**Ethics and Engineering**

**ECE/Philosophy 316**

**Spring Semester**

**2025**

**Course Schedule**

**Volume I**

**Introduction**

**Class #1 Tu 1/21 Course Overview**

 **The Universe of the University**

 **Hermeneutics — The Science of Interpretation**

 **Gilbane Gold: A Case Study in Engineering Ethics**

**Class #2 Th 1/23 Moral Theory: Concepts and Cases**

Pritchard and Holtzapple, "Responsible Engineering: *Gilbane Gold* Revisited," 217–30

Graham, "Palchinsky's Travels," 23–31

Fleming, "Engineers of Death," 19

 Historical Context: “Hitler Comes to Power,” “Nazi Rule,” “The Nazi Terror Begins,”

 “SS Police State,” and “The Nuremberg Trials” (https://www.ushmm.org)

 **Sun Reflection Paper #1 Due**

 **1/26 Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

**Class #3 Tu 1/28 Freedom, Responsibility, and Human Personhood**

Hackett, *A Philosophical and Critical Ethic,*

“The Nature and Importance of Moral Inquiry,” 1–4

Covey, *Restoring the Character Ethic,*

 Habit 1: “Principles of Personal Vision,” 66–73, 78–80, 93

 Habit 2: “Principles of Personal Leadership,” 98–100, 106, 109, 144

 Principles Applied

 “Viktor Frankl”

**Class #4 Th 1/30 Social Context and the Professions**

*Engineering Ethics*, Chapter 1:1–18, and Case 3: “Bridges,” 212

Greenwood, "Attributes of a Profession," 67–77

Grose, "Danger Zone: “What It Takes to Fix America's Crumbling Infrastructure," 28–32

American Society of Civil Engineers, "Report Card for America's Infrastructure,"

ASCE online at infrastructurereportcard.org. See also the canvas course site videos —

“Roads and Bridges” + “Energy and the National Power Grid”

 **F 1/31 Reflection Paper #2 Due**

 **Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

 **Sun Draft of Mission Statement Due**

 **2/2 Electronic Submission via Canvas, 11:00 p.m.**

 **M 2/3 10th Day Semester Add/Drop Deadline**

**Class #5 Tu 2/4 Class Member Introductions**

 **History of Science and Engineering**

 **Codes of Ethics**

Reflection Questions, Class #5

**History of Modern Science — Key Moments**

Mahon, “How Maxwell’s Equations Came to Light,” 2–4

[See also Forbes and Mahon, *Faraday, Maxwell, and the Electromagnetic Field: How Two Men Revolutionized Physics* (Amherst, NY: Prometheus Books, 2014), and Weinberg, *The Discovery of Subatomic Particles* (New York: W. H. Freeman, 1983).]

**History of Engineering — A Brief Outline**

Davis, "A History of Engineering in the United States," 18–30, 196–203

Dunwoody, et al., *Fundamental Competencies for Engineers*, 9–13

[See also Blockley, *Engineering: A Very Short Introduction* (Oxford: Oxford University Press, 2012), and Grayson, *The Making of An Engineer: An Illustrated History of Engineering Education in the United States and Canada* (New York: John Wiley & Sons, 1993).]

**Professional Codes of Ethics**

IEEE, NSPE, Software Engineering, and Journalism Codes of Ethics

**Class #6 Th 2/6 The Moral Responsibility of Engineers**

*Engineering Ethics*, Chapter 3, "Responsibility in Engineering," 50–74

Engineering Accreditation Standards, ABET 2000 (Figure 1, 2, and 3) + ABET Revisions

University of Illinois, College of Engineering — “Mission, Vision, and Educational Objectives”

Alpern, "Moral Responsibility for Engineers," 187–95

**The V-22 Osprey: Two Perspectives**

Thompson, “Time Investigation: The V-22,” 36–37, 39–40, 42, 44

Whittle, “V-22 Proves Itself in Combat,” 22–28

[For further study of the V–22 case, see Whittle, *The Dream Machine: The Untold Story of the Notorious V-22 Osprey*, and the review of this work by Schooner and Castellano, “Reading *The Dream Machine*,” *Public Contract Law Journal* (Spring 2014): 391–422.]

