VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
COLLEGE OF NATURAL RESOURCES
NATIONAL CAPITAL REGION

Course Syllabus

Wetland Ecology and Policy

NR 5384 (CRN 96217)

Fall Semester 2009

Course Description:

Wetlands are unique ecosystems that provide countless societal values through their natural functions. They provide habitat for numerous wildlife species, and many threatened and endangered flora/fauna species are found in wetlands. Wetlands continue to be a key component of our environment. From grade school children to developers, farmers and politicians, society is connected to wetlands and the decisions we make toward protecting, restoring and impacting them will affect our future environment. This course will discuss the relationship of hydrology, soils, and vegetation to wetland ecosystem processes and the value of these functions (wetland assessment and ecosystem services). Wetland classification systems, delineation, management options (with regard to environmental and legal considerations), mitigation, restoration and preservation will be covered. The course will review federal, state and local regulations for wetlands – past, present and future, as well as look into the impacts of climate change on wetlands. The course will also feature field trips to see various wetland types and wetland mitigation sites where you will have an opportunity for hands-on learning.

Prerequisites:

Baccalaureate degree and professional experience

Instructor:

Dr. Laura A. B. Giese, CF, PWS, PWD, CSE, CT
Principal Environmental Scientist
Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Telephone: W(703) 679-5633; C(703) 328-2796
FAX: (703) 679-5601
Email: lgiese@wetlandstudies.com

Class Information:

Title:	NR 5384 – Wetland Ecology and Policy
Credits:	3 Semester Credits
Index:	CRN 96217
Class Location:	Northern Virginia Center – Falls Church, Room TBD
Class Time:	Mondays, 7:00-9:45 PM

Learning Objectives:

- Identify wetland types and recognize their source of hydrology.
- Demonstrate a general knowledge of the biological, chemical, and physical factors associated with wetland ecology.
- Evaluate the environmental values and ecosystem services associated with wetland functions.
- Demonstrate an understanding of the federal, state and local regulations governing wetlands and how they affect the development community.
- Become familiar with wetland delineation methodology.

Required Text:

Mitsch, W. J. and J. G. Gosselink. 2007. Wetlands. Fourth Edition. John Wiley & Sons, Inc. Hoboken, New Jersey. 582 p.

Supplemental Textbook:

Tiner, R. W. 2005. In Search of Swampland - revised & expanded, Rutgers University Press

Field Trips:

The class will have three all day Saturday field trips (Dates TBD):

1) wetland types
2) wetland field exercise (vegetation, hydric soils, hydrology)
3) wetland mitigation projects

Each student will be responsible for turning in a journal/write-up for each trip.

Grading:

A final grade will be derived from class participation and attendance, homework assignments, a research paper/presentation and three field trip journals. All assignments must be completed and turned in, in order to pass the course. The grade breakdown, based on a total of 100 points, is as follows:

Component	*Points*	*Letter Grade/Points*			
Class participation and attendance	10	A	95-100	C+	77-79
Homework assignments	30	A-	90-94	C	74-76
Research paper/presentation	20/10	B+	87-89	C-	70-73
Field Trip Journals (3)	30	B	84-86	D	60-69
	100	B-	80-83	F	<60

Policy on Plagiarism and Academic Honesty:

The Virginia Tech Honor System is in effect for this course and all assignments shall be subject to the stipulations of the Graduate Honor Code which is located online at http://ghs.grads.vt.edu/. Please contact the instructor immediately if you have questions. Please take the time to read this document and make sure that you understand your responsibilities as a student. Be informed of the violations of the Graduate Honor Code: *Cheating, Plagiarism, Falsification, and Academic Sabotage*. Plagiarism or other forms

of violations of the Virginia Tech Honor system will not be tolerated. Take time to read how to avoid plagiarism which is located online at http://ghs.grads.vt.edu/student/avoiding.html.

Accommodation Policy:

Students with special needs or circumstances are encouraged to meet with the instructor after the first class. If you need adaptations or accommodations because of a disability (learning disability, attention deficit disorder, psychological, physical, etc), if you have emergency medical information to share with the instructor, or if you need special arrangements in case the building must be evacuated, please make an appointment with the instructor as soon as possible (See contact information above). If you need captioning for videos, please let me know no later than two weeks in advance of date for viewing.

Weather Line:

For weather cancellations, please check www.ncr.vt.edu and the Weather Alert Line 703-538-8325

Course Evaluation:

In the spirit of continuous improvement, the instructor seeks ways to improve this course and values your input. To that end, you will be asked to complete an informal evaluation at the end of the semester as well as a formal evaluation.

NOTE: The course syllabus will be reviewed throughout the course and may be changed as needed to fit the progress of the students or weather cancellations.

Lecture Topics, Reading Assignments and Schedule

The course syllabus will be finalized once classes start to incorporate field trips and may be revised to accommodate guest lectures.

Date	Period	Topic	Assignment
8/24	(1)	Introduction: Course objectives, grading, exams, student profile. Overview: History: How did wetlands become important? Wetland Definitions: Did you say 'wetland'?	CH 1, 2
		Wetland Types: Marsh, swamp, bog - what's the difference?	
		Wetland Classification: What's a PFO1D or PEM2C	
		Hydrology: Where does all the water go?	
		Soil Biogeochemistry: C, N, P, K, et al.	
		Plant Adaptations: What makes wetland plants unique? Wetland Functions and Values: How do wetlands benefit us?	
		Wetland Ecosystem Development; Mid-Term – Take Home	
		Wetland Mitigation Primer; Wetland Assessment	
		Tidal Salt Marshes, Tidal Freshwater Marshes, Mangroves	
		Pocosins, Carolina Bays, Bogs, Wet Flats	
		Policy and Law; Federal, State, local regulations Why can't I fill that wet spot?	
		Climate Change and Wetlands	
		Thanksgiving Break	
		Class Presentations - Let's share what we learned.	
		Final - Research Paper Due	

SATURDAY FIELD TRIP – ALL DAY
Wetland Types

SATURDAY FIELD TRIP – ALL DAY
(Huntley Meadows)

SATURDAY FIELD TRIP – ALL DAY
Wetland Mitigation (Creation and Restoration)