

Forest and Soil Ecosystem Services
University of Florida/University of Georgia
H. Enloe and L. A. Morris
Fall 2017

Course topic: Ecosystem services are the conditions and processes through which forest ecosystems, including their component soils and species, sustain and fulfill human life. These services include carbon sequestration, biodiversity, stabilization of hydrologic cycles, removal of air pollutants, aesthetic beauty, moderation of weather extremes and mitigation of natural disasters. Academic interest in ecosystem services was first evident in the refereed literature in the early 1980s but has gained significant stature only in the past decade and a half. Likewise, policy makers have increasingly focused on ecosystem services, developing new incentive schemes for production and payment of these services. This course is team taught at the University of Florida and the University of Georgia-Athens and is available only as a web-based course. Because of the web-based nature, this course is offered in a rather unique environment where students from both universities are expected to participate with each other via a discussion board.

Course Goal: This course will provide a systematic overview and basic understanding of the concept of forest and soil ecosystems services from an interdisciplinary perspective. Instructors and students come from two universities. By the end of the course, students will be familiar with the categories of forest and soil ecosystem services and be aware of different disciplinary approaches and literature on ecosystem services. **UF and UGA students enrolled for graduate credit (SWS 6932/FANR 5900) will develop a more detailed understanding of one forest or soil ecosystem service of their choice and present this service in a 10-minute or less PowerPoint or Video as their project. All students will concentrate on the course Discussion Board. Students will learn to bring unique and current information from all sources into the discussion.**

Pre-requisites: This course is open to undergraduates and graduate students. Graduates do a project, are expected to be additionally active on the discussion board and are given an extra part of exams. A basic course in Soil Science is helpful but not required. If needed, we will provide readings for additional background. We seek a wide range of experiences and interests among the students.

Here are some lessons learned from previous years that will benefit your course experience and grade:

1. Consistent and meaningful participation on the discussion board is required and is reflected in one's grade. The discussion board is the main forum of class participation and interaction. The lectures are on the website. You should have attended the lectures on your own time in order to intelligently participate in the discussions.
2. Just logging into the discussion board is not considered participation. The student must add significantly to the discussion via questions, answers and bringing in new articles or websites that apply. In short, this is not like a class that you can

- attend lectures and go home. This class is asynchronous...meaning you view lectures and participate in the discussion in your own time. In effect, you are always in class.
3. Each post on the discussion board is graded for quality, and your final grade is strongly influenced by the metrics related to your posts. A post that is graded as highest quality is one that brings more than one new source of information to the discussion. We expect each student to provide 3-5 posts per unit that provide analysis and insight. For example, in past classes we have students who earned an A average on the exams but did not participate in the discussions and ended up with only a C grade or lower. The question to ask during the course is: how well am I contributing to the discussion by learning from others and adding to the experience?
 4. The discussions can get far-ranging and can be controversial. Individual's political views may be expressed. All views are valid and all discussion is valid as long as it is done respectfully and backed up by credible evidence.

Contact Information

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Schedule of Topics

Schedule of Topics – Fall 2017

Unit 1 – Ecosystem Services (Aug. 21-27) – Enloe

What are ESs? How are ESs used in concepts of sustainability and conservation; what are the perceived economic values of ESs; how does one consider economic value of outside-the-market services; what are the Forest and Soil ESs?

**Unit 2 – Physical Regulatory and Support Ecosystem Services
(Aug. 28-Sept. 10) - Morris**

Water control and yield; Precipitation; Air Temperature; Slope stability/erosion; Soil conservation; Reclamation; Waste treatment

Exam 1 – Sep. 11-13 (Exams Due at Noon)

**Unit 3 – Chemical Regulatory and Support Ecosystem Services
(Sept. 13 - Sept. 24) – Enloe**

Water quality (filtering, water treatment, biological filtering, plant remediation); air quality; nutrient cycling; carbon sequestration.

**Unit 4 – Diversity as a Regulatory and Support Ecosystem Service
(Sep. 25 - Oct. 8) – Morris**

Biodiversity levels; measurement; importance; forest and soil functions; biodiversity loss and system function examples.

**Unit 4 - Provisioning Services
(Oct. 9 -Oct. 22) – Enloe**

Forest provisioning services: lumber and pulp, bioenergy; chemical extractives; charcoal; pine straw; soil provisioning services: landscaping medicinal, industrial, artistic; other.

Exam 2 – Oct 23 - Oct 25 (Exams due at Noon)

**Unit 6 - Cultural Ecosystem Services
(Oct. 26 - Nov. 5) - Morris**

Religious and sacred in tradition; indigenous peoples concepts; contemporary culture and imagery.

**Unit 7 – Economic valuation of Forest and Soil Ecosystem Services
(Nov. 6 - Nov. 19) - Enloe**

Valuation of ecosystem services: theoretical assumptions; the utilitarian approach of valuation; the ecological approach to valuation; a sociocultural approach to valuation; a dynamic integrated approach; a tool for modeling ecosystem (ecological) and the economic-ecological models; applications, possibilities and limitations

(Note: no classes Nov 20-25 due to Break at UGA)

Unit 8 - Putting it together
(Nov. 27-Dec. 3) – Enloe and Morris

Exam 3 - Dec. 4 - Dec. 6 (Exams due at Noon)

Course Details:

Operation of Class:

- a. Professors from the University of Florida and University of Georgia run the course. Students will interact with the faculty from both universities.
- b. Lecture, articles to read and class materials are available via the class website.
- c. Discussion will occur primarily via the discussion board where students from both universities will discuss class material and provide their input to questions posed by the professors and fellow students. **THE DISCUSSION BOARD IS MANDATORY AND VERY IMPORTANT. LACK OF PARTICIPATION ON THE DISCUSSION BOARD WILL DETRIMENTALLY AFFECT THE STUDENT'S GRADE.**
- d. For Graduate Students, a one-page proposal for a PowerPoint or video on a service of their interest, including a list of 3 - 6 key references, will be due by September 15. The final PowerPoint or video will be due November 13. Each exam will have additional questions for graduate students.
- e. Readings will be available through the course web site or the library; there is no assigned textbook.
- f. Students will find it necessary to find related materials from the web and library in order to participate in the discussion. Failure to participate and failure to bring in new information not provided by the course will adversely affect one's grade.

Methods of Assessment and Grading for graduate students:

Examinations:	45%
Bulletin Board Participation:	45%
Presentation:	10%

Methods of Assessment of Grading for undergraduate students:

Examinations:	60%
Bulletin Board Participation:	40%

University of Florida Additional Information

Attendance and Make-Up Work

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>.

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 are expected 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 <https://evaluations.ufl.edu>. 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. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

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/process/student-conduct-honor-code>.

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.

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/

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/*
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*

UGA Additional Information

UGA Academic Honesty Policy: All academic work must meet the standards described and contained in the University's academic honesty policy (see "A Culture of Honesty" www.uga.edu/ovpi). All students are responsible for informing themselves about these standards prior to competing any work.

The penalties for academic dishonesty are severe and ignorance and/or lack of understanding are not acceptable defenses (see "Sanctions for dishonesty" at www.uga.edu/ovpi) In this course it is expected that all students complete all work requested using their own initiative, resourcefulness and knowledge. All intellectual resources should be recognized