

**Soil and Water Sciences SWS 4932: Watersheds: Management and
Conservation****Syllabus, Spring 2018**

Description: This course presents an overview of relevant principles and theories related to the management of land and water resources, with special focus on relationships between the landscape and aquatic ecosystems. The course is divided into three units: Water Quantity, Water Quality, and Integrated watershed management. We will examine how changes in the landscape and streamflow affect ecosystems, and management frameworks designed to protect aquatic ecosystems. For each unit, we will also examine the models that are used to create management measures and inform restoration guidelines. The course will rely heavily on case studies that illustrate how concepts presented in lectures are applied to real-world situations of watershed management in the southeastern United States and beyond. Conceptual models of human-environment interactions, relevant regulations, and policies are also reviewed.

Time and Location: Mondays, 5:00 – 8:00 PM
Spring Semester: January 8, 2018 to April 25, 2018
West Florida REC Milton Campus, Room 4814

Instructor: Matthew Deitch, PhD
Assistant Professor, UF Soil and Water Sciences Department
West Florida Research and Education Center
Building 4900, Room 4917
Telephone: 850 377 2592
Email: mdeitch@ufl.edu
Office hours: Mon 10-12; Fri 1-3

Text: Hydrology and the Management of Watersheds, 4th Edition, by Brooks, Ffolliott, Magner
ISBN: 978-0-470-96305-0

Course Objectives: Upon completion of this course, students will be able to:

1. Describe how ecological goals are incorporated into the management of streamflow.
2. Describe how ecological goals are incorporated into the management of water quality.
3. Describe how managers develop quantitative frameworks for improving water quality in streams.
4. Describe in detail how watershed dynamics are incorporated into the restoration of streams and lakes.

Soil and Water Sciences SWS 4932: Watersheds: Management and Conservation Syllabus, Spring 2018 (page 2)

Weekly topics:

Week	Date	Topic	Assignment
1	Jan 08	Foundations 1: watershed review, defining sustainability, ecosystem services; how to read scientific papers and reports	Readings, Module/summary 1
2	Jan 15	Martin Luther King holiday – no class	
3	Jan 22	Foundations 2: Common-pool resources; adaptive management	Module/summary 2
4	Jan 29	Water rights in the United States and beyond	Module/summary 3
5	Feb 05	Managing rivers and dams for ecosystem services	Module/summary 4
6	Feb 12	Models for managing surface water volumes and water quantity	Model 1; Module/summary 5
7	Feb 19	Alphabet soup: TMDLs, BMPs, and water quality assessments	Module/summary 6
8	Feb 26	Agriculture and agricultural BMPs in the southeastern US	Module/summary 7
9	Mar 05	Spring Break – no class	Module/summary 8
10	Mar 12	Forest management and watershed processes	Module/summary 9
11	Mar 19	Models for managing water quality	Model 2; Module/summary 10
12	Mar 26	Urban watersheds	Module/summary 11
	Apr 02	Wetlands in watershed management	Module/summary 12
13	Apr 09	Restoration of rivers and lakes	Module/summary 13
	Apr 14	All-day Saturday field trip (the urban watershed; begin 8AM)	
14	Apr 16	Managing coastal ecosystems	(Complete class project/presentations)
15	Apr 23	Final class – class presentations	
16	May 03	Final projects due	

Course evaluation

Online Course Evaluation Process Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students will have the opportunity to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at GatorRator. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. It is expected that you will contribute your feedback for this course and the others in which you are enrolled this term. Summary results of these assessments are available to students at GatorRator.

