



**Catalog Description:** 2 credits. Application of ecological principles to technological resource management and problem solving.

**Instructor:** Dr. David Kaplan, Environmental Engineering Sciences  
Office: 6 Phelps Lab  
[dkaplan@ufl.edu](mailto:dkaplan@ufl.edu)  
[www.watershedecology.org](http://www.watershedecology.org)

**Contact:** **Class website (UF e-Learning):** <https://lss.at.ufl.edu>  
**Course e-mail:** Use e-Learning for ALL correspondence  
**Office Hours:** Immediately after class and by appointment (6 Phelps Lab)

**Time and Location:**

- Tuesday and Thursday, 4:05 – 4:55 pm (Period 9) in CHE 237

**Course Objectives:** This course aims to provide students with a thorough understanding and appreciation of ecosystems by describing the biotic and abiotic components, interactions, and physical drivers that define major ecosystem types. In order to understand any individual ecosystem, it is first imperative to have a firm grasp on general ecologic concepts that explain ecosystem organization and function. This course will begin by reviewing the concepts of succession, material cycles, and energy webs and will then use a systems ecology approach to describe specific ecosystem types (e.g., estuaries, lakes, rivers, forests, etc.). Using this framework, we will build, test, and apply ecological models. Throughout the course, we will focus on ecosystem services, major ecosystem stresses (both natural and anthropogenic), and management considerations for each ecosystem. The course will conclude with ecological applications, including ecological restoration and ecological engineering.

**Course Supplies:**

- Required Textbook: None
- Assignments, readings, and announcements will be posted on the course website, so it is important to *regularly check the class homepage* (<https://lss.at.ufl.edu>).

**Course Expectations:**

- Attend class and arrive on time.
- Complete assigned readings *prior to the class for which they are assigned.*
- Participate in class discussions, including your thoughts on the assigned readings and lecture subjects. Learning is more than passive accumulation of information, and I will be asking a lot of questions in class.

**Grading Scale:** A (≥93), A<sup>-</sup> (≥90 & <93), B<sup>+</sup> (≥87 & <90), B (≥83 & <87), B<sup>-</sup> (≥80 & <83), C<sup>+</sup> (≥77 & <80), C (≥73 & <77), C<sup>-</sup> (≥70 & <73), D<sup>+</sup> (≥67 & <70), D (≥63 & <67), D<sup>-</sup> (≥60 & <63), E (<60).

**Grading Scheme and Assignments:**

Participation:	10%
Quizzes	10%
Homework	15%
Midterm Exam	25%
Final Exam	25%
Final Project	15%
Total	100%

- Participation: You cannot receive an A in this course without actively participating. Earn your participation grade by consistently attending class, asking and answering questions, and offering your opinion on course topics and current events.
- Quizzes: There will be 12 quizzes given over the course of the semester, covering material from the lectures **and readings**. Your quiz grade will be based on your ten best quiz scores. Quizzes will be given in the beginning of class; students entering late will not receive credit for that day's quiz.
- Homework: Approximately five homework assignments will be assigned. You will have one week to complete each assignment. Homework must be submitted on e-Learning, and late assignments will be penalized by one letter grade per day.
- Exams: Optional exam reviews will be held outside of class before each exam.
- Final Project: The final project consists of a group written report and poster presentation comparing and contrasting two ecosystems. Project specifics will be provided in class.

**Field Trips:** One or two field trips will be organized to visit local ecosystems. Field trips will be scheduled for weekend days, and you will need to provide your own transportation. Additional details will follow.

**Academic Honesty:** 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: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

**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 well-being are encouraged to utilize the university's counseling resources. The Counseling & 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:

- *University Counseling & Wellness Center*, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Training Programs
  - Community Provider Database
- *Career Resource Center*, First Floor, J. Wayne Reitz Union, 392-1601, [www.crc.ufl.edu](http://www.crc.ufl.edu)

**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](http://www.dso.ufl.edu).

**Course Topics and Schedule:** This schedule is tentative and subject to change based on the timing of fieldtrips, guest lecturer schedules, student interests, and current events.

Week	Date	Topic	Readings*
1	1/7/2014	Course Introduction	---
	1/9/2014	Introduction to Ecology	Pickett and Cadenasso, 2002
2	1/14/2014	Ecology of Florida	---
	1/16/2014	Ecosystem Services	MEA, 2005
3	1/21/2014	Introduction to Systems Ecology	Odum and Odum, 2001 (Ch. 4)
	1/23/2014	Ecosystem Metabolism	Lovett et al., 2006
4	1/28/2014	Material Cycles – Carbon, Water	---
	1/30/2014	Material Cycles – Nutrients	Hobbie et al., 1992
5	2/4/2014	Energy Flows and Trophic Levels	---
	2/6/2014	Ecological Succession & Self-Organization	Odum, 1969
6	2/11/2014	Biodiversity	Chick et al., 2004
	2/13/2014	Driving Forces: Climate	---
7	2/18/2014	Driving Forces: Hydrogeology	---
	2/20/2014	Growth and Population Models	Knight et al., 2005
8	2/25/2014	Catch-up	---
	2/27/2014	<b>Midterm Exam (In-Class)</b>	---
9	<b>3/4/2014</b>	<b>Spring Break, NO CLASS</b>	---
	<b>3/6/2014</b>	<b>Spring Break, NO CLASS</b>	---
10	3/11/2014	Flowing Waters: Rivers, Streams, Springs	Poff and Zimmerman, 2010
	3/13/2014	Flowing Waters: Rivers, Streams, Springs	Toth et al., 1998; Palmer et al., 2005
11	3/18/2014	Wetland Ecosystems	Mitsch and Gosselink, 2000
	3/20/2014	Wetland Ecosystems	Euliss et al., 2004
12	3/25/2014	Lakes: Introduction to Limnology	---
	3/27/2014	Lakes: Introduction to Limnology	Schaus et al., 2010
13	4/1/2014	Estuaries	Pennings et al., 2005
	4/3/2014	Estuaries	Orth et al., 2006
14	4/8/2014	Terrestrial Ecosystems	Hansen et al., 2013
	4/10/2014	Terrestrial Ecosystems	McLaughlin et al., 2013
15	4/15/2014	Ecological Restoration	Clewell and Aronson, 2005; van Diggelen et al., 2001
	4/17/2014	Ecological Restoration	Moreno-Matos et al., 2012
16	4/22/2014	Introduction to Ecological Engineering	---
	4/24/2014	Reading days, NO CLASS	---
17	<b>4/29/14</b>	<b>FINAL EXAM 29E: 5:30 – 7:30 PM</b>	

\*Readings are posted in the “Resources” section of the e-Learning site. ***Complete assigned readings prior to the class for which they are assigned, so we can discuss them in class; they will also be covered on quizzes.***