DRAFT SYLLABUS

NRE 510: FALL 2016
The science and practice of social change

Instructor: Victoria Campbell-Arvai  
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Telephone: 734-763-5245

Office: Dana 3503
Office hours: Or by appointment

The best and most reliable way to contact me is through email.

Lectures: Monday & Wednesday  
Location: 1040

Time: 8:30-10:00 am
Discussion Sections: Various (2 hours)

Graduate Student Instructor  |  Discussion Section |  Location |  Day & Time
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Course Description

Why did you decide to enroll in the School of Natural Resources & Environment? Like many of your fellow students, you are concerned about the health of the environment, the state of our natural resources, and the long-term sustainability of human society and ecosystems. Equally importantly, you want to take a scholarly approach to diagnosing and solving environmental and natural resource problems, establish a network of colleagues with which to collaborate, be exposed to current applied and theoretical approaches from relevant disciplines, and be inspired to make positive contributions to our world in your professional and personal life.

However, look around you. Your colleagues are from a variety of disciplines, and SNRE itself is made up of a variety of Fields of Study. How do you begin to speak to each other when you may not necessarily understand or appreciate the particular methods, methodology or epistemology of these other disciplines? Perhaps a more fundamental challenge is to recognize and constructively engage with other ways of ‘knowing’ the world around us. NRE 510 is designed to introduce key concepts and applications from the social sciences that shed light on how we influence and respond to the world around us. As no single course can cover all of the different perspectives and approaches from the many disciplines that make up the social sciences, we will instead cover a smaller number of key concepts, skills and applications. Core social science perspectives and related interventions are organized into three nested and interrelated modules: individual and household; communities and cities, and resources and the climate. These particular elements were chosen to reflect the strengths and interests of the SNRE community – but are also a reflection of current issues in environment and natural resources that encompass a variety of scales and contexts. This course, in addition to NRE 509 is part of the core course requirements in SNRE.

What can you expect from this class? This course is designed to help you:

1. Diagnose the causes and consequences of environmental and natural resource problems.
2. Evaluate the strengths and limitations of social science-based approaches to environmental and natural resource problems.
3. Identify specific social science concepts (approaches and interventions) that are relevant to your domain of interest.
4. Describe and compare how theories from the social sciences shape our understanding of environmental and natural resource problems and the identification of possible solutions.
5. Critically evaluate social science-based solutions to real-world environment and natural resource problems.
6. Apply social science research methods.
7. Collaborate and communicate effectively in interdisciplinary teams.

Course content (including assignments, topics and dates) is subject to change without notice, and at the discretion of the course instructor.
Course Organization
Our lecture times will present an opportunity to engage in discussion and work through exercises related to key social science concepts and applications. While much of your preparation will entail the reading and synthesis of primary literature, out of class exercises and opportunities for peer review and reflection will provide additional structure and guidance to your preparation. Wherever possible you will be directed to materials (news articles, websites, videos) that reflect relevant current events and debates related to these concepts. Guest lectures will be invited to provide additional insight and perspective. Our discussion sections will provide you with an opportunity to ask (and answer) questions related to materials covered in lecture, gather data, and work through data analysis, presentation, and interpretation. You will be working in teams for this part of the course.

How will you be assessed?
Your success in this class will be the result of preparation, participation, communication, teamwork, and engagement with the larger university community. The specific grade breakdown is as follows:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>% of GRADE</th>
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<tbody>
<tr>
<td>Class participation (lectures &amp; discussion sections)</td>
<td>10</td>
</tr>
<tr>
<td>Online submissions and in-class activities for discussion sections</td>
<td>15</td>
</tr>
<tr>
<td>Online discussions for lectures</td>
<td>10</td>
</tr>
<tr>
<td>Group Assignments (Assignments 1-3)</td>
<td>30</td>
</tr>
<tr>
<td>Independent Assignment</td>
<td>15</td>
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<tr>
<td>Final exam</td>
<td>20</td>
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<td>TOTAL</td>
<td>100</td>
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Is there a text?
There is no textbook. Readings (i.e., peer-reviewed journal articles, book chapters, white papers, newspaper articles, and web-based materials) and other resources (e.g., movies, TV clips, social media, etc.) will be assigned for each topic that we cover. Please see the course schedule for specific reading (and other) assignments; materials will be posted to Canvas.

