Spring 2021 ENVS-6410-LW1 XL Syllabus

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Instructional method: Interactive web broadcast via Zoom, Tuesdays & Thursdays, 10:30-11:45 am; readings and assignments accessed and submitted via Canvas

"Office" hours: During the pandemic I'll be working mostly from home. The easiest way to contact me is via email. For a real-time conversation, email (or Canvas-message) me and we can set up a Zoom conversation at a mutually convenient time.

Course purpose:

The environmental problems our society faces are increasingly more dire and complex. Research can improve our understanding of these challenges and how to address them, but in an era of crumbling trust in institutions, many people see environmental science as disconnected from real-world concerns. Scientists must develop skills to make and keep their work relevant to the broader society. That's what this course is about.

Translational ecology is "an approach in which ecologists, stakeholders, and decision makers work together to develop research that addresses the sociological, ecological, and political contexts of an environmental problem" (Enquist et al. 2017). At a recent visioning session, the Ecological Society of America's Student Section concluded that "ad hoc communication by all ecologists is insufficient; translational ecologists should be hired in every department and formal training in translational ecology is necessary" (Hansen et al. 2018). ENVS 6410, first taught in 2011, was the nation's first university graduate course designed to offer that formal training.

We will examine the concepts of and basis for translational ecology, explore relationships between environmental science and society, and develop and hone translational skills. ***The ultimate goal is to help you think about the broader impacts of your research and the ways your work can make a real difference.***

Course procedures and expectations:

As is typical for graduate seminar courses, we'll be discussing assigned readings and their broader implications. Most weeks, our Tuesdays will be dedicated to these discussions, and our Thursdays to skill-building and application of concepts – i.e., exercising translational skills in whole-class or breakout-room sessions.

A complete list of the readings, with full citations, is available here: ENVS 6410 complete reading list 2021.docx (https://usu.instructure.com/courses/639327/files/79732910?verifier=W1vuecHnZPuYs3uS4bDYWtn0lXNVMwgwk5P5kPNA&wrap=1)

I'll expect you to have read all assigned articles prior to class. We will discuss the need for translational science, how science is perceived by laypersons, the sociology of science as an endeavor, how and why science is communicated with various audiences including policy makers as well as the general public, and ways to engage the intended beneficiaries of ecology/environment research in the scientific process. Then we'll try to practice what the experts preach, and ***have fun doing it!***

Grading will be based on continued engagement, both in skill-building activities and in scholarly discussions. I'll ask you to lead discussion of 1-2 articles once in the semester, and to take part in a collaborative project toward the end of the course where group members will collectively identify an environmental science problem of mutual interest, then develop an outreach product (pamphlet, web page, video, etc.) that can describe the problem and what science is doing to solve it.

I'm more interested in your participation in class activities than in a subjective evaluation of the quality of work you produce. We're at different career stages, studying a topic that only recently has attracted attention of scholars or environmental professionals. It makes little sense to judge your mastery of a subject matter that is still in flux; instead I'll look at your commitment to the concepts and practices of translational science.

I'll use Canvas to upload materials that can be accessed by all the others, including articles to read, PowerPoint presentations, videos annotated drafts of blog posts - anything I think you might find interesting and/or useful. I'm hoping there's no cost to you beyond tuition.

Learning objectives

Here are the learning objectives for the course (and their relation to *USU's over-arching learning objectives* as defined in the IDEA course evaluation process):

- To gain a basic understanding of theories of socio-environmental system resilience, science policy, and public understanding of science (*learning fundamental principles, generalizations, or theories)*
- To apply theories of society-environment interaction to problems involving discontinuities among environmental science, policy and management (*learning to apply course material to improve thinking, problem solving, and decisions)*
- To identify and compare approaches that are said to enhance public participation in scientific research (*developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course)*
- To improve ability to communicate effectively with non-scientific audiences (*developing specific skills, competencies, and points of view needed by professionals; developing skill in expressing oneself orally or in writing)*