

<p style="text-align: center;">WATERSHED MANAGEMENT AND RESTORATION FOR 6934 (3 credits) Spring 2011</p>

GENERAL COURSE OVERVIEW

Watersheds are natural “management units”, and figure increasingly prominently in large-scale restoration activities. This course explores the science and policy of watershed restoration, focusing on 1) the biophysical watershed template that informs management targets and constraints, 2) the socioeconomic drivers that both create management problems and facilitate their solution, and 3) the legal and policy framework within which decisions about restoration and management are made. The primary focus will be on watersheds in Florida, but examples will be drawn from around the world. Students in the class will engage the topic from multiple disciplines, and will produce, as their final output, a synthesis of a particular watershed that considers the motivation, historical setting and future needs and opportunities for watershed management.

PREREQUISITES

Basic water resources course **or** Instructor Permission

HOURS AND LOCATION

This is a web-based class. Course materials are delivered asynchronously via the University of Florida’s E-learning site (<http://lss.at.ufl.edu>). Students are expected to download the relevant readings, lecture materials, and discussion topics at this website. Communication between the instructor and students will occur via email (within the E-learning system). Course modules are divided into week long themes.

INSTRUCTOR

Matthew Cohen (Assistant Professor)
328 Newins-Ziegler Hall

mjc@ufl.edu
(352) 846-3490

RECOMMENDED TEXT(S)

Watersheds: Processes, Assessment and Management. 2004. Paul DeBarry, John Wiley and Sons, New York, NY

ADDITIONAL REFERENCE MATERIALS

This course leans heavily on the refereed literature and government report. Relevant documents will be assigned on each topic area. Additional readings (2-3 per week) will be provided for additional context.

PERFORMANCE EVALUATION

Grading Scale:

A	= 400-360	C	= 303-280
B+	= 359-344	D+	= 279-264
B	= 343-320	D	= 263-240
C+	= 319-304	E	<240

Assignments

Paper #1 (Biophysical Template)	22.5%	90 pts
Paper #2 (Socioeconomic Drivers)	22.5%	90 pts
Paper #3 (Legal and Institutional Framework)	22.5%	90 pts
Paper #4 (Integrated Management Planning)	22.5%	90 pts
Class Participation (discussion boards, peer grading)	10%	40 pts

Notes:

- Class participation will be evaluated according to engagement in formal online discussions and the peer review process.
- Synthesis papers (10-15 pgs each) are due **February 11th (Paper 1), March 4th (Paper 2), April 15th (Paper 3), and April 25th (Paper 4).**

SYNTHESIS PAPER

- The papers are intended to focus on a single watershed. Choose this watershed early (coordinate with the instructor). It may range from small (ca. 300 km²) to large (ca. 50,000 km²). It is recommended that massive watersheds (e.g., the Columbia or Amazon) be avoided due to the complexity of synthesizing the information, the variety of issues that interact at that scale, and the scope legal and institutional participation.
- The first paper will describe the biophysical template (climate, geology, biology) relevant to management. What underlies the watershed? How is this important for understanding how to protect or manage that watershed? What characterizes the hydrology, and what are the kinds of ecosystems and organisms present in the watershed? What is the natural condition that would be there if not for human uses? Maps and pictures are extremely helpful for this paper.
- The second paper will focus on what people do within your watershed. What enterprises are currently occurring and how significant are they? What are historical land uses? How does the mosaic of human use affect the natural system? What happens at the interface of human and natural systems in your watershed that create problems that management seeks to redress?
- The third paper will focus on the legal and institutional attributes of the basin. What institutions have jurisdiction, and over what aspect of the system? How are jurisdictions that overlap handled? What laws affect watershed management (e.g., are there wetlands, endangered species, navigable waters, national parks)? To what extent has litigation affected management responses, and what regulatory programs exist to redress those problems?
- The last paper synthesizes the former three to make a watershed management plan for the basin, considering the necessity of mixed uses, the legal protections afforded land-owners and the natural environment, and the desired future conditions of the watershed.
- In addition to the instructor grades, rotating peer review will ensure that each student learns about the other watersheds, and learns to provide deep but constructive feedback.

WATERSHED MANAGEMENT AND RESTORATION COURSE SCHEDULE (SPRING 2010)

Week of...	Lecture Materials	Reading Materials	Deliverables
Week 1 (1/4)	Conceptual Framework and Motivation for Management		
Week 2 (1/10)	The Watershed Concept: History and Implications		
Week 3 (1/17)	The Biophysical Template: Water Availability		
Week 4 (1/24)	The Biophysical Template: Landform		
Week 5 (1/31)	The Biophysical Template: Biological Systems		
Week 6 (2/7)	The Biophysical Template: What is Restoration?		Paper #1 (Feb. 11th)
Week 7 (2/14)	The Socioeconomic Drivers: Land and Water Use I		
Week 8 (2/21)	The Socioeconomic Drivers: Land and Water Use II		
Week 9 (2/28)	The Socioeconomic Drivers: Contamination		Paper #2 (March 4th)
Week 10 (3/7)	SPRING BREAK	SPRING BREAK	
Week 11 (3/14)	The Socioeconomic Drivers: Ecosystem Services		
Week 12 (3/21)	Uncertainty and Complexity in Watershed Management		
Week 13 (3/28)	Legal/Institutional Framework: Overview		
Week 14 (4/4)	Legal/Institutional Framework: Quality and Quantity		
Week 15 (4/11)	Legal/Institutional Framework: Species and Compacts		Paper #3 (April 16th)
Week 16 (4/18)	Course Overview: The Future of Watershed Management		Paper #4 (April 25th)

ADDITIONAL INFORMATION

Academic Honesty:

The University of Florida requires all members of its community to be honest in all endeavors. Cheating, plagiarism, and other acts diminish the process of learning. When students enroll at UF they commit themselves to honesty and integrity. Your instructor fully expects you to adhere to the academic honesty guidelines you signed when you were admitted to UF. As a result of completing the registration form at the University of Florida, every student has signed the following statement: *“I understand the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University.”* Furthermore, on work submitted for credit by UF students, the following pledge is either required or implied: *“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”* It is to be assumed all work will be completed independently unless the assignment is defined as group project, in writing by the professor. This policy will be vigorously upheld at all times in this course.

Software Use:

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources:

Students experiencing crisis or personal problems that interfere with their general wellbeing are encouraged to utilize the university’s counseling resources. Both the Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal or lacking clear career and academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health is located on the second floor of the Student Health Services in the Infirmary.

1. *University Counseling Center*, 301 Peabody Hall, 392-1575; personal and career counseling: www.counsel.ufl.edu
2. *Student Mental Health*, Student Health Care Center, 392-1171, personal counseling: www.hsc.ufl.edu/shcc/smhs.htm
3. *Sexual Assault Recovery Services (SARS)*, Student Health Care Center, 392-1161, sexual assault counseling; and
4. *Career Resource Center*, Reitz Union, 392-1601, career assistance and counseling.

Students with Disabilities Act:

The Dean of Students Office coordinates the needed accommodations of students with disabilities. This includes the registration of disabilities, academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faulty-student disability related issues. *Dean of Students Office*, 202 Peabody Hall, 392-7066, www.dso.ufl.edu.