

FOR 5157

Ecosystem Restoration Principles and Practice

3 credits, offered every Fall semester

Instructor

Dr. Carrie Reinhardt Adams (Environmental Horticulture)
107 Bldg 68 (Mehrhof Complex)
352-273-4502
rein0050@ufl.edu

Communication with the instructor

I check email frequently, so this is a good way to ask me a quick question. Please use the ELearning course site email function. You can expect a response within 48 hours during the week, but communication over the weekend is limited. I'm also happy to discuss any course issues over the phone, though I am less accessible that way (greenhouse experiments and field work often keep me from my desk!), and we may need to schedule a "phone appointment".

Catalog course description

Application of ecological theory and economic and political constraints to restoration practice. Emphasis on regional, national, and international case studies.

Learning Objectives

1. Describe theoretical and technical knowledge from ecology, soils and other bio-physical sciences that form the scientific foundation for ecological restoration.
2. Discuss the socio-economic and policy and political dimensions of ecological restoration.
3. Examine examples of restoration case studies from critical ecosystem types across the U.S. and around the globe.

Course Format

The format for this course is entirely distance education-oriented. Course content is presented via lectures, video field trips, guest lectures, and required readings.

Readings

There is no required textbook for this course, rather, weekly readings are posted on the course website. Do the readings prior to viewing lectures, I will assume that you are familiar with the required readings prior to the lecture for that date. Readings support course material and are covered by exams and quizzes.

Lectures

Lectures form the basis of content delivery for this course. The lectures are provided weekly, and are given by myself, Shibu Jose, or a guest lecturer. We have provided PDFs of lecture slides for you to print and take notes if you would like.

Online discussion

Weekly online discussion provides an opportunity for students to interact and share ideas regarding material presented. These posts also give students an opportunity to think critically about the course material, and to share analysis and comprehension of the material with the instructor and classmates. Opportunity to post begins weekly on Mondays at 10am, and closes the following Monday at 10am.

Examples of appropriate discussion posts include:

- Describing how the reading or lecture fits into the larger context of the course.
- Noting any critical definitions, further defining or clarifying terms if needed.
- Posing a test question that would be appropriate for an upcoming exam (multiple choice, essay, or short answer) and the correct answer; well thought-out question may actually appear on the exam.
- Drawing parallels and inference to your work or study
- Follow-up comments or questions on a fellow student's discussion post

Leading the online discussion

Students are required to lead one online discussion for the semester. This includes

1. posting a question and the personal inspiration for it (must be posted by 10am on Monday morning of that week)
2. moderating the discussion between other students by responding to peer discussion posts
3. posting a summative comment on the discussion (must be posted by 10am on Monday of the following week)

You will be graded on your led discussion—this constitutes 10% of your grade, and you will be provided with a grading rubric to further define expectations.

Participating in the online discussion

Students are required to comment on the online discussion with at least one post each week. Posts must respond to the initial question posed or build on another peer's post. All posts should focus on class material, lecture or readings, but can be expanded to include personal experience or other helpful references. Limit all initial posts to 4 sentences. Posts that follow the initial post have no maximum or minimum limit.

You will be graded each week on your discussion posts—this constitutes 15% of your grade, and you will be provided with a grading rubric to further define expectations.

Quizzes and Exams

Two quizzes will address basic concepts from the readings and lectures. There will be two exams that cover application and synthesis of course concepts, consisting of multiple choice, essay, and short-answer questions. Look for class-authored exam questions from reading postings on the exams (see "Readings" above) for a helpful review for exams. *All exams and quizzes are closed-book.*

Extension Presentation Assignment

Teaching a topic that you see as critical to Restoration Principles and Practice will elevate your comprehension of course material and demonstrate your mastery of it. In consultation with the instructor, each student will choose a topic for an Extension Presentation. Preliminary topic choices should be submitted to the instructor by 10am Monday September 24; all topics should be approved by Monday, October 1, and the presentations themselves will be submitted by November 19. A minimum of 5 relevant *journal articles* should be used in preparing your presentation. A more detailed assignment description is available on ELearning.

Grading

Quiz 1	10
Exam 1	20
Quiz 2	10
Exam 2	20
Leading Online Discussion	10
Participation in Online Discussion	15
<u>Extension Presentation Assignment</u>	<u>15</u>
	100

Letter grades will be assigned as follows (note: 89.5 will be rounded to 90, 84.5 will be rounded to 85, etc) according to <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> :

94% and above	A	74% - 76	C
90-93%	A-	70-73%	C-
87 - 89%	B+	65% - 69	D+
84 - 86%	B	60% - 64	D
80-83%	B-	Below 60%	E
77 - 79%	C+		

Make-up Exam and Late Assignments Policy

Make-up exams will only be offered to those who obtain permission from me in advance, and who have a legitimate excuse. If you are unsure whether or not your situation qualifies, come see me immediately. I will generally require independent verification for emergencies that arise after the class meeting prior to the exam (e.g. doctor's note). The same policy holds for assignments.

For assignments not turned in on time, 10 percentage points will be subtracted from the original grade for each day that the assignment is late. An assignment is considered late if it is not handed in by 8pm on the day the assignment is due. No extensions will be granted.

Students are responsible for keeping track of dates of exams, quizzes, and assignment due dates as presented in the syllabus. Changes to these major dates will not be made, or if they do need to be altered, a class-wide ELearning "Announcement" will be made with email notification.

I (Incomplete)

An incomplete will be assigned at the discretion of the instructor when, due to extraordinary circumstances, a student is prevented from completing the work of the course on time. A written agreement between the instructor and student prior to the end of the semester is necessary to arrange for completion of the course.