Class participation and missed classes:
You will be expected to constructively participate in in-class discussions and activities, online discussion boards, and peer review/peer feedback. In-class and on-line participation will be assessed via self-, peer- and instructor (GSIs and VCA) evaluation. Details will be provided in class and posted to Canvas. Weekly attendance in your discussion section is mandatory.

Please make every effort to prepare for and attend class and your assigned discussion section. If you anticipate an absence, or if an unexpected event has prevented you from making it to class, please inform your instructor and GSI immediately. You are responsible for any material covered in lecture and discussion. Chronic lateness and poor attendance will be reflected in your participation grades.

Class preparation:
In the past I have suggested, as a general rule, to expect to devote 2-3 hours of preparation for every hour spent in class. Please use this formula as a rough heuristic (some weeks may be more, some less), and do not hesitate to speak with me if you are feeling overwhelmed by the material. Please note that articles may be assigned as pre-readings over the summer; please watch your email inbox for updates.

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Group assignments:

Assignment 1: For this assignment we will work with data from the University of Michigan ‘SCIP’ (Sustainability Cultural Indicators Program) to identify a hypothesis related to the performance of an environmentally significant behaviour (on or off campus). Working in groups, you will develop a hypothesis, conduct simple statistical analyses, interpret and discuss your results, and present your findings in a short written report. As part of this report, you will also propose a related ‘intervention’ to further support and encourage the pro-environmental behavior. Due October 11th.

Assignment 2: For this assignment you will have the opportunity to learn interview techniques and to apply this social science method to learn about people’s beliefs about urban nature. Working as a group, you will use a simple interview guide to gather data to address this question (due to time constraints, this data will be collected outside of class). Following data collection, you will interpret and discuss your results, and present your findings a short written report. Due November 8th.

Assignment 3: For this assignment you will participate in an experiment related to collective action. Working in groups, you will also analyse the resulting data, interpret and discuss your results, and present your findings in a short written report. Due December 6th.

Independent Assignment:
In this course you will learn about various tools and interventions for motivating and supporting behaviors and initiatives that help the environment and conserve natural resources; this assignment provides you with an opportunity to apply what you have learned in this course to develop a policy brief that describes or advocates for a social science-based intervention to address an environment or natural resource problem that is of interest to you. This assignment is due December 13th; interim due dates and further details will be provided in class and posted to Canvas.

Final Exam:
A final exam will be scheduled by the Office of the Registrar, and will occur during the university’s final exam period. This open-book exam will cover all material (lectures, assigned readings, assignments, websites, video presentations and any supplemental material) covered in lectures and discussions. Ultimately, this exam will provide you with an opportunity to reflect on what you have learned in this class, and how the material might inform your own work in the future. The exam may not be written early, and no makeup or deferred exam will be allowed unless proof of a university-approved, excused absence is provided in accordance with university rules.
Grading:

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<tbody>
<tr>
<td>97 - 100</td>
<td>A+</td>
<td>84-86</td>
<td>B</td>
<td>70-73</td>
</tr>
<tr>
<td>94 – 96</td>
<td>A</td>
<td>80-83</td>
<td>B-</td>
<td>67-69</td>
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<tr>
<td>90 – 93</td>
<td>A-</td>
<td>77-79</td>
<td>C+</td>
<td>64-66</td>
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<tr>
<td>87 – 89</td>
<td>B+</td>
<td>74-76</td>
<td>C</td>
<td>60-63</td>
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59% (+ below) = F

Policy for late assignments:
All assignments should be submitted to Canvas by 5 pm on the date specified (unless otherwise noted). Late assignments will be assessed a 5% penalty per day (or portion thereof).

Technology:
The use of laptops and tablets during class time is encouraged for note taking and research for in-class assignments only. Please refrain from accessing the Internet, social media platforms, and email for reasons other than those directly relevant to our class.

Principles of Conduct
The University of Michigan Rackham Graduate School includes a policy on Academic and Professional Integrity: “As members of this community, and as future leaders in research and the professions, all Rackham students are expected to take personal responsibility for understanding and observing the following standards of academic and professional behavior that safeguard the integrity of the academic mission of the University.”

http://www.rackham.umich.edu/current-students/policies/academic-policies/section11

Please familiarize yourself with this policy, particularly the section on Plagiarism and other forms of academic and professional misconduct.

