Landscape Ecology
GEOG 4170/5170 [9894/9895], 3/4 credits
Dr. Jim Dyer
Spring 2014-2015
122 Clippinger
T Th 1:30-2:50
E-mail: dyer@ohio.edu
115 Clippinger
Office Hours: T Th 3:00-4:00, W 9:30-11:30

This course utilizes Blackboard

Landscape Ecology is an applied science that focuses on the development, consequences, and management of environmental patterns – the spatial distributions of species and the resources upon which they depend. This course explores the reciprocal relationship between pattern and process: how pattern is created on the landscape, its implication for populations, communities, and ecosystems, and how spatial pattern changes through time. Since humans are an important influence on landscape pattern, landscape ecology recognizes anthropogenic aspects of landscape pattern and change. An understanding of the principles of landscape ecology is critical for conservation biology, resource management, and other applied fields.

Learning Outcomes:
1. Understanding the importance of landscape pattern on ecological processes.
2. Awareness of technological tools (GIS, remote sensing, statistical approaches) used in assessing pattern on the landscape.
3. Understanding the implications of habitat loss and fragmentation for biological conservation.
4. Appreciation of addressing current issues such as corridors, fragmentation, and ecosystem management from a landscape perspective.

Text: There is no required textbook for the course; readings will be made available on the Blackboard site. Assigned readings (see schedule below) are designed to provide an overview of lecture topics, and/or provide relevant examples. Most are journal articles, and have been selected in part because of their “accessibility.” Students will be responsible for the readings on the exams, and should read the articles prior to lecture as preparation.

Grading: There will be two exams covering lecture and readings: a midterm and a non-cumulative final, each worth 100 points. The format of the exams will be primarily short essay – you will need to provide blue (green) books. Additionally, a final paper (or project) assignment is required of all students, also worth 100 points. Details are provided on a separate sheet. Finally, there will be several assignments based on in-class activities, amplifying lecture topics and worth 10-25 points each. Your final grade is based on the percentage of points you earn on all these assignments. Graduate students will be held to a higher standard on exams and with their written assignments.

Grading scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A-</td>
<td>90-92</td>
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<tr>
<td>B+</td>
<td>87-89</td>
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<tr>
<td>B</td>
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<td>B-</td>
<td>80-82</td>
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<td>C+</td>
<td>77-79</td>
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<td>C</td>
<td>73-76</td>
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<tr>
<td>C-</td>
<td>70-72</td>
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<tr>
<td>D+</td>
<td>67-69</td>
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<td>D</td>
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<td>D-</td>
<td>60-62</td>
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<td>F</td>
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It is a good practice to save all of your graded and returned assignments until you receive your grade for the course. Students having any special needs or disability that might affect their performance in this class are encouraged to speak to me at the start of the semester to discuss necessary arrangements.

纪律: 学术不端将不会被容忍。任何被发现在考试中作弊，或提交的练习完全或部分由他人准备的，将不能获得该作业的分数。剽窃（向他人展示你的想法或写作，或展示你作为他人的工作）在你的论文中将会导致“F”的成绩。所有学术不端的事件也可能会被报告到社区标准和学生责任办公室，可能会被施加额外的制裁。（对于构成学术不端行为的什么行为，参考其网页：http://www.ohio.edu/communitystandards/academic/students.cfm。）学生也可以通过成绩申诉程序提出任何学术制裁。
Seventy percent of success in life is showing up - Woody Allen. Students are expected to attend all lectures. If any topic is unclear after lecture, please stop in or e-mail me as soon as possible.

Classroom etiquette: It is disruptive to arrive late, or to get up and leave while class is still in session. If for some reason you can’t get to class on time or must leave early, please inform me beforehand. Unless special arrangements are made with me in advance, laptop computers are not permitted during class. Turn off or silence your cell phones and stow them away during class. (And no texting!)

TENTATIVE LECTURE SCHEDULE. Readings are available on the course Blackboard site

Jan 13/15
- Course Introduction: What is landscape ecology?.... Wiens 2008
- Landscape “patches”.......................... Pickett & Rogers 1997

Jan 20/22
- Edge effects ........................................ Harper et al. 2005
- Quantifying landscape pattern .................. Slonecker et al. 2012

Jan 27/29
- Technological tools: remote sensing & GIS
- Issues of scale ..................................... Wiens 1989

Feb 3/5
- Scaling techniques
- Corridors ......................................... Anderson & Jenkins 2006; Hilty et al. 2006a

Feb 10/12
- The matrix and habitat fragmentation ........ Hansen & DeFries 2007

Feb 17/19
- Agents of landscape pattern: environmental
  gradients and abiotic controls ..................... Swanson et al. 1988

Feb 24/26
- MIDTERM EXAM (February 26)
  [covering material through “the physical template”]

March 3/5
- SPRING BREAK

March 10/12
- Agents of landscape pattern: biotic processes .... Sprugel 1991

March 17/19
- Agents of landscape pattern: disturbance .......... Turner et al. 2003; McEwan et al. 2011

March 24/26
- Effect of landscape pattern on organisms:
  metapopulations ................................ Hilty et al. 2006b

March 31/April 2
- Effect of landscape pattern on organisms:
  conservation genetics ............................ Forman 1995

April 7/9
- “Applied” landscape ecology .................... Knight 1998; With 2005

April 14/16
- “Future landscape ecologies:”
  implications of global warming .................. Vos et al. 2008

April 21/23
- Field trip to the Ridges Land Lab
- In-class evaluations Thursday
- FINAL PAPER/PROJECT DUE SATURDAY 4/25 BY MIDNIGHT

FINAL EXAM: Tuesday, April 28, at 12:20 p.m.