# Landscape Ecology





### Geography 335N, Spring 2011 MWF 11 AM, GRG 102

## Dr. Kenneth R. Young Department of Geography & the Environment, UT-Austin <u>kryoung@austin.utexas.edu</u> Office hours: Tuesdays, 10 AM-Noon, GRG 334-A

#### Course goals:

Landscape ecology is the study of spatial patterns in the Earth's biosphere and the processes that produce those patterns in landscapes, typically portions of the Earth measured in square kilometers. This interdisciplinary approach draws from ecology and geography, but is also a perspective increasingly shared with hydrologists, foresters, social scientists, landscape architects, and others. We will examine the current state of knowledge and research on the patches and corridors that constitute landscape mosaics. We will cover the possible causal explanations for landscape heterogeneity from geographical and ecological points of view. Finally, we will explore practical applications of landscape ecology to the study of natural environments and those managed or altered by human activities.

Students are expected to read the assigned chapters and participate actively in class. The exams will test knowledge, vocabulary, and the ability to apply concepts to novel situations.

**Prerequisites:** Assumes background in physical geography or ecology.

#### Required textbook:

David B. Lindenmayer and Joern Fischer. 2006. *Habitat Fragmentation and Landscape Change: An Ecological and Conservation Synthesis*. Island Press, Washington, DC. ISBN 1-59726-021-5 (paperback).

#### **Readings:**

D. B. Kintz, K. R. Young, and K. A. Crews-Meyer. 2006. Implications of land use/land cover change in the buffer zone of a national park in the tropical Andes. *Environmental Management* 38: 238-252.

J. A. Kupfer, G. P. Malanson, and S. B. Franklin. 2006. Not seeing the ocean for the islands: The mediating influence of matrix-based processes on forest fragmentation effects. *Global Ecology and Biogeography* 15: 8-20.

M. G. Turner. 2005. Landscape ecology: What is the state of the science? *Annual Review of Ecology and Systematics* 36: 319-344.

K. R. Young. 2009. Andean land use and biodiversity: Humanized landscapes in a time of change. *Annals of the Missouri Botanical Garden* 96: 492-507.

K. R. Young and R. J. Aspinall. 2006. Kalaidoscoping landscapes, shifting perspectives. *The Professional Geographer* 58: 436-447.

#### Grading:

1.) Three exams (vocabulary, short answer, short essay)--100 points each exam.

2.) Seven class projects--15 points each project, with lowest score dropped.

Final letter grades for the course are assigned by percentages of the 390 total possible points: ≥92%=A; 90-91.99%=A-; 88-89.99%=B+; 82-87.99=B; 80-81.99=B-; 78-79.99%=C+; 72-77.99%=C; 70-71.99%=C-; 68-69.99%=D+; 62-67.99%=D; 60-61.99%=D-; <60=F.

My lecture notes will **not** be available if you should miss a lecture; plan on getting them from someone else in the class; lecture powerpoints will be posted on blackboard several days after the lecture. The exams are based on the assigned readings (available on blackboard), the lectures, the powerpoints, and the class discussions and projects. Class attendance is very important for doing well. Note that the University of Texas at Austin provides upon request appropriate academic adjustments for qualified students with disabilities; for more information, contact the Office of the Dean of Students (471-6259, 471-4641).

<u>**Class projects:**</u> The seven 15-point projects are each based on participation in a group class exercise during the class period. The lowest score will be dropped, giving a total of 90 points possible. There will be no make-ups, so attendance is necessary to get credit.

**Teaching Assistant:** Maria José La Rota, mj.larota@mail.utexas.edu Office hours: Tuesday 3-5 PM, GRG 416

## Course schedule:

<u>Dates</u>	<u>Topics</u>	<u>Readings</u>
19 January	Introduction	
21-26 Jan.	Landscape change	Chaps. 1-3
28 Jan.	1 <sup>st</sup> Class Project	Young (2009)
31 Jan2 Feb.	Land Use/Land Cover	Chaps. 9-10
4 Feb.	2 <sup>nd</sup> Class Project	Kupfer et al. (2006)
7-14 Feb.	Edges/Connectivity	Chaps. 11-12
16 Feb.	First Exam (100 points)	
18-25 Feb	Disturbance/Matrix	Chaps. 13-15
28 Feb9 March	Geogr/Planning	Young&Aspinall (2006)
11 March	3 <sup>rd</sup> Class Project	
14-18 March	Spring Break	
21-23 March	Species	Chaps. 4-6
25 March	4 <sup>th</sup> Class Project	
28 March-1 Apr.	Species	Chaps. 7-8
4 April	Second Exam (100 point	s)
6 April	Research	Chaps. 16-17
8 April	5 <sup>th</sup> Class Project	Turner (2005)
11-15 April	ТВА	
18-20 April	Management	Chaps. 18-19
22 April	6 <sup>th</sup> Class Project	Kintz et al. (2006)
25-27 April	Conservation	Chap. 20

29 April	7 <sup>th</sup> Class Project
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2-6 May Global change Chap. 21; Young (2009)

16 May Final Exam (100 points; 2 PM)