Writing Help:
We can all benefit from feedback and constructive input on our writing from time to time. The Sweetland Writing Center offers a variety of writing workshops (to groups and individuals), seminars, and courses specifically designed for graduate students. Their web address is: https://www.lsa.umich.edu/sweetland/graduate

Accommodations for Students with Disabilities:
If you are a student with a documented disability who may require academic accommodation and have not registered with the Services for Students with Disabilities, please contact their office at (734) 763-3000 or email at ssdoffice@umich.edu. Students who have registered with the Disability Resource Centre are eligible for formal academic accommodation; please note that the University’s Policy is two weeks’ notice for any academic accommodation.
# COURSE SCHEDULE & TOPICS

<table>
<thead>
<tr>
<th>WEEK</th>
<th>MONDAY</th>
<th>WEDNESDAY</th>
<th>DISCUSSION SECTION</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>September 5: no class</strong></td>
<td>Introductions, course structure, course code of conduct.</td>
<td>Introduction to social science research; research with human subjects</td>
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<td></td>
<td><strong>Individuals and Households</strong></td>
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<tr>
<td>2</td>
<td>Introduction: Understanding pro-environmental behaviour (PEB)</td>
<td>Climate change concern and motivation to act</td>
<td>SCIP assignment (<strong>Assignment 1</strong>): developing a hypothesis</td>
</tr>
<tr>
<td>3</td>
<td>Predicting individual and household resource use (i.e., energy, water) and recycling</td>
<td>Interventions to promote energy and water conservation and recycling behavior</td>
<td>SCIP assignment: data analysis and interpretation</td>
</tr>
<tr>
<td>4</td>
<td><strong>Guest</strong>: Consumer demand, rationality and utility</td>
<td>Heuristics and Biases</td>
<td>Presenting and discussing SCIP results</td>
</tr>
<tr>
<td>5</td>
<td>Behavioral interventions: &quot;Nudges&quot;</td>
<td>The ethics and appropriateness of nudging</td>
<td>Discussion: Challenges and opportunities for encouraging PEB at the level of individual/household</td>
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<td></td>
<td><strong>Communities and Cities</strong></td>
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<tr>
<td>6</td>
<td>Introduction: Cities and sustainability</td>
<td>Urban greenspace, resilience and restoration</td>
<td>Interview assignment (<strong>Assignment 2</strong>): developing a research question and plan for study</td>
</tr>
<tr>
<td>7</td>
<td><strong>October 17: no class</strong></td>
<td>Community participation &amp; public engagement</td>
<td>Interview assignment: analysing results</td>
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<tr>
<td>8</td>
<td><strong>Guest</strong>: Collaborative planning</td>
<td>Resilience, adaptation, transformation &amp; transition</td>
<td>Presenting and discussing interview results</td>
</tr>
<tr>
<td>9</td>
<td><strong>Guest</strong>: Environmental Justice (Energy Justice)</td>
<td>Green infrastructure, ecosystem services &amp; civic ecology</td>
<td>Discussion: Challenges and opportunities for sustainable cities</td>
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<td></td>
<td><strong>Resources and the Environment</strong></td>
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<tr>
<td>10</td>
<td>Introduction: Resources and environmental governance</td>
<td>Tragedy of the Commons</td>
<td>Introduce collective action experiment (<strong>Assignment 3</strong>): Conduct experiment (in-class)</td>
</tr>
<tr>
<td>11</td>
<td>Social-ecological systems &amp; collective action</td>
<td><strong>Guest</strong>: Economic valuation of ecosystem services</td>
<td>Workshop: Progress Report and Peer Review of Independent Assignment</td>
</tr>
<tr>
<td>12</td>
<td>Payment for Ecosystem Services</td>
<td>REDD++ Program</td>
<td>Present and discuss Assignment 3 experiment results</td>
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</tbody>
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<table>
<thead>
<tr>
<th>13</th>
<th>Case Study: TBD</th>
<th>Guest: Case Study: Water governance in Brazil</th>
<th>Discussion: Challenges and opportunities for sustainable governance of resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Case Study: Sage Grouse Conservation</td>
<td>Guest: Case Study: Conservation in East Africa</td>
<td>Discussion: Ecomodenrist Manifesto &amp; Ecopragmatism</td>
</tr>
<tr>
<td>15</td>
<td>WRAP-UP</td>
<td>December 13: term ends</td>
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Schedule & topic details:

