Landscape Ecology and Management

LAA 2532

Class Number: 15580

3 Credit Hours

Spring 2020
Rinker 230, Tues 1:55-3:50pm, Thurs 1:55-2:45pm

Instructors: Tom Hoctor
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Teaching Assistants: N/A

Office Hours: By appointment via email or as arranged during class

Course Website: http://lss.at.ufl.edu

Course Communications: Questions regarding this course may be submitted via email or during class sessions.

Required Text: Reading list is included in the syllabus and available on the class website

Course Description: The goal of this course is to develop the ability to make planning and design decisions based upon sound landscape management and maintenance practices through understanding and application of fundamental principles of ecology and landscape ecology.

Prerequisite Knowledge and Skills: No prerequisite courses are required. Strong verbal and writing skills will be highly valuable, and supplementary reading and writing courses may be advisable for students with English as a second language. Use of the UF reading and writing lab is encouraged for all students.

Purpose of Course: The purpose of this course is to develop the ability to make planning and design decisions based upon sound ecological landscape management and maintenance practices through understanding and application of fundamental principles of ecology and landscape ecology. At the end of the course, students should have an understanding of relevant ecological principles and landscape ecology, how ecology affects management and design decisions at both a regional and site scale, and an understanding of proper landscape maintenance practices and how they inform design.

Course Goals and/or Objectives: The primary objectives of this course are as follows:

- Develop an understanding of relevant ecology, plant ecology, conservation biology, landscape ecology and application to design and natural and cultural resource management.
- Further the ability to plan, design and maintain landscapes based upon sound ecological and landscape management principles.

Student Learning Outcomes: This course relates in the following ways to the student learning outcomes for the Bachelor of Landscape Architecture degree:

Content Knowledge:

• Refine students' knowledge base of ecology and its application to natural resource management.

• Develop a fundamental knowledge base of conservation biology and landscape ecology to understand their relevance to landscape design.

• Develop a basic understanding of landscape and resource management principles and practices that are based upon fundamental principles of ecology and landscape ecology.

- Develop an understanding of landscape maintenance practices and how maintenance considerations may influence design at the site level. This may include maintenance practices needed for different plants such as mowing, weed removal, and mulching; considerations such as hydro-zoning; maintenance considerations related to bed design; and knowledge related to integrated pest management.

Critical Thinking:

• Develop the ability to plan and design a variety of landscapes at multiple scales based upon sound ecological, resource management, and maintenance principles.

Teaching Philosophy: In this course we hope to foster a dynamic and collaborative learning environment for both students and instructors. Our goal is to guide students towards an understanding of landscape management, maintenance, and design practices based on a sound understanding of ecological processes.

Instructional Methods: Course instruction will be primarily based on lectures provided during class time, and potentially readings, discussions, guest lecturers, student presentations, and field trips.

Course Schedule (This schedule is an approximation: topics and dates may be modified as we progress through the material)

Week 1 (January 6-10):	Course Introduction; environmental degradation
Week 2 (January 13-17):	Ecological concepts
Week 3 (January 20-24):	Plant ecology
Week 4 (January 27-31):	Conservation biology
Week 5 (February 3-7):	Landscape ecology
Week 6 (February 10-14):	**Exam 1**; Habitat fragmentation
Week 7 (February 17-21):	Green infrastructure and ecosystem services

Week 8 (February 24-28): Wildlife corridors and ecological networks

Week 9 (March 2-6): **Spring Break**

Week 10 (March 9- 13): Road ecology; (**Exam 2 online);** Florida Ecosystems

Week 11 (March 16-20): Florida Ecosystems continued; Introduction to Landscape Management and Maintenance

- Introduction, intro to landscape management, management and maintenance plans
- Florida ecosystems continued

Week 12 (March 23-27): Large Scale Site Planning and Management Principles

- Row crop and ranchland management
- Upland forest management and ecosystems
- Sat: Possible Ordway Swisher Biological Station visit

Week 13 (March 31-April 3): Large Scale Site Planning and Management Principles

- No class (tentative, contingent on Saturday field trip)
- Wetland and watershed management (urban and natural) and ecosystems
- Sat: Possible Sweetwater Branch watershed tour

Week 14 (April 6-10) Small Scale Site Design and Maintenance Principles

- Intro to small scale site design and maintenance principles
- Florida Friendly Landscape principles

Week 15 (April 13-17) Small Scale Site Design and Maintenance Principles

- Possible trip to UF/IFAS Landscape Unit
- Firewise and coastal design

Week 16 (April 21-24) Final Exam Review

- Extra Credit/Field Trip Make-up: 1.5-2 page, single spaced paper, with proper in-text citations and works cited section on one of the following topics. Due date: May 1st
    - Visit and report on the Natural Areas Teaching Laboratory/SEEP, including purpose and management strategies
    - Visit and report on FFL techniques used in the Madera Subdivision
    - Report on Glen Springs impairment issues (locally) or springs impairment issues in NC Florida in general

Field Trips

There will be one to two Saturday field trips. These will occur in March/April, with the dates to be selected in the beginning of the semester based on student and location availability. A third field trip will be scheduled in April during a regularly scheduled Tuesday class period. This date will also be finalized at the beginning of the semester depending on location availability.

Required Readings

Book: Practical Ecology

Other journal and internet articles

Week 1 (January 6-8):

Vold, T. and D.A. Buffett (eds.). 2008. Ecological Concepts, Principles and Applications to Conservation, BC. www.biodiversitybc.org. Pages 1-3, 3 pages.

Week 2 (January 13-15):

Practical Ecology, Chapter 3, 14 pages.