Soil and Water Sciences SWS 4932: Watersheds: Management and Conservation Syllabus, Spring 2018 (page 3)

Student Evaluation Methods:

Student grades will be determined based on student performance in the following categories:

Weekly readings/quizzes	30% of grade
Development of watershed management models (2)	30% of grade
Final project/presentation	25% of grade
Field trip	8% of grade
Participation/attendance	7% of grade

Weekly readings/quizzes: At the conclusion of each class session (weeks 1-13), students will be assigned a set of readings related to the topic presented during class. Weekly readings will appear on Canvas in each weekly Module. Students should be prepared to discuss each reading at length during the following class session. To facilitate students' preparation, a quiz for each set of readings will also appear in the Module; students are required to submit responses to the quiz via Canvas **by the beginning** of the following class.

Watershed Management Models: Models are tools that resource managers use to describe the environment as related to a particular issue or issues. Models may be qualitative (conceptual) or quantitative (numerical). Students will be required to create or modify two models (conceptual or quantitative) to address a watershed management issue of interest to them. Details about models and expectations will be described in class, and adequate time will be given for students to develop models. Models will be presented briefly in class and have an accompanying report explaining the issue addressed and the framework created for addressing the issue.

Final project: Students will work individually or in groups of two to conduct a watershed management study or evaluation related to a topic of your choice. The management project will incorporate issues discussed in class, and may include collecting new data or reviewing historical data and reports. Students will present a summary of their watershed management project during the final session of class; it will be accompanied by a report. Expectations regarding the components of the management project, presentation, and report will be shared via handout and discussed in class after the first exam. The final project report is due on May 3.

Participation/attendance: Students are expected to attend each three-hour class session. Students will also participate in one Saturday field trip. Saturday field trips provide the opportunity to reinforce class lessons with real-world examples and collect data that will be used in subsequent class sessions. Additional information about class attendance at UF can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

All excused absences from class or field trips must have prior approval from the instructor.

Grades will be scored as follows:

Course Grade	>93	90-92.99	87-89.99	83-86.99	80-82.99	77-79.99	73-76.99	70-72.99	67-69.99	63-66.99	60-62.99	<60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Grade Point	4	3.67	3.33	3	2.67	2.33	2	1.67	1.33	1	0.67	0

A full explanation of UF grading policies can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Soil and Water Sciences SWS 4932: Watersheds: Management and Conservation Syllabus, Spring 2018 (page 4)

On-line Resources:

An e-learning site for this course is available through CANVAS. This provides a format to share documents and discussions with your classmates. This syllabus and general announcements from the instructors to students will also be posted. **IT IS YOUR RESPONSIBILITY TO CHECK CANVAS AND USE THIS RESOURCE TO STAY UP-TO-DATE WITH SCHEDULES AND CLASSWORK.** The CANVAS app is free.

Late Policy

It is critical that your work be submitted in a timely manner. Assignments turned in on paper or electronically by the start of class are considered on time. After that, late assignments will lose value at the rate of 10% for the first late day and 5% for each subsequent late day (weekend days count!).

Making up course quizzes, field trips, and projects

In the event that you are unable to attend a course session or field trip, notify me as soon as possible and I will make arrangements for a substitute session. If you know you have a conflict with a scheduled event in the syllabus, tell me immediately. For all substitute activities, the expectations will be the same as if you were in attendance. If you are unable to attend course session on project day or the final presentation day, alternatives will be planned (e.g., video recording of presentations).

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

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. I fully expect you to adhere to the academic honesty guidelines you signed when you were admitted to UF.

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, 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 assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel.

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

Soil and Water Sciences SWS 4932: Watersheds: Management and Conservation Syllabus, Spring 2018 (page 5)

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 crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The UF Counseling and Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance. The Center is located at 3190 Radio Road.

- Career Resource Center, CR-100 JWRU, 392-1601,
- Student Health Care Center, 392-1161, www.crc.ufl.edu/
- University Counseling & Wellness Center, 352-392-1575,
<http://shcc.ufl.edu/http://www.counseling.ufl.edu/cwc/>

Students with Disabilities:

Services for Students with Disabilities: The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Student Complaints:

The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

Residential Course: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

Online Course: <http://www.distance.ufl.edu/student-complaint-process>