**Wednesday, September 7:** INTRODUCTION
- Course introduction, student introductions, and course code of conduct.

**Discussion Sections:**
- Introduction to social science research, research with human subjects
- **Selected Resources:**

**September 12-October 5:** INDIVIDUALS & HOUSEHOLDS
- **Cases:** Individual and household energy and water use, recycling and composting, climate change, campus sustainability

**Monday, September 12:**
- Introduction: Understanding pro-environmental behavior (PEB)
- **Selected Resources:**

**Wednesday, September 14:**
- Climate change concern and motivation to act
- **Selected Resources:**
Mon, September 19:

- Predicting individual and household resource use (i.e., energy, water) and recycling
- Selected Resources:

Wed, September 21:

- Interventions to support pro-environmental behaviour
- Selected Resources:
  - Water Smart: www.watersmart.com
  - OPower: www.opower.com
  - Community-based social marketing: http://www.cbsm.com/public/world.lasso

Mon, September 26:

- Consumer demand, rationality and utility (Guest)
  - Resources: TBD

Wed, September 28:

- Heuristics and biases
- Selected Resources:
  - Kahneman, D., et al. (2011). Before you make that big decision... HBR Reprint R1106B.
Monday, October 3:
- “Nudging” in resource and environmental contexts
- **Selected Resources:**

Wednesday, October 5:
- The ethics and appropriateness of “nudges”
- **Selected Resources:**

October 10-November 2: COMMUNITIES & CITIES
*Cases:* Urban agriculture, urban gardens, urban biodiversity, green infrastructure, community engagement (e.g., Ann Arbor, Calgary, Detroit, Portland (OR), Seoul, Toronto)

Monday, October 10:
- Introduction: Communities, cities & regions
- **Selected Resources:**


o Cities and biodiversity: http://www.cbc.iclei.org/home


Wednesday, October 12:
- Urban greenspace, resilience and restoration
  - Selected Resources:

Monday, October 17: No class

Wednesday, October 19:
- Community participation and engagement
  - Selected Resources:

Monday, October 24:
- Participatory urban planning (Guest)
• **Resources:**
  o TBD

**Wednesday, October 26:**
• Resilience, adaptation and transformation
• **Selected Resources:**
  o IPCC Working Group II: [https://www.ipcc-wg2.gov/AR5/](https://www.ipcc-wg2.gov/AR5/) (Summary for Policymakers)
  o Wildsight (Kimberley/Cranbrook BC Food Sustainability Projects): [http://www.wildsight.ca/about](http://www.wildsight.ca/about)

**Monday, October 31:**
• Environmental Justice (Guest)
• **Resources:**
  o TBD

**Wednesday, November 2:**
• Green infrastructure, ecosystem services and civic ecology
• **Selected Resources:**

**November 7-December 12: RESOURCES AND THE ENVIRONMENT**
• Cases: Climate, forests, watersheds, endangered species & habitats (US and international)

Monday, November 7:
• Introduction: Resources and environmental governance
• Selected Resources:

Wednesday, November 9:
• Tragedy of the commons
• Selected Resources:

Monday, November 14:
• Social-ecological systems and collective action
• Selected Resources:

Wednesday, November 16:
• Economic valuation of ecosystem services (Guest)
• Resources:
  o TBD
Monday, November 21:
- Payment for Ecosystem Services Program (PES)
- Selected Resources:

Wednesday, November 23:
- REDD+ Program
- Selected Resources:
  - http://theredddesk.org/what-is-redd

Monday, November 28:
- Case Study: TBD

Wednesday, November 30:
- Case Study: Water governance in Brazil (Guest)
- Resources:
  - TBD

Monday, December 5:
- Case Study: Greater Sage Grouse Conservation
- Selected Resources:
o USDA Natural Resources Conservation Service: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/initiatives/?cid=STE LDEVB1027671

Wednesday, December 7:
• Case Study: Lion conservation in East Africa (Guest)
• Resources:
  o TBD

Discussion Sections:
• Ecological modernization and ecopragmatism
• Selected Resources:
  o An Ecomodernist Manifesto: www.ecomodernism.org

Monday, December 12:
• Wrap-up