**Boeing 737 Case Study**

Gelles, “Boeing 737 Max: What’s Happened after the 2 Deadly Crashes,” [1–5]

Sgobba, “B–737 MAX and the Crash of the Regulatory System,” 299–303

Mika Grondahl, Keith Collins, and James Glanz, “The Dangerous Flaws in Boeing’s Automated System,” *New York* Times — <https://www.nytimes.com/interactive/2019/03/29/business/boeing-737-max-8-flaws.html> — online, updated interactive site on the Boeing 737. [Online access to the *New York Times* for all enrolled University of Illinois undergraduates is provided for those who log in with their NetID and password to the Collegiate Readership Program homepage (<https://collegiatereadership.illinois.edu/>).]

[For a recorded radio broadcast dealing with the larger context of the Boeing 737 Max case study, see “Boeing CEO Dennis Muilenburg Steps Down as 737 Max Crisis Continues” (National Public Radio, 23 December 2019), and Shapiro in conversation with Stumo, whose daughter was killed in the March 2019 Boeing 737 MAX Crash (National Public Radio interview on 23 December 2019) — canvas course site audio.]

 **F 2/7 Acknowledgement of Course Member Responsibilities**

 **Document Accessible through the Course Home Page**

 **Submitted to the Canvas Course Site, 11:00 p.m.**

 **Sun Draft of Position Paper #1**

 **2/9 Electronic Submission via Canvas, 11:00 p.m.**

**Class #7 Tu 2/11 Language and Communication Skills**

Sullivan, *Fundamentals of Logic*, 3, 6–10, 14–15, 31–33, 77–81, 113–15, 281–82

Zinsser, *On Writing Well*, “Simplicity,” 7–13

Strunk, *The Elements of Style*, [II] “Elementary Rules of Usage,” [III] “Elementary Principles of Composition,” and [V] “Words and Expressions Commonly Misused” — available online through “Project Gutenberg” and public domain documents. See the link on the University course site under “Important Tools” at <http://publish.illinois.edu/ecephil316/>.

Tolkien, *The Lord of the Rings*, Part I, *The Fellowship of the Ring*, 3, Book Two, Chapter 5,

"The Bridge of Khazad-Dum," 335–46.

**Class #8 Th 2/13** **Principles of Effective Writing**

Diagram: Principles of Effective Writing

Williams, “The Grammar of Clarity,” 8–17, 30

 Grammar of Clarity — Summary + Application

 Cohesion, Coherence, Concision

Williams, “Sustaining the Longer Sentence,” 80–86, 90–91, 93–96, 103–105

 Appendix A: Diagrammatic Outline — Emphasis, Elegance

 Appendix B: Some Terms Defined,” 205–217

Economy and the Stewardship of Language

*Chicago Manual of Style*, 17th edition (University of Chicago Press, 2017), “Part Three: Source Citations and Indexes,” Chapter 14, “Notes and Bibliography,” 14.1–14.305 [741–890]. The full text of *The Chicago Manual of Style* is available online at [www.library.illinois.edu](http://www.library.illinois.edu). See the link under “Important Tools” on the University course site <http://publish.illinois.edu/ecephil316/>.

Tolkien, *The Lord of the Rings*, Part I, *The Fellowship of the Ring*, Book Two, Chapter 10,

“The Breaking of the Fellowship," 411–23.

