Seminar in Biodiversity Conservation: Sustainable Landscapes

GRG 392M, Spring 2017
CLA 0.104, M 4-7 PM

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Course goals:
This course will use a graduate-student seminar format to examine the current state of knowledge about the goals and methods of biodiversity conservation, with special attention to issues of sustainability, from both environmental and social perspectives. Students will be expected to read the relevant scientific literature, to actively participate in class discussions, and to write three essays. The seminar is crafted to expose participants to the means of research and communication concerning the consequences of global change for both landscapes and biological diversity. New approaches for evaluating the sustainability of utilized landscapes and natural resources will be evaluated over the course of the semester.

Course schedule:
Part 1: New paradigms for addressing sustainability
Part 2: Ecosystem services
Part 3: Assessing and preparing for global change

Required textbooks:

Other readings:

Schedule:
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Textbook chapters</th>
<th>Other readings</th>
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<tbody>
<tr>
<td>23 Jan.</td>
<td>Introduction: Biodiversity</td>
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<tr>
<td>20 Feb.</td>
<td>Solutions</td>
<td>Sachs 9-11 (pick two)</td>
<td>Martin et al. (2014)</td>
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First essay due (50 points)

27 Feb.  Land use             Brown et al. 1-4 (pick two)
6 March  Quantifying carbon   Brown et al. 5-8 (pick two)
13 March Spring Break
20 March Doing research

Second essay due (50 points)

27 March Integrated approaches Brown et al. 9-12 (pick two)
3 April  Land policy           Brown et al. 13-19 (pick two)
10 April Evaluating sustainability Brown et al. 20; Sachs 12

Detailed outline of third essay due (20 points)

17 April Landscapes           Brown et al. 21; Sachs 13
24 April Sustainable futures Brown et al., 22; Sachs 14
Grading:

Essay #1---50 points
Essay #2---50 points
Essay #3 outline---20 points
Essay #3---100 points

In all cases of a written assignment, 10% of the value is based on an oral presentation in class on the day the assignment is due, while 90% is based on the written product. Final letter grades for the semester will be based on A, $\geq$92% of possible points; A-, 90-91.99%; B+, 88-89.99%; B, 82-87.99%; B-, 80-81.99%; C+, 78-79.99%; C, 72-77.99%; etc.

Assignments:

1.) Essay #1: This will be an essay written in the style and format of chapters in the Sachs book. It should choose one crucial research question involving sustainable landscapes, explaining its importance and laying out a possible research agenda for the future. It should be based on ideas and citations from one of the following readings: Boivin et al. (2016), McGill et al. (2015) or Urban et al. (2016). It should be 5 to 8 pages long (not including reference citations), double-spaced.

2.) Essay #2: This essay is to be written in the style and format of a research proposal (or preproposal): This is a two-to-three page proposal (single spaced) saying what, where, why, and how you would do research to extend or complete the studies described or mentioned in one of the chapters among the following readings: Brown et al., Chap. 5-12 or Sachs, Chap. 6-8. This proposal should be informed by (and cite when appropriate) the other readings assigned in the class, plus additional sources that are found to be useful. Section headings used must be: Research question, Previous studies, Specific objectives, Study area, Methods, Expected results, Budget, Literature cited. The maximum budget that may be requested is $100,000.

3.) Essay #3: This will be an essay written in the form of a literature review essay on one or more of the new paradigms discussed in this course. Write it in the style and format of Progress in Physical Geography or Progress in Human Geography. You should describe the current research being done on the specific topic(s) you chose and
predict future research trends. The essay should be 12 to 18 pages long, double spaced, and should utilize a minimum of fifteen references from the peer-reviewed scientific literature. This should be done in relation to the materials and topics covered in this course, but can focus on a place or process or species of particular interest. (Note that a detailed outline (accompanied by a brief class presentation) is due on 10 April, with the final paper (accompanied by a class presentation) due the last day of class, 1 May.