Online Ethics Center
FOR ENGINEERING AND SCIENCE

Instructor Toolkit - Values and Policy in Interdisciplinary Environmental Science: A Dialogue-based Framework for Ethics Education

Description

The “Values and Responsibility in Interdisciplinary Environmental Science” curriculum (http://eese.msu.edu/) is a modular resource designed to be implemented by environmental science instructors who have no ethics training for the purpose of guiding students through an analytic examination of the values and policy dimensions of their environmental science context. With the support of the NSF (SBE-1338614, MSU; SBE-1338626, Oregon State University) and with guidance from a national survey of environmental science instructors (Hall, Troy E., et al.

Abstract

COURSE DESCRIPTION

Our curriculum provides two teaching modules designed to be incorporated into existing interdisciplinary environmental science graduate courses. The lessons, alongside the scientific curricula instructors are already teaching, are intended to prepare interdisciplinary environmental science graduate students for some of the ethical challenges they will face in their careers by emphasizing the importance of the accountability of researchers in professional sciences to both decision-makers and non-research communities. Based on contemporary educational theory, our curriculum is committed to the idea that students best learn conceptually

challenging ethical content through structured peer dialogue and guided self-reflection. Our approach derives its dialogue-based workshop model for interdisciplinary environmental education from the NSF-supported Toolbox framework, which works to enhance communication in interdisciplinary research.

LEARNING OUTCOMES

By the end of the module, students will be able to:

- Describe the ethical challenges of risk, expertise, non-human impacts, and policy constraints in relation to their interdisciplinary environmental science field.
- Recognize risk, expertise, non-human impacts, and policy constraints in case studies related to their interdisciplinary environmental science area.
- Assess how risk, expertise, non-human impacts, and policy constraints should affect their own conduct as practitioners in the interdisciplinary environmental sciences.
- Identify and analyze differences and similarities among the perspectives of multiple environmental science disciplines on risk, expertise, non-human impacts, and policy constraints.
- Formulate dialogue prompts that apply the broad concepts related to values and responsibility in interdisciplinary environmental science, including risk, expertise, non-human impacts, and policy constraints, to each student's particular research and practice specialty.
- Articulate and discuss their perspectives on risk, expertise, non-human impacts, and policy constraints in interdisciplinary environmental science with other members of the course.
- Produce a project that applies knowledge of the values and responsibility dimensions of interdisciplinary environmental science to a problem in one's own research or practice domain.

Rights

Resource Type

Instructor Materials

Topics

Collaboration
Environmental Justice
Interdisciplinary Research
Public and Community Engagement
Research and Practice
Risk
Sustainability

Discipline(s)

Life and Environmental Sciences
Research Ethics
Social and Behavioral Sciences
Teaching Ethics in STEM