 **Sun Writing Skills Assessment + Research Topic Due**

 **2/16 Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

**Volume II**

**Normative Ethical Perspectives**

Volume Two — Reflection Question Guidelines and Source Citations

**Class #9 Tu 2/18 The Discipline of Philosophy**

 **Epistemology, Metaphysics, and Ethics**

 **Ethical Theories: Teleological and Deontological Perspectives**

Research Project — Bibliography, Thesis, and Outline (Finding Sources)

*Engineering Ethics*, Chapter 2, “A Practical Ethics Toolkit,” 19–49

The Discipline of Philosophy: Epistemology, Metaphysics, and Ethics

Ethical Theories: Teleological and Deontological Perspectives

**Class #10 Th 2/20 The Scientific Method and the Tests of Truth**

 **The Principles of *Contradiction* and *Causality***

Reflection Questions, Class #10

Sandage, "Cosmology," 321–34

**Two Fundamental Laws Operative in the Present Universe**

[1] The Law of Gravity: Mathematical Formulation, Diagrams 1–3

[2] The Law of Electromagnetism: Interrelationship with the Law of Gravity

Hyde, “The Periodic Relationships of the Elements”

“The Search for a Unified Field Theory”

**Two Fundamental Principles Necessary for the Existence of Any Universe**

[1] The Principle of **Contradiction** (also known as the principle of “non-contradiction”)

 Definition

 Aristotle, *Metaphysics*, Book IV, 731–32; 736–38 [1003a–1003b; 1005b–1006a] + [Note]

[2] The Principle of **Causality**

 Definition

 Aristotle, *Posterior Analytics*, 110–11 [71a–72b]; the *Metaphysics*, Book V, 752–53

 [1012b–1013b]; and Adler, *Aristotle*, 39–46

Worldview Principles — Systematic Consistency and Systematic Explanation [Diagram]

Objective Evaluation of Truth Claims

[See also the *Stanford Encyclopedia of Philosophy* articles by Falcon, “Aristotle on Causality,” and Gottlieb, “Aristotle on Non-contradiction,” linked through the University course site at <http://publish.illinois.edu/ecephil316/>.]

 **F 2/21 Reflection Paper #3 Due**

 **Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

 **Sun Final Version of Position Paper #1**

 **2/23 Electronic Submission via Canvas, 11:00 p.m.**

**Class #11 Tu 2/25 The Systematic Study of Normative Ethics [Part 1]**

 **Normative Ethical Naturalism**

 **Aristotle, Darwin, and Nietzsche**

Hackett, *A Philosophical and Critical Ethic*, “Central Concerns of Normative Ethics,” 169–71

Definition of Normative Ethical Naturalism

Aristotle — Life Context

Nicomachean Ethics — Source and Outline

Reflection Questions, Class #11

Aristotle, *Nicomachean Ethics*, Book I.1–12[1094–1102]

White, "Preface" and "The Pursuit of Happiness," xi–xii, 3–11

**Class #12 Th 2/27 The Systematic Study of Normative Ethics [Part I]**

 **The Structure of Aristotelian Ethics**

 **in Dialogue with Darwin and Nietzsche**

Summary of the *Nicomachean Ethics*, Book I, Chapter 1–6 [Diagram]

Reflection Questions, Class #12

Aristotle, *Nicomachean Ethics*, Book I.13 [1102], Book II.1–9 [1103–1109],

Book III.1–5 [1109–1115]

White, "The Pursuit of Happiness," 12–21

White, “Works Cited” [307–16]

The Doctrine of the Mean

Reason as an Instrument of Knowledge

Dialogue with Darwin and Nietzsche [Diagram]

Additional Resources

[For further study, see the link <http://publish.illinois.edu/ecephil316/> under course documents (normative ethical perspectives — additional readings) to the online articles in the *Stanford Encyclopedia of Philosophy* by Shields, “Aristotle,” and by Kraut, “Aristotle’s Ethics.” A contemporary exposition of Aristotle's literary corpus can be found in Shields, *Aristotle* (London and New York: Routledge, 2007). See also Kraut, *Aristotle on the Human Good* (Princeton, NJ: Princeton University Press, 1989). For other perspectives on *Ethical Naturalism*, see Darwin, *The Descent of Man*; Nietzsche, *On the Genealogy of Morality*; and Spinoza, *Ethics*.]

