

GEOG3700

Wetland Studies

Instructors:

Dr. Weihong Wang
Office: PS 213
E-mail: **Please email me through Canvas**
Phone: 801-863-7607
Best way to reach me: through CANVAS email. I'll
reply to your emails within 48 hours except weekends
and holidays

Dr. Eddy Cadet
Office: PS 217
E-mail: CADETED@uvu.edu
Phone: 801-863-8881
Office Hours: MWF 12:00 – 1:00 pm

Textbook:

- Wetlands, 5th edition, by William J. Mitsch, James G. Gosselink
 - You can get it from Amazon
 - <http://www.amazon.com/Wetlands-William-J-Mitsch/dp/1118676823>
 - Or from the publisher's website: <http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118676823.html>
 - NOTE: there is an option to get the ebook if you prefer

Course Description:

This course will introduce students to the structure and function of wetlands with emphasis on biogeochemistry processes, and wetland mitigation and restoration, policies and regulations. In addition, this course will help students to understand and familiar with the research methods applied in wetland studies. Students will become familiar with basic and applied concepts in geochemistry, hydrology, soils, and vegetation of both constructed and natural wetlands.

Course Objectives:

- To familiarize the students with the structure and function of wetlands
- To familiarize the students with biogeochemical processes occurring in wetlands
- To familiarize students with the parameters and methods used in wetland research
- To familiarize the students with basic policy and regulatory issues related to wetlands
- To familiarize the students with concepts of wetlands mitigation, restoration, and integration of constructed wetlands to address water quality and quantity issues in urban and agricultural landscapes

Arrangements:

- Online pre-reading quizzes will be on the material that will be discussed at that week, and they are due at 10 am on Tuesdays.
- Homework is due at midnight on the designated dates.
- One lowest online pre-reading quiz will be dropped. There are no make-ups for missed quizzes.
- During the semester there will be a lot of in-class activities. Two lowest in-class activities will be dropped. There are no make-ups for in-class activities.
- Homework assignments will be penalized **5 points** for every day that they are late. (Please note: **NO homework will be dropped**).
- Please arrive to class on time. **Attendance is mandatory.** It is the responsibility of the student to obtain any materials (i.e. notes) from other students in the event the student cannot attend class for some reasons.

- Please come to class prepared to engage with your classmates and the instructors by having read the material and keeping up with the assignments.
- You are expected to complete all assignments at the agreed upon times.
- During the semester there will be 2-3 field trips, including Utah Lake, etc.

Paper Critiques:

- Students will be required to read the scientific literature regularly 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 submit a 1-2 page, typed synopsis of the paper by midnight on the designated dates to Canvas. 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 “Discussions” board on Canvas by 8 a.m. the day of class.

Team Presentation:

- Teams of 2-3 students will each act as if they are a group of expert consultants hired to develop a presentation on a local, real-world problem involving wetlands. Each team will be given a different project centered around a local wetland issue in the middle of the semester. Teams will work to discover available information about each problem and the affected wetlands, will analyze the potential impact, and will develop recommendations that would improve the project from the perspective of reducing harm or improving wetlands. This effort will require teams to search the web and published literature to find information and recommendations from similar events in other areas and determine the types of harm to the wetland or come up with restoration ideas and alternatives. Recommendations should include all potential ways to reduce the impact of a proposed project or increase the benefits and gains of a restoration project. Recommendations should also include mitigation and restoration recommendations. For projects whose primary focus is mitigation and restoration, recommendations should be made for monitoring and assessment of the success of the mitigation or restoration. Each recommendation should contain a brief assessment of the feasibility of doing it (i.e., cost, amount and difficulty of the effort involved, likelihood of acceptance by neighbors/community, likelihood of successfully accomplishing it).
- Teams will present their findings in a presentation at the end of the semester. Teams will have 30 minutes for their presentations with 5 minutes for questions and answers. All team members must take part in the presentation. Teams will be graded by how well their presentation describes the problem, their background research (data discovery, etc), and their findings and recommendations.

Policies:

You are expected to follow all University policies and student rights and responsibilities. Please respect your classmates and yourself in the learning process. This includes exercising your utmost integrity in quiz and test taking, not using phones, and not talking disruptively in-class. Open food and drink is not permitted in the lab. Please step outside or to the edge of the classroom to eat or drink. Refer to the following document:

<http://www.uvu.edu/policies/officialpolicy/policies/show/policyid/172>

Students with additional needs:

Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677. Please notify one of the instructors as early in the semester as possible so that arrangements can be made to meet those needs.

Student Assessment Activities and Grading:

10%	Class participation-- <i>in-class activities</i>
10%	Online Pre-reading Quizzes
10%	Team Presentation
15%	Midterm
15%	Paper critique
20%	Homework
20%	Final exam

<u>Average</u>	<u>Grade</u>	<u>Demonstrated Understanding</u>
93.5-100%	A	<i>mastery</i> of the learning objectives
90-93.5%	A-	
87-90%	B+	
83.5-87%	B	<i>functional understanding</i> of the learning objectives
80-83.5%	B-	
77-80%	C+	
73.5-77%	C	<i>basic achievement</i> of learning objectives
70-73.5%	C-	
67-70%	D+	
63.5-67%	D	met some learning objectives, but <i>significant deficits</i>
60-63.5%	D-	
0-60%	E	<i>Did not demonstrate understanding of most learning objectives</i>

Tentative Schedule and topics:

Week	Topic	Reading Assignments	Due dates for paper critiques, in-class activities, HW, and Project
Week 1	Wetland importance and function	Chapter 1, 2	
Week 2	Wetland Classification and Wetland of the world	Chapter 3, 8	Online Pre-reading Quiz 1
Week 3	Wetland Hydrology	Chapter 4	Online Pre-reading Quiz 2
Week 4	Wetland Hydrology	Chapter 4	Paper critique 1 HW1 DUE
Week 5	Wetland Biogeochemistry	Chapter 5	Online Pre-reading Quiz 3
Week 6	Wetland Biogeochemistry	Chapter 5	Paper critique 2
Week 7	Wetland Ecosystem and Climate Change	Chapter 7, 10	Online Pre-reading Quiz 4
Week 8	Trace Metals	Reading Packet	In-class quiz on Trace Metals
Week 9	Trace Metals	Reading Packet	Paper critique 3
Week 10	Trace Metals	Reading packet	HW2 DUE Midterm
Week 11	Spring or Fall Break, NO CLASS		
Week 12	Human Impact and Wetland Management	Chapter 9	Paper critique 4
Week 13	Stable isotope application in wetland	Reading packet	Online Pre-reading Quiz 5, Paper Critique 5
Week 14	Wetland Laws and Protection	Chapter 14	Online Pre-reading Quiz 6 Paper Critique 6
Week 15	Utah Lake Water Quality	Reading packet	HW3 DUE Paper Critique 7
Week 16	Team Presentations		
Final Week	Cumulative Final Exam		