GENERAL COURSE OVERVIEW

Overview: This course introduces ecohydrology – the study of interactions between organisms, ecosystems and the hydrologic cycle - using a blend of theory and case studies.

Student Learning Outcomes: Students in this course will be exposed to the complex interactions between water and ecosystems via targeted examples drawn from a variety of model systems and processes. There are 5 core objectives to be met by the end of this course:

1) Students will be able to synthesize recent literature in a broad topic area
2) Students will have demonstrated competence in the design and implementation of a novel ecohydrologic analysis
3) Student will develop presentation skills in leading class discussion on emerging topics in ecohydrology.
4) Students will demonstrate written skills via submission of extended term papers and group project reports, and evaluation of other students’ submissions.
5) Students will be demonstrate critical thinking as it pertains to the complex interactions between organisms and the water cycle.

PREREQUISITES

Basic water resources and ecology courses or instructor permission

HOURS AND LOCATION

Class Time: Location:
Tuesday 1:55-2:45 McCarty B G108
Thursday 12:50-2:45 McCarty B G108

INSTRUCTOR

Matthew Cohen (Professor)  mjc@ufl.edu
328 Newins-Ziegler Hall (352) 846-3490
Class Website – http://sfrc.ufl.edu/ecoecology/FNR6564.html
Office Hours MW 10:00 – 12:00

REQUIRED READINGS

This course leans heavily on the primary literature. Some or all of the readings below will be assigned by the instructor in addition to relevant papers to be assigned on each topic area.

feedback in peatland development. *Ecological Monographs* 76:299-322


- Van Hulzen, J.B., J. van Soelen and T.J. Bouma. 2007. Morphological Variation and Habitat Modification are Strongly Correlated for the Autogenic Ecosystem Engineer *Spartina anglica* (common cordgrass). *Estuaries and Coasts* 30:3-11


PERFORMANCE EVALUATION

Grading Scale:
A  = 100-90%  
B+  = 89-86%  
B   = 85-80%  
C+  = 79-76%  
C    = 75-70%  
D+  = 69-66%  
D    = 65-60%  
E    <60%

Additional information on grade policies at the University of Florida can be found at http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html.

Assignments
Discussion Lead and Participation  
Synthesis paper  
Group synthesis development, implementation and manuscript

Notes:
• Class attendance is required.
• Synthesis papers are due **October 3rd**.
• Groups of students (n=2-3) will using “found” data to test a hypothesis of their choosing; students will be responsible for identifying and executing the synthesis under the guidance of the instructor and write up the results in journal article format. Grades will be based on instructor (25%) and peer (25%) review. Final manuscripts are due Dec. 5th.

**DISCUSSION LEAD**
• Working with the instructor, identify two papers of interest to you from the list provided at the beginning of the semester, or from your “to-read” list.
• Everyone reads each paper
• Each student will lead a discussion (objectives, methods, findings, limitations, implications)
• Participation is 10% of the total grade

**SYNTHESIS PAPER**
• Start early(!) A topic area summary of your chosen topic is due to the instructor by September 12th. Focus on topic areas that occupy the overlap between your own research and the central concepts of this course.
• Papers are expected to be ~15-20 pages long.

**GROUP SYNTHESIS AND MANUSCRIPT**
• Start early(!) Draft questions, hypotheses and predictions are due October 15th. In addition to “interestingness”, consider the tractability of your question. What is your question? What data are necessary to address this question, and where are these data from? How many data are necessary, and how long will the analysis take?
• Draft manuscript due Nov. 21st. Final manuscript due Dec. 5th.
• Present findings at the end of class (30 minutes + 5 for questions).
## Ecohydrology Course Schedule (Fall 2017)

<table>
<thead>
<tr>
<th>Week of...</th>
<th>Tuesday (1 hour)</th>
<th>Thursday (2 hrs)</th>
<th>Due Dates</th>
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<tbody>
<tr>
<td>Aug-19th</td>
<td>Course Structure, Expectations <em>Why Ecohydrology?</em></td>
<td>Primer on Systems Thinking</td>
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<td>Aug-26th</td>
<td>Ecohydrological equilibria and Eagleson’s Hypothesis</td>
<td>Soil Moisture - Control in Water Limited Ecosystems</td>
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<td>Sep-2nd</td>
<td>Arid land ecohydrology</td>
<td>Arid land ecohydrology</td>
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<td>Sep-9th</td>
<td>Ecohydrology of Streamflow</td>
<td>Ecohydrology of Streamflow</td>
<td>SYNTHESIS PAPER TOPIC DUE SEPT. 12th</td>
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<td>Sep-16th</td>
<td>Ecological Effects on Sediment Stabilization</td>
<td>Alternative stable states in desert streams</td>
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<td>Sep-23rd</td>
<td>Humid land ecohydrology</td>
<td>Ecohydrology of the Okavango - Channel avulsion</td>
<td>SYNTHESIS PAPER DUE OCT. 3rd</td>
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<tr>
<td>Sep-30th</td>
<td>Humid land ecohydrology</td>
<td>Shallow water table ecohydrology</td>
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<td>Oct-7th</td>
<td>Wetland Ecohydrology</td>
<td>Wetlandscapes</td>
<td>GROUP PROJECT PROPOSAL DUE OCT. 12th</td>
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<td>Oct-14th</td>
<td>Patterned peatlands</td>
<td>Patterned peatlands</td>
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<td>Oct-21st</td>
<td>Karst ecohydrology</td>
<td>Karst ecohydrology</td>
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<td>Oct-28th</td>
<td>Biogeomorphology</td>
<td>Biogeomorphology</td>
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<td>Nov-4th</td>
<td>Ecohydraulics and element cycles</td>
<td>Stream nutrient spiraling</td>
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<td>Nov-11th</td>
<td>Nutrient Spiraling and Eutrophication</td>
<td>Hydrobiological controls on P in the Everglades</td>
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<tr>
<td>Nov-17th</td>
<td>Ecohydrology and restoration</td>
<td>Ecohydrology and restoration</td>
<td>DRAFT PAPER DUE NOV. 21st</td>
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<tr>
<td>Nov-27th</td>
<td><strong>NO CLASS THANKSGIVING</strong></td>
<td><strong>NO CLASS THANKSGIVING</strong></td>
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<td>Dec-4th</td>
<td>CLASS PRESENTATIONS</td>
<td>CLASS PRESENTATIONS</td>
<td>FINAL PAPER DUE DEC. 5th</td>
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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.