 **F 2/28 Reflection Paper #4 Due**

 **Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

**Class #13 Tu 3/4 The Systematic Study of Normative Ethics [Part II]**

 **Normative Ethical Idealism**

 **Plato, Kant, and Hegel**

Definition of Normative Ethical Idealism

Raphael, “The School of Athens,” 1509–1511

Plato Overview

Kant Overview

Reflection Questions, Class #13

Kant, *Groundwork to the Metaphysics of Morals,* “Preface,” [392], “First Section: Transition from the Common Rational Knowledge of Morality to the Philosophical," 49–58 [393–404]

Wood, “General Introduction” — “The Basis of Kant’s Practical Philosophy,” xxiii–xxiv

Paton, “The Good Will,” 34–37, 44–45; “Duty,” 47–52, 55

**Class #14 Th 3/6 The Systematic Study of Normative Ethics [Part II]**

 **The Structure of Kantian Ethics**

Eastern Perspectives as Types of Normative Ethical Idealism

Reflection Questions, Class #14

Kant, *Groundwork to the Metaphysics of Morals*, “Second Section: Transition from the Common Moral Philosophy to the Metaphysics of Morals," 61–63, 65–89, 93 [406–12. 414–40; 444–45]; “Third Section: Transition from the Metaphysics of Morals to the Critique of Pure Practical Reason," 94 [446–47]

Paton, “The Maxim of Morality,” 58–62; “The Law,” 69–73

Wood, “General Introduction” — “The Second and Third *Critiques*,” and “The Final form of Kant’s Practical Philosophy,” xxv–xxvi, xxx–xxxiii

Allison, *Kant’s Groundwork*, “Introduction,” 1; “Bibliography,” 364–72

“Kant’s System of Transcendental Ideas” (as developed in the “Transcendental Dialectic” of the *Critique of Pure Reason*, published in 1781, second edition 1787) — schematic outline

Themes and Questions

Hegel, Letter to Schelling, 1795

Additional Resources

[See the link <http://publish.illinois.edu/ecephil316/> under course documents to the article by Rohlf, “Immanuel Kant,” and the essay by Johnson, “Kant’s Moral Philosophy,” in the online *Stanford Encyclopedia of Philosophy*. A systematic introduction to Kant's literary corpus can be found in Guyer, *Kant* (London and New York: Routledge, 2006). For a modern retrieval and interpretation of Kant's work as applied to contemporary moral theory, see the work of Rawls as summarized in Freeman, *Rawls* (London and New York: Routledge, 2007) — in particular, Chapter 7: "Kantian Constructivism," 284-323. For other perspectives on *Ethical Idealism*, see Plato, *The Republic*; Hegel, *The Phenomenology of Spirit*; Schwartz, *The World of Thought in Ancient China*; Raju, *The Philosophical Traditions of India*; and Hackett, *Oriental Philosophy*.]

 **F 3/7 Reflection Paper #5 Due**

 **Canvas Course Site, 11:00 p.m.**

 **Sun Research Project**

 **3/9 Bibliography, Thesis, and Outline Due**

 **Electronic Submission via Canvas, 11:00 p.m.**

**Class #15 Tu 3/11 The Systematic Study of Normative Ethics [Part III]**

 **Normative Ethical Theism**

 **Augustine, Aquinas, and Luther**

Definition of Normative Ethical Theism

The Field of Knowledge

Reflection Questions, Class #15

Aquinas, *Summa Theologiae*, Question #2 [5–17], #5 [61–81], #6 [83–93]

The Importance of the Cosmological Argument

Moreland, “The Cosmological Argument,” in *Scaling the Secular City*, 15–30, 38–41

“The Myth of Modernity”

