

# Ecological Issues 1 in Sustainability & the Built Environment

DCP 6205 - 3 Credit Hours  
Sections 137D (SDM) & 137F (SDC)  
E-Learning Course  
Course website can be found at:  
<http://elearning.ufl.edu>

## Instructors

Dr. Tom Hctor (tomh@geoplan.ufl.edu)  
Prof. Michael Volk (mikevolk@ufl.edu)



Rural road near the University of Florida

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## Course Description

This course is organized in two sections, which set the stage for the following Ecological Issues 2 course. The first portion of the course is focused on landscape ecology and conservation principles, as they relate to understanding the broader functions of natural systems, landscapes, and potential impacts from human activities. The second portion of the course focuses on smaller scale site inventory and analysis, identifying and analyzing the natural and cultural characteristics of a site, and identifying opportunities and constraints for land use and development to mitigate human impacts. The Ecological Issues 2 course will follow this with more specific discussion of urban, site, and neighborhood design, adaptive management, and governance based on these topics.

## Course Purpose

To engage in sustainable design, individuals must understand natural processes and functions both at regional and site scales, and the impact of human activities on the natural environment. This course serves as an introduction to the many facets of this complex reality. Later courses will apply this information with specific discussion of urban, neighborhood, and site level design, adaptive management, and governance.

## Learning Objectives

By the end of the course students will:

- Be familiar with principles of healthy ecosystems and the benefits they provide people.
- Recognize the types and mechanisms of direct and indirect impacts of the built environment on terrestrial and aquatic ecosystems. (Direct impacts are those occurring due to land and water use.)
- Understand how to analyze a site or region to identify ecologically and socially compatible development strategies.

### Course Structure

This is a 9-week course. The Canvas course site will contain all course materials and grades. Content delivery and faculty interaction with students will occur through real-time online class sessions, and a student visit to Gainesville, Florida where field trips will be conducted. Instructors will present course topics in two modules (see schedule below). Each module will have required readings/review materials and learning assessments. Individual assessment due dates will be added to the Canvas course site.

### Textbook and Readings

Required readings will be provided via the Canvas course site and in class.

## **Course Policies**

### Attendance

Attendance to online class sessions and field trips is mandatory unless prior arrangements are made with the instructor. 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 an online class session. *Cell phone use is not acceptable in class except for emergencies and should be conducted outside of the classroom.*

### Assignments

Students are expected to complete all assignments by the posted due dates. If no prior arrangement is made with an instructor for a late submittal, each assignment will be reduced by a letter grade for each 24 hour period it is late.

### Communication

In addition to the weekly online class sessions, you can post questions and comments to each individual instructor or to the class via the Canvas course site or via direct email at the addresses listed above.

## **Grading Policies**

The weighting of module assessment grades to determine the final grade is below. *This and the course schedule that follows should be considered a general outline. A more specific outline of topics and course expectations will be provided prior to each module.*

Module 1: Conservation Ecology	50%
Module 2: Site inventory and Analysis	50%

Grades will be based on evidence that you have viewed the on-line presentations, done the assigned reading, participated in discussion sessions, and worked hard to understand and synthesize the material. We expect that all students should be able to accomplish a "B" grade, but will mark lower when a student does not show adequate understanding. "A" grades require exceptional quality, depth, synthesis of ideas, or creativity. Final letter grades will convert from numeric grade as follows:

A (≥ 92.5), A- (≥ 90.0), B+ (≥ 87.5), B (≥ 82.5), B- (≥ 80.0), C+ (≥ 77.5), C (≥ 72.5), C-(≥ 70.0), D+ (≥ 67.5), D (≥ 62.5), D-(≥ 60.0), and E (<60).

Where A=4.0, A-=3.67, B+=3.33, B=3.0, B-=2.67, C+=2.33, C=2.0, C-=1.67, D+=1.33, D=1.0, D-=0.67, E=0.0.

## UF Policies

University Policy on Accommodating Students with Disabilities: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

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>.

Communication Courtesy: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.  
<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](mailto: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.

