



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# **Student 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.

## **Abstract**

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### **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**

- 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**

Use of Materials on the OEC

## **Resource Type**

Educational Activity Description

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