“The Five Dimensions of the Universe” — schematic diagram

*Genesis* 1:1–31; 2:1–3

**Class #16 Th 3/13 The Systematic Study of Normative Ethics [Part III]**

 **The Structure of Biblical Theism**

 **Reflections on a Treatise in Moral Theory**

The Structure of Biblical Theism

The Foundations of Biblical Theism

Biblical Narrative Outline

Reflection Questions, Class #16

Selected Texts of the Biblical Narrative

*Genesis* 2:4 – *Revelation* 22

Additional Resources

[See the link <http://publish.illinois.edu/ecephil316/> under course documents to McInerny and O’Callaghan on “Aquinas,” and Finnis on “Aquinas’ Moral, Political, and Legal Philosophy,” in the online *Stanford Encyclopedia of Philosophy*. For other perspectives on *Ethical Theism*, see the *Talmud* and the *Qur’an*. For a contemporary study of the cosmological argument in the tradition of Aquinas and Leibniz, see O'Connor, *Theism and Ultimate Explanation: The Necessary Shape of Contingency* (Oxford: Blackwell, 2008).]

 **F 3/14 Reflection Paper #6 Due**

 **Position Paper 2 Discussion Question**

 **Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

In preparation for the writing of your second position paper, Class #17 will be structured as a final review session of our work together over the last three and a half weeks on the systematic study of normative ethics. In order to facilitate dialogue and discussion, formulate a well-crafted question (or set of questions) that you would like to explore, dealing with any issue related to our study of normative ethical perspectives. Submit your question(s) to the canvas course site (see “Position Paper 2 Discussion Question”). The entire set of class questions will be sent to you in digital form on the day preceding class #17.

 **F 3/14 Deadline to Drop Course without Grade of W**

**University Spring Break**

**March 15–23**

**Class #17 Tu 3/25 Normative Ethical Perspectives Working Class Session**

 **Review, Dialogue, Online Discussion Forum**

 **Position Paper 2 Thesis and Outline**

 **Canvas Course Site, 11:00 p.m.**

Class #17 will be a *working* class session — there will be *no formal class*. Your task will be to read all of the questions on normative ethical perspectives submitted by your colleagues. Respond to one of the questions (in 150 words or more = approximately one-half page in length). Post your response on the canvas course site. Then read the responses from (at least) three other members and begin to outline the draft of your second position paper. Submit the thesis and outline of position paper two (and the acknowledgement of having read three class member responses) to the canvas course site (see “Position Paper Two Outline”) by 11:00 p.m. The goal of your paper (and outline) is to take a position on the grounding of normative ethics — in the context of open dialogue and discussion.

**Volume III**

**Windows into Applied Ethics**

Harris, “Windows”

Volume Three — Reflection Question Guidelines and Source Citations

**Class #18 Th 3/27 The Engineer as Citizen**

Reflection Questions, Class #18

Bellah, et al., *Habits of the Heart*, "Preface," vii–ix

Alexis de Tocqueville, *Democracy in America*, xvii–xix, xxxix–xlii, 27–35, 39

Founding Documents of the United States: [1] “The Declaration of Independence,” i–v,

[2] “The Constitution of the United States,” 1–34, [3] Lincoln’s “Gettysburg Address,” 17–23

 **Sun Draft of Position Paper #2 Due, 11:00 p.m.**

 **3/30 Canvas Course Site + Peer Review Neighbor**

**Class #19 Tu 4/1 The Engineer and Society, Fiduciary Relationships**

 **Conflicts of Interest, Frontiers of Cyberspace**

Reflection Questions, Class #19

*Engineering Ethics*, Chapter 5, "Trust and Reliability," 97–120

*Titanic: An Illustrated History*, 8, 48–50, 118–19

Martin and Schinzinger, *"*Engineering as Social Experimentation*,"* 88–106

Spinello, *CyberEthics: Morality and Law in Cyberspace*, 1–10, 31–35 [2nd edition]

Frontiers of Cyberspace Resources: 227–32 [4th edition; see also the 7th edition, 2021]

Wikipedia Case Study:

“Internet Encyclopaedias Go Head to Head,” *Nature* (2005), 900–901

“Reflections and Resources”

