Instructor: Mark Brunson (Mark.Brunson@usu.edu); office/voicemail 435-797-2458

Instructional method: Meet in Technology 107, Tuesdays & Thursdays, 10:30-11:45 am. Readings and assignments can be accessed and submitted via Canvas.

Office hours: Contact me via email or Canvas message and we can set up a conversation in my office or via Zoom at a time that’s convenient for both of us.

Course purpose:
The world's environmental problems are increasingly dire and complex. Research can help us address these challenges, but in an era of crumbling trust, many people see 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 combines communication and engagement skills with ecological and social science principles to help "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). The Ecological Society of America’s Student Section recently 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). This course, first taught in 2011, was the nation's first university graduate course to offer that formal training.

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

Course procedures and expectations:
As in most graduate seminar courses, we’ll discuss assigned readings and their broader implications. Tuesdays typically will be dedicated to these discussions. On Thursdays we’ll engage in skill-building and application of concepts, developing translational skills in whole-class or breakout-room sessions.

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!

I'll ask you each to lead discussion of a scientific article, and to take part in a collaborative project where group members collectively identify an environmental science problem of mutual interest, then develop an outreach product (pamphlet, web page, video, etc.) or engagement activity that describes the problem and what science is doing to help solve it.

Grading is based on continued engagement in skill-building activities and scholarly discussions. I'm more interested in your active participation than in subjectively evaluating 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.

On our Canvas site you'll find 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)