

# ESM 514: Collaborative interdisciplinary research

## Winter 2019

### Instructors

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### Logistics

Mondays; 1:30-3:00; Bren

Additional days will be scheduled to replace holidays

### Overview

One of the unique aspects of Bren's Ph.D. training is its emphasis on communication between and among disciplines. This class seeks to give you some preparation for this daunting challenge. We'll review research and perspectives that seek to assess whether, why and how to engage in interdisciplinary research. Recognizing that interdisciplinary research skills are best learned through practice, much of the class will be directed towards developing a group research project. This synthesis will address some aspect of this natural science – social science intersection. Past classes have produced several published research papers (although this takes more time than the allocated 10 weeks).

### Schedule

#### Week 1

Interdisciplinary skills

Discussion of readings on the risks and rewards of interdisciplinary research:

- [Managing Earth's Ecosystems: An interdisciplinary challenge](#), Daily and Ehrlich, 1999
- [Interdisciplinary research has consistently lower funding success](#), Bronham et al., 2016

Research project

Robert and Dave introduce proposed research topic.

Students choose additional readings.

#### Week 2

Interdisciplinary skills

Discussion of readings on challenges and tools for successful interdisciplinary research

- Overcoming obstacles to interdisciplinary research, Campbell 2005

- Ten tips for interdisciplinary researchers: A guide for aspiring socio-ecological researchers and their mentors, Kelly et al., in review.

#### Research project

Discussion of chosen readings. Students select and assign topic areas for further review and synthesis for presentations during weeks 3-4.

#### Week 3 (to be rescheduled)

##### Interdisciplinary skills

Discussion of ways to communicate and understand across disciplines:

- Employing philosophical dialogue in collaborative science, Eigenbrode et al., 2007

#### Research project

Present initial literature reviews.

#### Week 4

##### Research project

Present initial literature reviews.

#### Week 5

##### Research project

Clarify research question. Develop framework to integrate literature reviews. Assign writing tasks.

#### Week 6

##### Research project

Workshop writing. Integrate into a single document.

#### Week 7 (to be rescheduled)

##### Research project

Review integrated document. Decide on schedule for the rest of the quarter.

#### Weeks 8-9

##### Research project

Continued analysis, writing and editing.

#### Week 10

##### Interdisciplinary skills

Reflection on interdisciplinary experience – what has worked for you?

##### Research project

Review current document. Plan for continued progress on paper.