Online Ethics Center
FOR ENGINEERING AND SCIENCE

An Instructor's Guide for Ethical Issues in Physics

Author(s)

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Description

An excellent guide for physics instructors interested in integrating ethics into their courses.

Body

This material is designed to provide assistance to those involved in ethics education in physics. It is not intended to be a complete discussion of all topics in ethics relevant to the physics community. Rather, it is designed to give the reader some feel for the breadth of relevant topics, to point the reader towards useful resources, and to suggest ways in which this material could be addressed in a classroom setting.

The underlying premise of this work is that much has already been written about ethics in physics, but most of this existing material is not readily located by searching on the terms “ethics” and “physics”. These chapters will not describe ethical issues and case studies in detail but instead will point the reader to sources that do supply the more detailed perspective. The intent is to identify resources that can conveniently be used as reading assignments in undergraduate or graduate level physics classes. Part of the challenge in making ethical decisions is dealing with the complexity that real-world situations introduce. For that reason, where possible sources in which physicists describe cases they have had personal

experience with will be used.

Incorporated into the description of each resource will be suggestions on how to run a class discussion based on the material. It is hard to over-emphasize the usefulness of guided classroom discussion as a means for providing multiple perspectives and further insight into ethical issues. It is helpful to ground these discussions in the professional codes discussed in Chapter 1.

Chapter titles:

Detailed Outline

Chapter 8: Climate Change

- Section 8.1: Introduction
- Section 8.2: Observational data
- Section 8.3: Some elements in a climate model
- Section 8.4: Global Climate Models
- Section 8.5: Focused action
  - Adaptation
  - Geoengineering
  - Mitigation
- Section 8.6: Broader action on climate change

Chapter 9: Communicating Science to the General Public

- Section 9.1: Introduction
- Section 9.2: Communicating about climate change
- Section 9.3: Communicating with the media
- Section 9.4: Communicating with political leaders

Rights

Resource Type

Instructor Materials

Topics

Collaboration
Conflict of Interest
Data Management
Employer/Employee Relationships
Human Subjects Research
Mentors and Trainees
Publication Ethics
Reproducibility
Research Misconduct
Workplace Ethics

Discipline(s)

Computer, Math, and Physical Sciences
Physics
Teaching Ethics in STEM
Research Ethics