Course Schedule

Week #	Topic	Reading
1 (week of the first day of class)	Course introduction, Principles of ecosystem restoration Part I	Clewell, A. 2004. International Primer on Ecological Restoration. www.ser.org
2	Principles of ecosystem restoration Parts II, and III	Funk, J.L. and S. McDaniel. 2010. Altering light availability to restore invaded forest: The predictive role of plant

		traits. <i>Restoration Ecology</i> 18 (6): 865-872. Kelly, J., S. Jose, J. D. Nichols, M. Bristow. 2009. Growth and physiological response of six Australian rainforest tree species to a light gradient. <i>Forest Ecology and Management</i> 257:287-293.
3	Principles of ecosystem restoration Part IV: Population/Communities/Ecosystems	O'Neill R.V. 2001. Is it time to bury the ecosystem concept? (With full military honors of course!). <i>Ecology</i> 82: 3275-3284
4	Basic soils and biogeochemistry and Reference ecosystems	Jasper D.A. 2007. Beneficial Soil Microorganisms of the Jarrah Forest and Their Recovery in Bauxite Mine Restoration in Southwestern Australia. <i>Restoration Ecology</i> 15: S74 - S84 Aronson, J., S. Dhillion, and E. LeFloch. 1995 On the need to select an ecosystem of reference, however imperfect. <i>Restoration Ecology</i> 3: 1-3.
5	Quiz 1	
6	Ecosystems: Wetlands	Aronson, M. F., and S. Galatowitsch. 2008. Long-term vegetation development of restored prairie pothole wetlands. <i>Wetlands</i> . 28: 883-895. Zedler, J. B., and J. C. Callaway. 1999. Tracking wetland restoration: Do mitigation sites follow desired trajectories? <i>Restoration Ecology</i> 7: 69-73.
7	Ecosystems: Coastal and river	Rood, S. B., G. M. Samuelson, J. H. Braatne, C. R. Gourley, F. M. R. Hughes, and J. M. Mahoney. 2005. Managing river flows to restore floodplain forests. <i>Frontiers in Ecology and the Environment</i> 3:193-201. Bernhardt, E.S., MA Palmer, JD Allan, G. Alexander, K. Barnas, S. Brooks, J. Carr, S. Clayton, C. Dahm, J. Follstad-Shah, D. Galat, S. Gloss, P. Goodwin, D. Hart, B. Hassett, R. Jenkinson, S. Katz, G. M. Kondolf, PS Lake, R. Lave, JL Meyer, TK O'Donnell, L. Pagano, B. Powell, E. Sudduth. 2009. Synthesizing US River Restoration Efforts. <i>Science</i> 208:636-637.
8	Ecosystems: Forests and succession, Mid-semester evaluations	
9	Exam 1	
10	Revegetation: invasive species, site preparation, herbicides, plant material	Ewel, J.J. and F. E. Putz. 2004. A place for alien species in ecosystem restoration. <i>Frontiers in Ecology and the Environment</i> 2 (7): 354-360 Zedler, J. B. and S. Kercher. 2004. Causes and consequences of invasive plants in wetlands: Opportunities, opportunists, and outcomes. <i>Critical Reviews in Plant</i>

		Sciences 23: 431-452. Video: seed collection with Nancy Bisset
11	Fire Guest lecture: Leda Kobziar, Assistant Professor UF School of Forest Resources and Conservation	Suazo, A. A., J.E. Fauth, J.D. Roth, C.L. Parkinson, I.J. Stout. 2009. Response of small rodents to habitat restoration and management for the imperiled Florida Scrub-Jay. <i>Biological Conservation</i> . 142: 2322-2328.
12	Species reintroductions: animals, genetic considerations	Menges, E.S. 2008 Restoration demography and genetics of plants: when is a translocation successful? <i>Australian Journal of Botany</i> 56: 187-196. Rice, K.J. and N.C. Emery. 2003. Managing microevolution: restoration in the face of global change. <i>Frontiers in Ecology and the Environment</i> 1:469-478.
13	Quiz 2	
14	Restoration Planning and Restoration Success	Miller, J.R. and R. J. Hobbs. 2007. Habitat restoration—do we know what we’re doing? <i>Restoration Ecology</i> 15: 382-390. Ruiz-Jaen and Aide. 2005. Restoration Success: How Is It Being Measured? <i>Restoration Ecology</i> 13(3) 569-577.
15	Extension Presentations by the class	
16	Final exam	

Academic Honesty, Software Use, UF Counseling Services, Services for Students with Disabilities

In 1995 the UF student body enacted a new honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students.

In adopting this honor code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the university community. Students who enroll at the university commit to holding themselves and their peers to the high standard of honor required by the honor code. Any individual who becomes aware of a violation of the honor code is bound by honor to take corrective action. The quality of a University of Florida education is dependent upon community acceptance and enforcement of the honor code.

The Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: **“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”**

The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating,

plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior.

Students should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court.

(Source: 2007-2008 Undergraduate Catalog)

It is assumed all work will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

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 crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. Both the Counseling Center and Student Mental Health Services provide 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 Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

- *University Counseling Center*, 301 Peabody Hall, 392-1575, www.counsel.ufl.edu
- *Career Resource Center*, CR-100 JWRU, 392-1602, www.crc.ufl.edu/
- *Student Mental Health Services*, Rm. 245 Student Health Care Center, 392-1171, www.shcc.ufl.edu/smhs/

Alcohol and Substance Abuse Program (ASAP)

Center for Sexual Assault / Abuse Recovery & Education (CARE)

Eating Disorders Program

Employee Assistance Program

Suicide Prevention Program

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.

0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/

Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> to submit a complaint.
