlands. This course will include online lectures, in class exercises, case studies and field trips to explore wetlands of New Jersey.

Learning Goals

The learning goals in this course are the following:

- Understand the functional aspects of wetlands including hydrology, biogeochemistry and soils
- Know the process for delineating a wetland and be able to classify a wetland while standing in one
- Be familiar with the value of wetlands so you can have an informed conversation with someone unfamiliar with the value and ecology of wetlands

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- Have a working knowledge of management techniques, creation/restoration, and regulation of wetlands

Textbook *(recommended but optional)*

Mitsch, W. J. and J. G. Gosselink. 2007. Wetlands. 4th edition. 582 pp.
Book is on reserve in Chang.

Grading System

The course is comprised of readings, online lectures, case studies, assignments, and exams.

Readings: weekly readings can be found in our textbook

Online lectures: you can find these on the Ecollege website

Case studies (grads only): There will be weekly case studies related to the topic of the week. Graduate students will be responsible for creating the case studies (more info on this in the Graduate Students section below).

Assignments: Each week that there is a video lecture you will be responsible for creating an outline based on the lecture. Submit your outlines to the dropbox in the following format ***OutlineX_lastname_firstname*** (where X is the number of the week). All outlines are due before class the following week. In addition, before the midterm and final you will be expected to submit review questions and answers (multiple choice/TF/matching/essay, your choice; 1/topic covered since the beginning of class or the last exam) to the dropbox by midnight before class.

Exams: There will be one midterm and a non-cumulative final exam. Both are open book but limited in terms of timing. You can take exams anytime up to the deadline (see schedule). Study the following to help prepare for the exams: online lectures, case studies, handouts in class, notes from fieldtrips and relevant book chapters.

Graded item	**Undergrads**	**Grads**
Attendance/participation	5%	5%
Case studies	0%	10%
Outlines (10) and review assignments (2)	55%	55%
Midterm Exam	20%	15%
Final Exam	20%	15%

Graduate students

Graduate students will be expected to work at a higher level than undergraduates. As such, graduate students will be responsible for activities that help to link theory with application for the rest of the students. Graduate students will be expected to:

1) go more in depth on the assignments than undergraduates

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2) present case studies to the class (see example in week 1)
3) contribute meaningfully to in class discussions

Case studies: Case studies are helpful in linking theoretical concepts to application of those concepts in real life. Your case study should bring to light interesting management questions or controversy related to the topic of the week based on research articles in the literature or management plans.

Presentations could be 1) created in Powerpoint as a slideshow with enough words for description so someone viewing it will understand without the need for spoken words, 2) created in Powerpoint as a narrated video (for instructions see: http://office.microsoft.com/en-us/powerpoint-help/turn-your-presentation-into-a-video-HA010336763.aspx), or 3) created as a narrated video using Windows Movie Maker or Imovie (for instructions see: http://www.youtube.com/watch?v=thMepkgXUsQ or http://www.youtube.com/watch?v=Thv5BOP2Xgc).

Your case study should be posted to the dropbox on the Ecollege website by midnight on the Sunday before the week in which your topic is presented. That way I can make it available for everyone.

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Class schedule

Weeks in gray indicate that we meet in person in room ENR 145 or the ENR lobby if going out in the field

Bring boots and foul weather gear on field trips. We'll go rain or shine.

All outlines due before class the following week. Review questions/answers and case studies are due midnight before class.

Week		Online lecture Topic	In class activity	Book chapter	Case study	Outline due
1		Introduction	Wetlands overview	1, 2, 14		
2		Hydrology		4	Case study hydrology	Outline intro
3		Chemical transformations	Abbott Marsh fieldtrip	5, 6	Case study chem	Outline hydrology
4		Wetland classification		8	Case study classification	Outline chem
5		Wetland management	Wyckoff delineation fieldtrip	9	Case study mgmt	Outline wet class
6		Wetland values		11 (p.333-356)	Case study values	Outline mgmt
7			Guest speaker In class review			Outline values Review questions/answers (due midnight before class)
8		**Midterm exam online**				
9		Human impacts	Cheesequake field trip	9, 10	Case study impacts	
10		Wetland conservation		14	Case study conservation	Outline impacts
11		Wastewater treatment	Meadowlands fieldtrip	13	Case study treatment	Outline conservation

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12		Creation and restoration		12	Case study creation/rest	Outline treatment
13			In class review			Outline creation/rest Review questions/answers (due midnight before class)
14		**Final exam online (non-cumulative))**				

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