

## Soil and Water Sciences SWS 4932: Conservation Hydrology

### Syllabus, Fall 2017

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**Description:** This course presents a watershed-scale survey of the processes through which water moves through the hydrologic cycle, and how watershed characteristics influence these processes. We will also examine how watershed characteristics influence stream and riparian ecosystems, and how they influence water resources for human needs. Additionally we will use contemporary methods and tools to quantify hydrologic processes, stream ecosystem condition, and water resources; and present case studies that illustrate how these concepts are applied to real-world situations in the southeastern United States and beyond.

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**Time and Location:** Thursdays, 5:00 – 8:00 PM  
Fall Semester: August 21, 2017 to December 6, 2017  
West Florida REC Milton Campus, Room 4814

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**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](mailto:mdeitch@ufl.edu)  
Office hours: Mon 10-12; Fri 1-3

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

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

1. List important components of the water cycle, and describe how they could be measured using two different tools.
2. Describe how streamflow and groundwater is affected by climatic factors over various time scales.
3. Describe how stream ecosystems are structured by hydrologic processes.
4. Describe four ways that human development in watersheds may affect streamflow dynamics.

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### Weekly topics:

Week	Date	Topic	Assignment
1	Aug 24	Watersheds: an introduction; landscapes and water resources	PS1; Chapter 1
2	Aug 31	The hydrologic cycle, water balance, and a watershed perspective	PS2; Ch 2
3	Sep 07	Measuring the water cycle: inputs, outputs, changes in storage	PS3; Ch 3, 4
4	Sep 14	Streams, part 1: data and analysis (sources, trends, etc.)	PS4; Ch 5, 6
5	Sep 21	Exam review; Streams, part 2: physical stream processes	
6	Sep 28	<b>EXAM 1.</b> Disasters; Conducting hydrology research (term project ideas)	Ch 9
	Sep 30	<b>All-day Saturday field trip (BRSF; 8AM to completion)</b>	<b>Field trip report 1</b>
7	Oct 05	Groundwater	PS5
8	Oct 12	Water quality and pollution	PS6; Ch 11
9	Oct 19	Lakes and wetlands	PS7, Supplemental
10	Oct 26	Urban water issues; managing rivers	PS8, Supplemental
11	Nov 02	Bays, Estuaries, and coastlines	
	Nov 04	<b>All-day Saturday field trip (the urban watershed; begin 8AM)</b>	<b>Field trip report 2</b>
12	Nov 09	<b>EXAM 2.</b> Stream and riparian ecology, part 1	Supplemental
13	Nov 16	Stream and riparian ecology, part 2	Supplemental
14	Nov 23	Thanksgiving	Supplemental
15	Nov 30	Contemporary watershed issues in the Gulf Coastal Plain and beyond; project presentations	Supplemental
16	Dec 07	(No Class – “Reading Day”)	
	Dec 12	<b>Final Project and Report due</b>	

### 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.

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### Student Evaluation Methods:

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

<b>Weekly problem sets</b>	20% of grade
<b>Saturday field trip write-ups</b>	15% of grade
<b>Exams (2)</b>	35% of grade (17.5% apiece)
<b>Final project and report</b>	25% of grade
<b>Participation/attendance</b>	5% of grade

**Weekly problem sets:** At the conclusion of each class session (weeks 1-4, 7-10), and each Saturday field trip, students will be assigned a problem set related to the topics discussed. The problem set will appear on Canvas and will be submitted via Canvas by the beginning of the following class session. Only seven of the eight problem set scores will be used for calculating your grade; the lowest will be dropped. (Both Saturday trip write-ups are required.)

**Exams:** Occurring twice during the semester, exams will consist of short analyses of data sets, short answer questions, and/or brief essays based on reading assignments, lectures, and exercises. Exams will occur during class time.

**Final project:** Students will work individually or in groups of two to conduct a hydrologic study related to a watershed of your choice. The hydrologic study will consist of components as discussed in class, and may include collecting new data or using historical data. Students will present a summary of their hydrologic study during the final session of class; it will be accompanied by a study report. Expectations regarding the components of the hydrologic study, presentation, and report will be shared via handout and discussed in class after the first exam. The final project report is due one week after the last session of class (Dec 14).

**Participation/attendance:** Students are expected to attend each three-hour class session, which will include lectures, discussions, and outdoor lab sessions. Students will also participate in two Saturday field trips. 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 lab 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>

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### **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 labs, field trips, and exams**

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 a course session on an exam 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/>

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### **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/](http://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/](http://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](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)  
Online Course: <http://www.distance.ufl.edu/student-complaint-process>