**Class #20 Th 4/3 Artificial Intelligence**

 **No Reflection Paper Due**

Reflection Questions, Class #20

**The History of Artificial Intelligence: Dartmouth Project, 1955 Proposal**

McCarthy, Minsky, Rochester, and Shannon, “A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955,” 12–14

**Ethics and Artificial Intelligence**

Boddington, “Towards a Code of Ethics for Artificial Intelligence,” 102–103

Open in-class dialogue and discussion on the construction of a code of ethics for artificial intelligence. In preparation for our discussion, read the abstracts and focus on the following two journal articles (digital copies of which can be found on the canvas course site in the module “Artificial Intelligence”): [1] Amitai Etzioni and Oren Etzioni, “Incorporating Ethics into Artificial Intelligence,” *Journal of Ethics*, 21 (2017): 403–18; and [2] Peter Vamplew, Richard Dazeley, Cameron Foale, Sally Firmin, and Jane Mummery, “Human-Aligned Artificial Intelligence Is a Multiobjective Problem,” *Ethics and Information Technology* 20 (2018): 27–40.

“Asymptotic Curve” + “Human Consciousness and the Self”

 **F 4/4 Written Peer Review of Position Paper #2**

 **Submission to Peer Review Neighbor and Canvas**

 **Course Site, 11:00 p.m.**

Submit your constructive evaluation of your neighbor’s draft of position paper #2 on normative ethical perspectives to your peer-review neighbor and to the canvas course site (using Microsoft “Track Changes” format). Read carefully the evaluative comments that your neighbor will in turn send to you in preparation for the final version of the second position paper.

 **Sun Complete Draft of Research Paper Due**

 **4/6 Canvas + Peer Review Neighbor, 11:00 p.m.**

**Class #21 Tu 4/8 The Engineer's Responsibility for Safety**

Reflection Questions, Class #21

See the canvas course site video — “Why the Towers Fell”

*Engineering Ethics*, Chapter 6, "The Engineer’s Responsibility to Assess and Manage Risk,"

 121–54 (study pages 136–37 in preparation for class #22), and Case 2: “Big Dig Collapse,”

 211–12

**The Hyatt Regency Hotel Walkway Collapse, 1981**

See the canvas course site video (Modern Marvels, History) — “The Hyatt Walkway Collapse”

Petroski, *To Engineer Is Human*, Chapter 1: "Being Human," 1–5, [Auth, “Scenario for Limiting

 Damage by Falling Skylab,” in *The Philadelphia Inquirer*, June 14, 1979], 9–10,

 and Chapter 8: "Accidents Waiting to Happen," 85–88

Martin and Schinzinger, *Ethics in Engineering*, 19 — Hyatt-Regency Walkway Collapse: Schematic Analysis

“The Hyatt Decision: Two Opinions,” 69–72

**The Boston Central Artery/Tunnel Project, 1991–2006**

See the canvas course site video — “Boston’s Big Dig”

Fein, “… Boston’s Big Dig …” and Figures 1, 2, and 3

Sullivan, “Reply to *The Boston Globe*’s Investigative News Series Concerning the Big Dig”

 and Letter from the Office of the Inspector General to the Massachusetts Turnpike Authority

**Class #22 Th 4/10 The Significance of the Apollo 11 Lunar Landing**

 **and the *Challenger* and**

 ***Columbia* Case**

Reflection Questions, Class #22

*Engineering Ethics*, Chapter 4, “Engineers in Organizations,’ 75–96

**The Apollo 11 Lunar Landing**

Historic Photo, Wright Brothers — December 17, 1903

Apollo lunar landing video (University Alexander Street video collection) — http://www.library.illinois.edu/proxy/go.php?url=https://video.alexanderstreet.com/

watch/apollo-11 [produced in 2004]. See the video module on the canvas course site.

