BIOLOGY 416 : LANDSCAPE ECOLOGY
(previosuly offered as . . .)
BIOLOGY 495 : SELECTED TOPICS – LANDSCAPE ECOLOGY : Spring 2008

John R. Thomlinson

Monday, 5:30 – 8:00 pm, SCC 1036. Prerequisite: Waived

Text: Forman, R. T. T. 1995. Land mosaics: The ecology of landscapes and regions. Cambridge UP, Cambridge. 632 pp.

Office: NSM A-141 Phone: 3382 Email: jthomlinson@csudh.edu

Office Hours: Tuesday & Wednesday 1:00 – 3:00 pm

To solve environmental problems we must look at the world in a holistic way. Landscape ecology provides a paradigm and a mechanism for doing just that. During the semester, students will learn what landscape ecology is and how to use its techniques for environmental analysis. We will study interrelationships among ecosystems in both a spatial and a temporal sense: in other words, how do ecosystems affect their neighbors, and how does the history of a patch of land affect its current conditions? Another approach is to see how abiotic, biotic, and historical factors and disturbance combine to shape present-day landscapes. Furthermore, we will look at how computer technologies, such as remote sensing, image analysis, and geographic information systems (GIS) can be used to study landscape characteristics.

Attendance is required for each class session, because I firmly believe that education works best when everyone participates. I will allow three unexcused absences: after that, any absences must be approved by me in advance. Each additional unapproved absence will carry a charge of 1 percentage point. I encourage questions in class, and from time to time we will have discussion sessions on an assigned journal article. **READ** all assigned chapters before coming to class. I know that all of you have very full schedules, but you will gain much more from the class sessions if you have some background knowledge of the topics to be covered, and you will, I hope, have questions about specific areas. All assignments will be due one week from the day announced. I do not allow make-up work unless there are compelling reasons (medical emergency, etc).

Grades will be assigned on a standard scale:

94 - 100: A	73 - 76: C
90 - 93: A-	70 - 72: C-
87 - 89: B+	67 - 69: D+
83 - 86: B	60 - 66: D
80 - 82: B-	0 - 59: F
77 - 79: C+	

Points will be awarded as follows:

Exam I:	20%
Exam II:	20%
Exam III:	20%
Project:	30%
Assignments:	10%

Academic Integrity: Cheating or plagiarism is subject to discipline as provided in Title 5, California Code of Regulations. See the University Catalog under Academic Integrity for further information. In particular, it is important to cite all your sources on assignments. If you have any questions on how to do that, please ask me.

CSUDH adheres to the Americans with Disabilities Act with respect to providing reasonable accommodations for students with temporary and permanent disabilities. To receive accommodation, students with disabilities must register with campus Disabled Student Services. For further information, access the University Catalog, Campus Services, Disabled Student Services.

Course Learning Outcomes

At the successful completion of the class, the student will be able to:

- Classify patches by origin, size, shape, and configuration
- Describe how those factors affect the structure, properties, and function of the landscape
- Predict effects of landscape and patch structure and function on ecosystem health and biodiversity
- Summarize how the three components a mosaic (patches, corridors, and matrix) interact
- Relate landscape linkages and flows
- Extrapolate results from one scale of landscape analysis to another
- Describe the types of disturbance that affect landscape structure and function
- State how the size, duration, frequency, and severity of disturbances interrelate
- Describe the causes of land transformation
- Describe the effects of these transformations on humans, nature, and the environment?
- Apply the most useful techniques for quantifying and describing landscape structure
- Examine how we, as decision makers, manage landscapes
- Define an environmental problem and develop solutions using concepts learned in the class

CLASS SCHEDULE

Date	Week	Class	Topics		Readings *
Jan 28	1	1,2	Intro to the class/Intro to landscape ecology	Chapter 1	
Feb 4	2	3	Patches		Chapters 2,4
Feb 11	3	4	Mosaics		Chapters 3,9
Feb 16	4	--	**Presidents' Day**		
Feb 25	5		**Exam I**		
Mar 3	6	5	Landscape Linkages		Chapters 5-8
Mar 10	7	6	Landscape Flows		Chapters 10,11
Mar 17	8	7	Scale		TBA
Mar 24	9	8	Disturbance		TBA
Mar 31	10	--	**Spring Break**		
Apr 7	11	--	**Exam II**		
Apr 14	12	9	Land-use Change		Chapters 12,16
Apr 21	13	9	Land-use Change		
Apr 28	14	10	Landscape numerical analysis		TBA
May 5	15	11	Landscape Management		Chapters 13,14
May 12	16	11	Review and overall discussion		

May 21 (Wednesday) **Final Exam** 5:30 – 7:30 pm

* These **must** be read **prior** to coming to class

The instructor reserves the right to change the syllabus as necessary.