Thinking Through Complex Ethical Dilemmas in the Engineering Profession

Author(s)

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Description

This project discusses the design and delivery of engineering ethics workshops for practicing engineers in the state of Wisconsin, facilitated through the Office of Engineering Professional Development at UW-Madison.The page includes the handouts used in these workshops, including an introduction to ethical resources, cognitive biases, an ethical decision-making model, and a series of cases.

Body

> **The OEC Project Pages are intended to cultivate a community of practice and allow ethics researchers, educators, and practitioners to more effectively disseminate their work. This Project Page provides a detailed overview and relevant resources for an on-going science or engineering ethics project. Once you've explored this project, visit the "Projects" section under "Resources" to see more ethics projects.**

Description

Through the Office of Engineering Professional Development at UW-Madison, we develop and deliver engineering ethics workshops for practicing engineers in the

state of Wisconsin, and as part of that work we write many engineering ethics cases for both the private and public sector. We typically provide an overview of common engineering Codes of Ethics, special challenges with rationalization and cognitive biases, and an ethical decision-making model for engineers; we also end our sessions with some strategies for communicating ethics; all of these handouts are linked on this Project Page. But most uniquely, we are engaged continuously in developing cases that are relevant to the private and public sector engineers. We write these cases through discussions with practicing engineers and through research; our effort is to animate the ambiguities and pressures that can sometimes distort ethical judgment. Those cases are also useful to our undergraduate teaching, because we learn so much from our discussions with the practicing engineers; we regularly re-use our cases in the undergraduate engineering classes we teach at the junior and senior levels.

Leadership

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Engineering Professional Development, College of Engineering, University of Wisconsin

Start and End Date

Fall 2012 – ongoing

Contact Information

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Publications, Presentations, and Other Products

Grossenbacher, L. and McGlamery, T. "Lessons Learned from a Year in the Trenches: Teaching Engineering Ethics for P.E. Relicensure" *ETHICS '14 Proceedings of the IEEE 2014 International Symposium on Ethics in Engineering, Science, and Technology*, Article No. 69.

Other Impacts

We periodically present papers at the conference for the Association for Practical and Professional Ethics. Our most recent paper was at the APPE Conference of 2015, "When 'Safety' Became Merely a 'Convenience' for General Motors: Legal departments, corporate culture, and their impact on ethical engineering".

Attached Resources

1. Introduction to Ethics Resources
2. An Ethical Decision Making Process for Engineers
3. Strategies for Communicating Ethics to Engineers
4. Cognitive Biases that can Cloud Judgement
5. Cases:
   - Aggregate Testing
   - Thermostats for LED Signals
   - Water Sampling Data
   - Corrosive Influence
   - Professional Advice
   - Research Ethics
   - Conflicting Obligations
6. References for Further Reading

Rights

Use of Materials on the OEC

Resource Type

Projects

Parent Collection

STEM Ethics Projects (2017-Present)

Topics

Bias in Research
Whistleblowing
Workplace Ethics

Discipline(s)

Engineering
Research Ethics