Clavius Home Page — <http://www.clavius.org>

“Mythbusters,” 1–5, and “Fundamental Argument Structure” (see note, page 5)

Perlmutter and Dahmen, “(In) visible Evidence,” 234–45, 248–51

**The *Challenger* and *Columbia* Case**

See the canvas course site video (2001) — “Challenger: Beyond the Tragedy”

Bell and Esch, "The Fatal Flaw in Flight 51-L," 36–51

Boisjoly, “Morton Thiokol Memo” and “Moral Responsibility and the Working Engineer," 6–14

"History as Cause: *Columbia* and *Challenger*," *Columbia Accident Investigation Board,* 195–204

 **F 4/11 Reflection Paper #7 Due**

 **Canvas Course Site 11:00 p.m.**

 **Sun Final Version of Position Paper #2 Due**

 **4/13 Canvas Course Site 11:00 p.m.**

**Class #23 Tu 4/15 Engineers and the Environment**

 **Stewardship and Sustainability**

Reflection Questions, Class #23

Gruev and Garcia, “Seeing Cancer through New Eyes,” 10–13

*Engineering Ethics*, Chapter 7, "Engineering and the Environment," 155–75

Manion, “Ethics, Engineering, and Sustainable Development,” 39–48

ECE Building — Energy Efficiency Design and Construction

https://ece.illinois.edu/about/buildings/energy-efficiency

Thompson and Pahl, “Plastics, the Environment, and Society: Current Consensus and Future Directions,” 177–85 [References: 185–187], in *Plastics and the Environment*, edited by Hester and Harrison (Cambridge: Royal Society of Chemistry). [See also “The Nature of Plastics and Their Societal Usage,” 1–20, and “Plastics Recycling,” 156–76.] The full text of *Plastics and the Environment* can be found as an e-book through the University of Illinois main library. The three chapters mentioned above are downloaded as documents on the canvas course site in the module entitled “The Environment.”

“The Environment and the Oceans”

 **Wed Written Peer Review of Final Research Paper**

 **4/16 Submission to Peer-Review Neighbor and Canvas**

 **Course Site 11:00 p.m.**

Submit your written evaluation of your neighbor’s draft of the final research paper to your peer-review neighbor and to the canvas course site (using Microsoft “Track Changes” format).

**Class #24 4/17 Choosing a Vocation**

 **Obligations of the Profession**

Reflection Questions, Class #24

*Engineering Ethics*, Chapter 9, “New Horizons in Engineering,” 196–202

**The Sealed Beam Headlight**

Fleddermann, "Doing the Right Thing," 116–18

Meese, "The Sealed Beam Case: Engineering in the Public and Private Interest," 1–20

**The Fifty-Nine Story Crisis Revisited**

Fleddermann, “Doing the Right Thing,” 115–16

Martin and Schinzinger, Diagrammatic Picture — Frontal and Quartering Winds

Morgenstern, "The Fifty-Nine Story Crisis," 45–53

59 Story Crisis: Interpretive History

[1] Diane Hartley — “People to Know,” 1–2

[2] Vardaro, “Introduction, Case Study, Endnotes”

[3] DeCarolis, “Citicorp Building,” Posting: Online Ethics Center

“The Fifty-Nine Story Crisis Revisited” — “ A Telephone Call” and “Further Study”

 **F 4/18 Reflection Paper #8 Due**

 **Canvas Course Site 11:00 p.m.**

 **Sun Final Version of Research Paper Due**

 **4/20 Electronic Submission, 11:00 p.m.**

 **Canvas Course Site**

**Class #25 Tu 4/22 Research Project Presentations [1]**

**Class #26 Th 4/24 Research Project Presentations [2]**

 **Sun Final Version of Mission Statement Due**

 **4/27 Electronic Submission, via Canvas, 11:00 p.m.**

**Class #27 Tu 4/29 Research Project Presentations [3]**

**Class #28 Th 5/1 Research Project Presentations [4]**

**Class #29 Tu 5/6 Final Review of the Course**

**University ICES Evaluations**

**May 7–14**