## Schedule

Topic	Reading
Module 1: CONSERVATION ECOLOGY	
Dr. Tom Hctor	
Weeks 1 – 4, Oct 10 – Nov 4	
<ul style="list-style-type: none"> <li>• Introduction to module and ecological degradation</li> <li>• Ecological concepts and conservation biology</li> <li>• Landscape ecology</li> <li>• Green infrastructure and ecosystem services</li> <li>• Reserve design, wildlife corridors, and ecological networks</li> </ul>	<p>Introduction to module and ecological degradation</p> <ul style="list-style-type: none"> <li>• Vold, T. and D.A. Buffett (eds.). 2008. Ecological Concepts, Principles and Applications to Conservation, BC. 36 pp. <a href="http://www.biodiversitybc.org">www.biodiversitybc.org</a>. Pages 1-3, 3 pages.</li> <li>• <i>Practical Ecology</i>, Chapter 3, 14 pages.</li> </ul> <p>Ecological concepts and conservation biology</p> <ul style="list-style-type: none"> <li>• Vold, T. and D.A. Buffett (eds.). 2008. Ecological Concepts, Principles and Applications to Conservation, BC. 36 pp. <a href="http://www.biodiversitybc.org">www.biodiversitybc.org</a>. Pages 4-17, 14 pages.</li> <li>• <i>Practical Ecology</i>, Chapter 5, 19 pages.</li> <li>• <i>Practical Ecology</i>, Chapter 6, pages 118-127, 10 pages.</li> </ul> <p>Landscape ecology</p> <ul style="list-style-type: none"> <li>• <i>Practical Ecology</i>, Chapter 6, pages 93-118, 26 pages.</li> <li>• <a href="http://www.umass.edu/landeco/about/landeco.pdf">http://www.umass.edu/landeco/about/landeco.pdf</a>. 7 pages.</li> </ul> <p>Green infrastructure and Ecosystem Services</p> <ul style="list-style-type: none"> <li>• Benedict, M. A. and E. T. McMahon. 2002. Green infrastructure: linking landscapes and communities. <i>Renewable Resources Journal</i> 20(3): 12-17. 6 pages.</li> <li>• Ecological Society of America. 2011. Ecosystem Services: A Primer. <a href="http://www.actionbioscience.org/environment/esa.html">http://www.actionbioscience.org/environment/esa.html</a>. 1 page.</li> </ul> <p>Reserve design, wildlife corridors, and ecological networks</p>

	<ul style="list-style-type: none"> <li>• 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.</li> <li>• <i>Practical Ecology</i>, Chapter 7, 20 pages.</li> </ul>
<b>Module 2: SITE INVENTORY, ANALYSIS, AND SYNTHESIS</b> Prof. Michael Volk	
Weeks 5 – 9, Nov 7 – Dec 9	
<ul style="list-style-type: none"> <li>• Introduction and planning/design process</li> <li>• Geomorphology</li> <li>• Topography</li> <li>• Hydrology</li> <li>• Soils</li> <li>• Vegetation</li> <li>• Microclimate</li> <li>• Social and cultural context</li> <li>• Site synthesis process</li> </ul>	<b>Reference Readings/Materials</b> <ul style="list-style-type: none"> <li>• To be provided in class</li> </ul>

### **Disclaimer**

This syllabus represents our 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.

### **About the Instructors**

#### Dr. Tom Hctor

Tom Hctor is a Research Associate Professor in the Department of Landscape Architecture, Director of the Center for Landscape Conservation Planning, and a GeoPlan Center research associate at the University of Florida. He completed a B.A. in History and Science at Harvard University, and a Masters and Ph.D. in Conservation Biology and Landscape Ecology at the University of Florida. Dr. Hctor's research interests include the application of landscape ecology and conservation biology to regional planning, greenway and wildlife corridor design, large carnivore ecology and conservation, focal species habitat modeling, and GIS applications in conservation planning. He has served as a co-principal investigator on a variety of regional-scale conservation analysis and planning projects including the Florida Ecological Greenways Network, the U.S. Environmental Protection Agency's Southeastern Ecological Framework, the Nature Conservancy's ecoregional planning process, and the U.S. Fish and Wildlife Service's South Florida Multi-Species and Ecosystem Recovery Plan. His

current projects include the Century Commission for a Sustainable Florida Critical Lands and Waters Identification Project, the Florida Fish and Wildlife Conservation Commission Cooperative Conservation Blueprint, and the Southwest Florida Water Management District Land Use and Management Decision Support System.

Prof. Michael Volk

Michael Volk is a Florida registered Landscape Architect, partner at Volk Design Consultants, LLC, Research Assistant Professor in the Department of Landscape Architecture, and Project Coordinator for the UF Center for Landscape Conservation Planning. He has a Masters Degree in Landscape Architecture from the University of Florida and a degree in Architecture from the Frank Lloyd Wright School of Architecture. Michael has professional experience in planning and project management, specializing in work with historic and waterfront communities. His work with the Center for Landscape Conservation Planning includes work on regional conservation planning and research projects, including several current projects assessing sea level rise impacts on imperiled species and habitats in Florida.