

WLDL/WATR 360/560: Wetlands Ecology and Management
Spring Semester 2017
SYLLABUS

Course Information:

Lecture Time: Tuesday/Thursday 12:00 pm – 1:15pm

Lecture Location: D102 Science Building

Credits: 3

Prerequisite: NRES 150, 151, 250, 251, and Field Techniques in Natural Resources

Instructor Information:

Dr. Kyle Herrman

Email: Kyle.Herrman@uwsp.edu (*preferred contact method*)

Office: 263 Trainer Natural Resources Building

Office Phone: 715-346-4832

Office Hours:

Time: Friday 10:00 am - 12:00 pm

Location: 263 Trainer Natural Resource Building

Or by appointment if the assigned hours do not work

Course Objective:

The objective of this class is to expose students to the basic principles of wetland ecology. This will be accomplished using direct instruction methods (i.e., powerpoint lectures) but also guest lectures, group projects, and student led presentations. After completing this course a student will understand how a wetland properly functions and be able to value the services these unique ecosystems provide. We will cover a variety of topics ranging from soils to hydrology to plant biology to wildlife habitat so it is vital that students stay up to date on reading and seek help if they are unsure of course material. DO NOT wait until the last minute to get help because all of the material we will cover throughout the semester is comprehensive.

Learner Objectives:

- Identify how a proper wetland functions
- Describe the importance of hydrology in wetland ecosystems
- Implement the basic procedures of the Army Corps of Engineers wetland delineation method
- Describe the unique habitat wetlands provide and identify specific threats wetlands face

Required text:

WJ Mitsch and JG Gosselink. 2007. Wetlands (3rd Edition). John Wiley and Sons, Inc. New Jersey.

Grades:

Scale:

| | | | |
|----|--------|----|-------|
| A | 93-100 | C | 73-76 |
| A- | 90-92 | C- | 70-72 |
| B+ | 87-89 | D+ | 67-69 |
| B | 83-86 | D | 63-66 |
| B- | 80-82 | D- | 60-62 |
| C+ | 77-79 | F | <60 |

Assignments:

| | <u>Points</u> | <u>Total</u> | <u>Percent of Total Grade</u> | |
|----------------------------|---------------|--------------|-------------------------------|-------------|
| | | | <u>Undergrad</u> | <u>Grad</u> |
| Exams (3) | 20 | 60 | 60% | 48% |
| Executive Summary | 10 | 10 | 10% | 8% |
| Group Presentation | 30 | 30 | 30% | 24% |
| Paper (grad students only) | 25 | 25 | | 20% |

Exams:

Three exams will be given in class and consist of multiple choice and fill in the blank questions. Because of the nature of wetlands ecology all material covered in the exams will be comprehensive.

Executive Summary:

Based on the topic you have selected for your presentation, each group will also write a 1-page (single spaced) executive summary. This document will address the significance of the topic you have selected and provide what is known regarding this issue facing wetlands. You will need to properly use information from the scientific journal article you selected in the executive summary.

Group presentations:

The group presentation will be a 10-minute PowerPoint presentation on an issue facing wetland ecosystems. Examples include but are not limited to: carbon sequestration, impacts of climate change, invasive species, wetland restoration, created wetlands, etc. During the presentation your group must directly discuss the findings from 1 scientific journal article (a good journal to start looking at would be Wetlands). Presentations will be graded on content, delivery, timing, and organization. More details will be given later in the semester regarding format and style.

Paper (graduate students only):

The paper will be a 10 page (includes figures and tables) literature review on an issue facing wetland ecosystems (this can be the same issue you have selected for your group presentation). More details will be given later in the semester but generally this literature review will require a hypothesis to be introduced and defended using papers found in the wetland literature. Examples of accepted forms of literature are text books and articles found in peer reviewed journals - online sources will not be accepted. Because more than one student may be writing on the same topic DO NOT plagiarize. I will catch any form of plagiarism and you will not get away with it!

Attendance:

If you are going to miss a lecture or an exam please contact me as soon as possible. I will provide a make-up exam if the absence is appropriately documented and I am contacted prior to the exam. If you do not have an approved excuse for your absence you will lose one letter grade each day until you take your make-up exam.

Late Policy:

Exams cannot be made up without a valid excuse. If you have not checked with me beforehand the ONLY valid excuse would be an official note from a doctor.

Academic Misconduct:

Violations of academic integrity will result in automatic failure of the class and referral to the proper university officials. The work a student submits in a class is expected to be the student's own work and must be work completed for that particular class and assignment. Students wishing to build on an old project or work on a similar topic in two classes must discuss this with the professor. Academic dishonesty includes but is not limited to: cheating on an examination and submitting an assignment as your own work when all or part of the assignment is the work of another without proper citation. Sanctions can be applied whether the violation was intentional or not so please know how to properly cite references for a scientific paper.

For further information regarding UWSP policy please refer to Chapter 14 in the University Handbook (<http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>)

Tentative Schedule (subject to change):

| Lecture | Date | Topic | Reading |
|--|---------------|---|---------------------------------|
| | Jan 24 | Syllabus and Wetland valuation | Costanza et al. 1997 |
| 1 | Jan 26 | Wetland history | Ch 1; Pg 571-604 |
| 2 | Jan 31 | Classification and types | Ch 4; Pg 725-746 |
| 3 | Feb 2 | Wetland formation | Ch 8; Mitsch et al. 2005 |
| 4 | Feb 7 | Hydrology | Ch 5 |
| | Feb 9 | | |
| 5 | Feb 14 | Wetland soils | Pg 155-164 |
| 6 | Feb 16 | Wetland plant adaptations | Pg 205-224 |
| | Feb 21 | Exam I | |
| 7 | Feb 23 | Redox reactions & carbon cycle | Reading; Pg 177-184 |
| 8 | Feb 28 | Sulfur & phosphorus cycle | Pg 174-177; 184-187 |
| 9 | Mar 2 | Nitrogen cycle | Pg 171-173; Jansson et al. 1994 |
| | Mar 7 | | |
| 10 | Mar 9 | Treatment wetlands | Ch 20 |
| | Mar 14 | Wetlands in the Mississippi River Basin | Mitsch et al. 2001 |
| | Mar 16 | Exam II | |
| | Mar 21 | Spring Break | |
| | Mar 23 | Spring Break | |
| 11 | Mar 28 | Macroinvertebrates | |
| | Mar 30 | Waterfowl (Straub) | |
| 12 | Apr 4 | Herpetofauna ecology | Pg 754-758; Reading |
| 13 | Apr 6 | Wetland management | Ch 18 |
| | Apr 11 | Mead Wildlife Area (Eyers) | |
| 14 | Apr 13 | Wetland delineation | |
| 15 | Apr 18 | Wetland laws and mitigation | |
| | Apr 20 | Wetland restoration (Gumtow) | |
| | Apr 25 | Everglades video | Readings |
| | Apr 27 | | |
| | May 2 | No class – prep for presentations | |
| | Mar 4 | Presentations | |
| | May 9 | Presentations | |
| | May 11 | Presentations | |
| <p>Finals Week Exam III: Thursday May 18 from 12:30 pm – 2:30 pm</p> | | | |