GEOG 4216/5216 Landscape Ecology
Fall 2017

Meeting time: Thursdays, 2 - 4:45 pm
Location: McEniry 405
Course credits: 3
Instructor: Dr. Sara Gagné
Office: McEniry 319
E-mail: sgagne@uncc.edu
Office hours: Thursdays, 9 am - 12 pm, or by appointment.
Please use your UNCC e-mail address to contact me. I will not respond to e-mails from other addresses.

Teaching assistant: Grant Paton
E-mail: gpaton@uncc.edu
Office hours:

Course objectives

This course is intended as an introduction to the field of landscape ecology, the study of the interaction between spatial patterning and ecological processes. We will explore the theories and principles underlying the major themes in landscape ecology and delve into the applied aspects of the science. Lectures will be complemented by group discussions of a (roughly) weekly reading. Readings have been selected to provide you with a thorough understanding of the topics covered in lecture and/or to be representative of current research. Weekly discussions and short assignments are intended to sharpen your critical-thinking and communication skills. The course will culminate with a final exam intended to test your understanding of major concepts.

Assessment

Participation	10%
Reading presentation	15%
Pre-discussion summaries and critiques	30%
FRAGSTATS assignment	15%
Final exam (take-home questions)	30%

Grading scheme

A	90-100%	Excellent
B	80-89%	Good
C	70-79%	Fair
D	60-69%	Passing
F	<60%	Failing

Reading presentation

At the beginning of every discussion, one pair of students will present their summary of the assigned reading.

For conceptual articles, i.e., those not describing original research, the summary should describe:

- the need for article or the importance of the topic covered,
- the thesis of the article, i.e., the major point the author(s) is trying to get across,
- the major concepts described in the article; these should be explained so that they are understood by the class, and
- the article's conclusions or take-home messages.

For original research articles, the summary should describe:

- the research objective(s), goal(s), and/or question(s),
- the need for the research or its importance according to the author(s),
- the methods used to address the research objective(s)/goal(s)/question(s),
- the major results with reference to at least one table or figure; the figure or table should be explained to the class,
- the author(s)' explanation or interpretation of the results in the Discussion section, and
- the conclusions or take-home messages.

Presentations should be 15-20 minutes in length and structured around Powerpoint or Prezi slides. Your grade will reflect the degree to which you covered the above elements in your presentation.

Pre-discussion summaries and critiques

Pre-discussion summaries and critiques are intended to help structure your critical analysis of the reading and to help prepare you for the upcoming discussion.

Prior to each discussion, you are expected to submit: (1) an abstract-like summary of the reading (at least 300 words) that describes as many of the elements included in a summary presentation as possible, (2) the single most important take-home message from the reading, (3) three critiques of the reading that you will use as the basis for your comments during the discussion, and (4) a question you have about the reading that you want answered during the discussion.

Submit all four items in one document at the end of each discussion. The summary of the reading should be in paragraph form whereas items 2-4 can be in bullet form. Students doing a summary presentation for a reading do not have to submit a pre-discussion summary and critique that week.

Late policy

Deadlines for submission of work are clearly indicated in this syllabus. Late submissions will be accepted and graded according to the following schedule: work submitted up to 24 hours after the deadline will receive a 25% penalty; work submitted between 24 and 48 hours after the deadline will receive a 50% penalty; and work submitted more than 48 hours after the deadline will not be accepted.

UNC Charlotte Code of Student Responsibility

You are expected to observe the UNC Charlotte Code of Student Responsibility (see http://legal.uncc.edu/policies/up-406).

UNC Charlotte Code of Student Academic Integrity

You are expected to observe the UNC Charlotte Code of Student Academic Integrity (see http://legal.uncc.edu/policies/up-407). The Code prohibits cheating, the fabrication and falsification of information, multiple submission of the same work for credit, plagiarism, the abuse of academic materials, and complicity in academic dishonesty.

If you are unclear as to what constitutes a violation of the Code, please see the TA or me during office hours.

Students with disabilities

If you have a disability for which you wish to receive academic accommodations, please provide me with a letter of accommodation from the Office of Disability Services at the beginning of the semester. For more information about disability services go to http://ds.uncc.edu/.

Readings

Dorrough, J., & Ash, J. E. (1999). Using past and present habitat to predict the current distribution and abundance of a rare cryptic lizard, Delma impar (Pygopodidae). Australian Journal of Ecology, 24, 614–624.

Forman, R. T. T. (2002). The missing catalyst: design and planning with ecology roots. In B. Johnson & K. Hill (Eds.), Ecology and design: frameworks for learning (pp. 85-110). Washington, D.C.: Island Press.

Jackson, H. B., & L. Fahrig. (2015). Are ecologists conducting research at the optimal scale? Global Ecology and Biogeography, 24, 52-63.

Ricketts, T. H. (2001). The matrix matters: effective isolation in fragmented landscapes. The American Naturalist, 158, 87-99.

Ries, L., & Sisk, T. D. (2008). Butterfly edge effects are predicted by a simple model in a complex landscape. Oecologia, 156, 75-86.

Rodewald, A. D., Kearns, L. J., & Shustack, D. P. (2011). Anthropogenic resource subsidies decouple predator–prey relationships. Ecological Applications, 21, 936-943.

Rundlöf, M., & Smith, H. G. (2006). The effect of organic farming on butterfly diversity depends on landscape context. Journal of Applied Ecology, 43, 1121-1127.

Rytwinski, T., & L. Fahrig. (2011). Reproductive rate and body size predict road impacts on mammal abundance. Ecological Applications, 21, 589-600.

Wiens, J. A. (2002). Central concepts and issues of landscape ecology. In K. J. Gutzwiller (Ed.), Applying landscape ecology in biological conservation (pp. 3-21). New York: Springer-Verlag.

SCHEDULE (subject to change)

Week	Date	Topic
1	Aug 24	Introduction to course
2	Aug 31	What is landscape ecology? *Discussion: Wiens (2002)*
3	Sept 7	How is landscape structure quantified? *Begin FRAGSTATS assignment*
4	Sept 14	*Work on FRAGSTATS assignment*
5	Sept 21	The issue of scale *Discussion: Jackson & Fahrig (2015)*
6	Sept 28	Habitat fragmentation **FRAGSTATS assignment due**
7	Oct 5	Habitat edges *Discussion: Ries and Sisk (2008)*
8	Oct 12	Animal movement in human-altered landscapes *Discussion: Ricketts (2001)*
9	Oct 19	Landscape change *Discussion: Dorrough and Ash (1999)*
10	Oct 26	Road ecology *Discussion: Rytwinski & Fahrig (2011)*
11	Nov 2	The ecology of agricultural landscapes *Discussion: Rundlof and Smith (2006)*
12	Nov 9	Urban landscape ecology *Discussion: Rodewald et al. 2011*
13	Nov 16	Landscape conservation planning *Discussion: Forman (2002)*
14	Nov 23	THANKSGIVING - NO CLASS
15	Nov 30	Summary and take-home messages

The final exam period is Thursday, December 14th, 2 - 4:30 pm.