CSS 566: Advanced Field Ecology Course Design

I. General class information

Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through Disability Support Services located in the Idaho Commons Building, Room 306 in order to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course.

∙ 885-6307
∙ email at <dss@uidaho.edu>
∙ website at <www.access.uidaho.edu>

Course Credits: 5

Class description

By the end of the course we want you to have some literacy related to two big topics that are very important to our region (Climate change and its impact on water resources in the Pacific Northwest, and the potential for developing biofuels from woody biomass “waste”). Literacy in these topics means being able to consume scientific literature, to distill the key concepts that “the public” (i.e. students, teachers and communities) need to understand, and being able to translate science concepts into layman terms.

Secondly, we want you to be able to understand the social ramifications of these topics and the human values the people bring to their understanding of these topics. These prior two objectives will then be translated into a curriculum for K-12 students.

Finally, we want you to consider the leadership applications that are relevant to these issues. Specifically, we will focus a leadership lens on 1) the process of each group collaborating and working toward a shared goal 2) developing an understanding of the leadership challenges associated with addressing complex issues (climate change or fuel consumption).

This class will include reading and discussing primary literature on these topics, interviewing social scientists and stakeholders, collaborating with your peers to create educational and communication products, and developing new ideas for solutions and strategies for communities to deal with these complex issues.

General CSS Learning Objectives Addressed in this Course:

- Communicate Sensibly: Create and practice effective oral, written, and graphic communication with diverse audiences, especially stakeholders in conservation. (Central)

- Develop Plans and Solve Problems: Apply appropriate theoretical and applied frameworks from the social and management sciences to practice field level conservation, and nature-based recreation and tourism management. (Supportive)

- Engage People and Lead: Employ effective and principled leadership practices, persuasive communication approaches, formal and non-formal education techniques, and/or collaborative processes to bring together a diversity of perspectives to address concerns of the publics associated with conservation and sustainability. (Central)

- Evaluate and Use Basic Social Science Research: Gather, critically evaluate and use appropriate scientific research materials (e.g., scientific sources, secondary socio-demographic data) and
employ selected methodologies (e.g., survey research, and observation) specific to social science aspects of conservation. (Central)

- Recognize Conservation Policy: Identify and understand the development of policy and the application of regulations used in conservation planning and management at various landscape levels (e.g., land parcel, community, region, ecosystem, watershed, or a cultural landscape). (Central)

- Use Hard and Soft Technological Applications: Analyze, interpret, respond to, and be able to use current technologies (e.g., GPS, GIS, statistical packages, environmental and social assessment techniques, and word processing software) in creating, managing, and delivering conservation programs. (Supportive)

- Use Planning and Management Principles to solve problems: Use sound management skills and processes (e.g., appropriate theoretical and applied frameworks, decision making, and strategic planning) to productively address conservation problems and deliver results. (Supportive)

Specific Course Learning Objectives:

- Further develop your skills to find, consume, organize, and summarize scientific literature
- Increase Your Energy & Climate Literacy
- Develop semester-long project planning skills
- Develop an Understanding of Social components of each issue
- Develop Curriculum Design Skills and effective Communication of Issues
- Analyze the Role of Group Leadership in Solving these Problems
- Learn and apply peer-review process

Contact information

Instructors: Jan Eitel (jeitel@uidaho.edu), Justin Hougham (rhougham@uidaho.edu), Karla Eitel (kbradley@uidaho.edu), Gary Thompson (garyt@uidaho.edu) and Jenny Schon (jschon@uidaho.edu)

Office hours: By appointment

Location: Cabin 8 and outside. Important: Some part of the class will be outside so please bring appropriate clothing.

Assignments and Grading

Assignments:

- Team agreement and workplan (10 points)
- Literature Review (15 points)
- Contributions to the Climate Change or Energy Literacy Matrix (5)
- Short Video (15 points)
- Lesson Plans (25 points)
- Presentation of final product (20 points)
- Participation (10 points)

Grading basis: A/F
A = 90%, B = 80%, C = 70%, D = 60%
For more details on grading criteria please see
http://ecosensing.org/teaching/css-566/resources/grading-criteria

Class website

http://ecosensing.org/teaching/css-566/

Readings

Please make sure to do all the assigned readings before class. This will be particularly important for this class since many of the in-class activities such as group discussions will be based on the assigned reading material. All assigned readings are available on our class website:

http://ecosensing.org/teaching/css-566/readings-2/
## II. Class schedule

### Week 1: Understanding the science

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<th>Day</th>
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<td>Date / Hours</td>
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<tr>
<td>Topic</td>
<td>Class introduction EPSCoR</td>
<td>NARA Aviation biofuels</td>
<td>Reading and organizing scientific literature (Divide into Climate and BioFuels Teams)</td>
<td>Presentations of journal articles and discussion</td>
<td>Presentations of key concepts from the literature</td>
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<tr>
<td></td>
<td>EPSCoR Water resources in a changing climate</td>
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<td>Start developing team agreement and work plan</td>
<td>Theories of communicating science</td>
<td>Presentation of team agreement and work plan</td>
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<tr>
<td>Products Due</td>
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<td></td>
<td></td>
<td></td>
<td>Team agreement and work plan</td>
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<td>Bring to class</td>
<td>- Laptop computer</td>
<td>- If possible, bring personal laptop computer</td>
<td>- Install free reference manager “Mendeley” on your personal computer (<a href="http://mendeley">http://mendeley</a>)</td>
<td>- Bring your Vandal Card</td>
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<td>Outside</td>
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### Week 2: Understanding the Social Component*
*First “Week 2” will explore Climate Change
*Second “Week 2” will explore Biofuels

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<tr>
<td>Topic</td>
<td>Review the issues and define the scope. Social values.</td>
<td>What do people think about this topic? Conduct interviews in the community</td>
<td>How do outreach communication specialists communicate with the public, and what do they hear?</td>
<td>Synthesize findings</td>
<td>Make a video that represents key concepts of the issue and the diversity of perspectives that you find</td>
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<tr>
<td>Products Due</td>
<td>Literature review, products uploaded to matrix</td>
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<td>Synthesis of key concepts and key findings</td>
<td>Video</td>
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<td>Bring to class</td>
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### Week 3: Translating Science into Curriculum and Communication Products

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<tr>
<td>Topic</td>
<td>Backwards Design</td>
<td>Differentiation &amp; Assessment Design</td>
<td>Work Day</td>
<td>Qualitative and Quantitative Analysis??</td>
<td>Present drafts of products</td>
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<td>Products Due</td>
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<td>5-day high school program, lesson plans, for the “matrix” and assessment tools for both</td>
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<td>Bring to class</td>
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### Week 4: Presentations of Final Products