ESM 296-2W - Equity in Environmental Science and Management [2 units]

Hunter Lenihan

Existing web description: Students will explore how equity and justice are integrated within a broad spectrum of social and natural environmental sciences being conducted by Bren faculty and their collaborators. The science and perspectives of Bren faculty will be examined through the dissection of literature and in-depth interviews conducted in open forums. Students will write a paper to help us broaden as well as sharpen our collective understanding of equity and 'ej' in scientific research, and its application in environmental problem solving.

Schedule Overview
Fridays; BH 1414; 12:30 - 1:45 pm, BH 1424 12:30 - 1:45pm on 1 March.
Class to be held on the following dates: 11, 18, 25 January; 1 and 22 February; 1, 8, and 15 March.

Course content and format
Justice and equity in environmental science and management ("EJ") have become hot topics at Bren. Recent program evaluations by Bren students have revealed a burning desire to more directly and purposefully address equity and justice in environmental problem solving, in part by offering courses that explore ideas from the world's EJ experts. The recent course taught by Dr. Lisa Leombruni helped meet student demand by exploring foundational themes in EJ through invited speakers and EJ-specific literature. A major theme in the course was assessing the degree ethics are addressed in the development of environmental policy concerning, for example, Pollution Prevention and Remediation, Energy and Climate, Coastal Management, Fisheries, Law, and Corporate Environmental Management.

The focus of this Winter Quarter's course offering in EJ, ESM 296-2W, is to examine the degree to which EJ is integrated in environmental science practiced at Bren, and to develop ideas for how our science might improve through further inclusion of EJ.

Bren faculty conducts research that is pushing the boundaries of environmental science. The objective of the research is often to solve real world problems and develop more effective environmental policies and institutions. Whether and to what degree EJ is integrated into the broad spectrum of on-going Bren research is not well understood. Part of the problem may be that science at Bren uses other definitions, labels, concepts, and perspectives to describe EJ-related issues. The focus of the winter course is to partner with our student body, some now well-versed in foundational ideas of EJ, to examine the ways in which EJ-related research is being conducted at Bren, and to explore ideas and opportunities for better integrating EJ into future research. Course objectives will be pursued through in-class interviews with Bren faculty who conduct research in resource economics (Costello, Jack, and Meng), Coastal Resource

Management (Lenihan), Political Science (Buntaine and Anderson), and Conservation Planning (Larsen and Plantinga). In addition, Dr. Borjas Reguero, a renowned TNC coastal geologist and coral reef scientist, will present a seminar on the relevance of EJ in coral reef restoration and coastal resilience management, after which he will be interviewed. Student interviews will probe for information about EJ in on-going Bren research. We encourage students from the Fall course to take the Winter course.

Writing assignment
Students will write an essay (1500-2000 words) related to progress in and challenges facing the evolution of equity in environmental science. Assuming that environmental management benefits from our science, a question to address is: how might environmental science advance through inclusion of environmental equity? Essay can focus on issues presented by guest interviewees, and are due first day of finals.

Course calendar
11 January – **Prof. Hunter Lenihan**, Course Introduction. Develop interview questions with students.

18 January – **Dr. Borjas Reguero**, The Nature Conservancy, UC Santa Cruz. Will present a seminar concerning the environmental equity issues involved in the natural science research communicated in:

- Beck, M.W, et al. 2018. The global flood protection savings provided by coral reefs. Nature Communications 9: DOI:10.1038/s41467-018-04568-z.

Students to interview Dr. Reguero.

25 January – **Prof. Chris Costello**, Environmental equity in fishery-related resource economics. Students to interview Dr. Costello.

1 February – **Prof. Kelsey Jack**, Environmental equity in development-related resource economics. Suggested reading:

- Jack, B.K. and G. Smith. 2015. Pay as you go: Pre-paid metering and electricity expenditures in South Africa. American Economic Review Papers and Proceedings 105:237-41.
- Jack, B.K., S. Jayachandran, and S. Rao. 2017. Environmental externalities and intrahousehold inefficiency. NBER Working Paper 24192.

Students to interview Prof. Jack.

22 February – **Prof. Mark Buntaine**, Environmental equity in the development and execution of environmental policy in developing countries. Suggested reading:

- Buntaine, M.T, et al. 2018. Can information outreach increase participation in community-driven development: A field experiment in Biwindi National Park, Uganda. World Development 106:407-421.

- Buntaine, M.T. and B. Daniels. 2018. Transparency and community monitoring activate but not deliver accountability: a field experiment with revenue sharing at Biwindi National Park, Uganda. Working paper.

Students to interview Prof. Buntaine.

1 March – **Prof. Sarah Anderson**, Environmental equity in environmental politics and agency actions. Suggested reading:

- Anderson, S. et al. 2018. Inequality and government responsiveness: evidence from salient wildfire events. Working paper.

Students to interview Prof. Anderson.

8 March – **Prof. Ashley Larsen**, Environmental equity in food production and land use. Suggested reading:

- Larsen et al. 2017. Agricultural pesticide use and adverse birth outcomes in the San Joaquin Valley of California. Nature Communications 8:302

Students to interview Prof. Larsen.

15 March – **Prof. Kyle Meng**, Equity and climate change policy. Suggested reading:

- Meng, K.C. 2018. Is cap-and-trade causing more emissions in disadvantaged communities? Working paper.

Students to interview Prof. Meng.