Practical Ecology, Chapter 6, pages 118-127, 10 pages.

Week 3 (January 20-22):

Vold, T. and D.A. Buffett (eds.). 2008. Ecological Concepts, Principles and Applications to Conservation, BC. www.biodiversitybc.org. Pages 4-17, 14 pages.

Practical Ecology, Chapter 5, 19 pages.

Week 4 (January 27-29):
Landscape Ecology description: http://www.umass.edu/landeco/about/landeco.pdf. 7 pages.
Practical Ecology, Chapter 6, pages 93-118, 26 pages.
Week 5 (February 3-5):
No Readings; exam week
Week 6 (February 10-12):
Habitat fragmentation internet article, approximately 4 pages: http://www.eoearth.org/view/article/153225/
Week 7 (February 17-19):
Benedict, M. A. and E. T. McMahon. 2002. Green infrastructure: linking landscapes and communities. Renewable Resources Journal 20(3): 12-17. 6 pages.
Ecological Society of America. 2011. Ecosystem Services: A Primer.
http://www.actionbioscience.org/environment/esa.html. 1 page.
Week 8 (February 24-26):
Vold, T. and D.A. Buffett (eds.). 2008. Ecological Concepts, Principles and Applications to Conservation, BC. 36 pp. www.biodiversitybc.org. Pages 19-31, 13 pages.
Practical Ecology, Chapter 7, 20 pages.
Soulé, M. E. 1991. Land use planning and wildlife maintenance: guidelines for conserving wildlife in an urban landscape. Journal of the American Planning Association 57:313-323.

Supplemental (Voluntary) Readings
Articles and chapters
Hoctor, T. S., W. L. Allen, III, M. H. Carr, P. D. Zwick, E. Huntley, D. J. Smith, D. S. Maehr, R. Buch, and R. Hilsenbeck. 2008. Land corridors in the Southeast USA: connectivity to protect biodiversity and ecosystem services. Journal of Conservation Planning 4:90-122.
Groves, C. R., D. B. Jensen, L. L. Valutis, K. H. Redford, M. L. Shaffer, J. M. Scott, J. F. Baumgartner, J. V. Higgins, M. W. Beck, and M. G. Anderson. 2002. Planning for biodiversity conservation: putting conservation science into practice. BioScience 52:499-512.
Clevenger, A. P. and J. Wierzchowski. 2006. Maintaining and restoring connectivity in landscapes fragmented by roads. Pages 502-535 in K. R. Crooks and M. Sanjayan, editors. Connectivity Conservation. Cambridge University Press, Cambridge, UK.
Noss, R. F. 1996. Protected areas: how much is enough? Pages 91-120 in R. G. Wright, editor. National parks and protected areas: their role in environmental protection. Blackwell Science, Cambridge, Massachusetts.
Dugelby, B. L. 2010. Climate disruption and connectivity: toward a strategy for nature protection. Wildlands Network. http://www.twp.org/sites/default/files/Climate%20Paper_Full_FINAL-1.pdf

Books
Dramstad, W., J. D. Olson, and R.T.T. Forman. 1996. Landscape ecology principles in landscape architecture and land-use planning. Island Press, Washington DC.
Forman, R. T. T. 1995. Land mosaics: the ecology of landscapes and regions. Cambridge University Press, Cambridge, United Kingdom.

Resource Materials
Les Linscott Class Book

Grading Policies

Primary Tasks and Evaluation: We anticipate the following list of tasks and evaluation weightings for the semester.

Tasks	Percent of Grade
Exam 1	20%
Exam 2	20%
Conservation Ecology Assignment	20%
Final Exam	40%

Grading Scale: According to Departmental Policy, Landscape Architecture majors must receive a C or better to move forward. Any grade lower than a C will require that the course be taken over again. Grading will adhere to the University of Florida Grade Policy:

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Numeric Grade	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	0-59
Quality Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

Course Schedule

Schedule and Final Exam: The course schedule is provided above, and will be updated as needed. *Class meeting times are subject to possible change upon agreement with class.*

Course Policies

Attendance Policy: Attendance to class is mandatory. One unexcused absence is permitted. Each additional absence will lower the student's grade by 4%. Students are requested to contact an instructor if they will not be attending the discussion session. *Cell phone use is not acceptable in class except for emergencies and should be conducted outside of the studio.*

Assignment Policy: Students are expected to complete all assignments in a timely fashion, as well as actively participate in the discussion and combined group tasks. Timely completion of all project requirements is expected. Late work will be penalized 4% per day unless there is an acceptable excuse for the late submittal. Work submitted more than one week late will not be accepted.

Course Technology: All course content will be available through Canvas, UF's online learning portal unless otherwise specified. Students may access this site at https://lss.at.ufl.edu/ by

logging in with their UF credentials. All assignments are to be submitted to Canvas unless otherwise indicated.

All student work may be retained and used by the Department of Landscape Architecture. Digital Copies of student work for this course must be turned in at the completion of each assignment. No grades will be computed into the final course grade until digital submissions have been turned in as requested. Please follow the directions given by the instructor as to how they will be submitted (Canvas, CD, PDF, word file, etc.). However, all files must be named as follows:

UF Policies

University Policy on Accommodating Students with Disabilities: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

University Policy on Academic Misconduct: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at http://www.dso.ufl.edu/students.php.

**Netiquette: Communication Courtesy: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [Describe what is expected and what will occur as a result of improper behavior – http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf

Getting Help

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

Learning-support@ufl.edu
(352) 392-HELP - select option 2
https://lss.at.ufl.edu/help.shtml

** Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at http://www.distance.ufl.edu/getting-help for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

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

Disclaimer: *This syllabus represents current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*