

Sorry foHOM 565: The Ethics of Modern Biotechnology
Syllabus
Spring 2001

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I. Administrative Information

Instructor: Professor Robert Streiffer

Lectures: 3285 Medical Sciences Center, Tuesday and Thursday, 1:00 – 2:15

Discussion Sections: 3225 Medical Sciences Center, Friday 1:15 – 2:05

Philosophy Office: 5123 Helen C. White Hall; 263 – 9479

Medical Ethics Office: 1411 Medical Sciences Center; 262 – 7490

Office Hours: Tuesday 2:15 – 3:30 in my Medical Ethics Office, and by appointment

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Credits: 4

II. Course Description, Objectives, and Requirements

This course is for graduate students and upper – level undergraduates. It is an in – depth study of a selection of ethical issues arising from the application of modern biotechnology, especially modern agricultural biotechnology, to microorganisms, plants, and non-human animals. In contrast to much of the public, academic, and industry discussion on these issues, we will aim at a discussion that is informed both by scientific research and by work done in ethical theory, political philosophy, and other relevant disciplines, and whose character is rigorous, clear, nuanced, and unbiased. I do not consider myself either generally for or generally against agricultural biotechnology, but as a philosopher, I am against bad arguments wherever they are found.

The applications of biotechnology we discuss will vary from year to year, but will include such topics as bioremediation, biomining, bioterrorism, biomass energy production, pesticide producing plants, herbicide resistant plants, terminator technology, pharming, bovine growth hormone, xenotransplantation, virus resistant pests, ice-minus bacteria, value-added foods, patenting life, biopiracy, and transgenic animal models for human diseases and for xenotransplantation.

There are two overall goals of the course:

1. To improve your familiarity with the facts, concepts, theories, and arguments from the relevant scientific, ethical, and political literature.
2. To improve your ability to think about and discuss the ethical issues in this area.

More specifically, I expect you to be able to do the following by the end of the semester:

1. Be more appreciative of opposing viewpoints on controversial ethical questions.
2. Be clearer about your own views on these matters.
3. Define relevant scientific concepts.
4. Define relevant ethical concepts.
5. List the main applications of biotechnology which have raised ethical concerns.
6. Explain how recombinant DNA techniques are used in those applications.
7. List the main ethical worries for each of those applications.
8. Analyze the main arguments from the literature, pro and con, for each of those applications.
9. Assess the reasonableness of the scientific claims made in those arguments.
10. Assess the reasonableness of the ethical claims made in those arguments.
11. Integrate the discussion of science, ethics, and political philosophy to formulate a positive argument for or against applications of biotechnology.

Requirements:

1. Read all of the assignments, and read them critically. In a small seminar, the contribution that each person makes to the discussions is important.
2. Attend all the lectures. I won't take attendance, but you will be expected to show familiarity with the lecture material in your papers.
3. Attend and participate in the discussion sections. You will be required to write up two discussion questions and bring them to the discussions sections. The questions, plus participation and attendance, are worth 20% of your grade.
4. Undergraduates: Two papers, 600 words (2 pages) in length, each worth 10% of your grade, and two papers 1500 – 1800 words (5 – 6 pages) in length, each worth 30% of your grade.
5. Graduate Students: Two papers, 600 words (2 pages) in length, each worth 10% of your grade, and then either two papers 2400 – 3000 words (8 – 10 pages) in length and each worth 30% of your grade, or a single term paper, 4800 – 6000 words (16 – 20 pages) in length, done in two drafts, and worth 60% of your grade. (By “a draft” I mean a draft of a complete paper, not a partial paper.)

III. Course Schedule

1. Biotechnology and Recombinant DNA Techniques (6 Meetings)

I will go over administrative details, provide an overview of the content and requirements of the course, and provide a brief history of biotechnology. After an introduction to the basics of recombinant DNA technology and its regulatory framework, we will evaluate some of the ethical arguments people were making both for and against the use of recombinant DNA technology. Although rDNA methods are now known to be quite safe, the arguments are interesting both because they provide a historical context to the current debate, and because many of the current arguments are similar in form to the ones given originally. We will explore such question as the following. Is there a right of academic freedom to engage in research that the public perceives to

be risky or morally objectionable? What levels of risk are ethically acceptable? And how should decisions be made under conditions of uncertainty?

1. Tuesday, January 23 — Course Overview, History of Biotechnology
2. Thursday, January 25 — Recombinant DNA Techniques and “Intrinsic” Objections
38 Pages
 - Michael J. Reiss and Roger Straughan, “The Practicalities of Genetic Engineering,” Ch. 2 in *Improving Nature* (Cambridge: Cambridge University Press, 1996), 11 – 42 (32 pages)
 - Michael J. Reiss and Roger Straughan, “Intrinsic Concerns about Unnaturalness,” in *Improving Nature* (Cambridge: Cambridge University Press, 1996), 59 – 60 (2 pages, distributed in class)
 - Michael J. Reiss and Roger Straughan, “Intrinsic Concerns about Disrespect,” in *Improving Nature* (Cambridge: Cambridge University Press, 1996), 64 – 67 (4 pages, distributed in class)
 - Turning Point Project, “Who Plays God in the 21st Century.” (1 page, distributed in class)
3. Tuesday, January 30 — rDNA Regulations
21 Pages
 - Susan R. Barnum, “The DNA Revolution: Promise and Controversy,” Ch. 2 in *Biotechnology* (Belmont: Wadsworth Publishing Company, 1998), 17 – 26 (10 pages)
 - Susan R. Barnum, “Regulation, Patents, and Society,” Ch. 12 in *Biotechnology* (Belmont: Wadsworth Publishing Company, 1998), 191 – 195. (5 pages)
 - Susan R. Barnum, “Summary of NIH Guidelines, July 1976,” Appendix A in *Biotechnology* (Belmont: Wadsworth Publishing Company, 1998), 199 – 200 (2 pages)
 - Susan R. Barnum, “Revisions of NIH Guidelines 1978 – 1982,” Appendix B in *Biotechnology* (Belmont: Wadsworth Publishing Company, 1998), 201 (1 page)
 - Susan R. Barnum, “Regulatory Agencies and Laws for Product Regulation,” Appendix E in *Biotechnology* (Belmont: Wadsworth Publishing Company, 1998), 209 – 211 (3 pages)
 - For reference only: “NIH Guidelines for Recombinant DNA Research” (Original recommendations), reprinted in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979)
 - For reference only: “NIH Guidelines for Research Involving Recombinant DNA Molecules” (January 2001)

Thursday, February 1 — No Class
4. Tuesday, February 6 — rDNA Techniques: The Critics
22 Pages
 - Paul Berg, D. Baltimore, and H. W. Boyer, “Potential Biohazards of Recombinant DNA Molecules,” *Science* 185 (1974): 303 (1 page)

- Sinsheimer, Robert L., “Two Lectures on Recombinant DNA Research,” in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979), 85 – 98 (14 pages)
 - George Wald, “The Case Against Genetic Engineering,” in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979), 127 – 133 (7 pages)
5. Thursday, February 8 — rDNA Techniques: The Defenders
36 Pages
- Bernard D. Davis, “Evolution, Epidemiology, and Recombinant DNA,” in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979), 137 – 154 (18 pages)
 - Rolf Freter, “Real and Imagined Dangers of Recombinant DNA Technology: The Need for Expert Evaluation,” in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979), 155 – 172 (18 pages)
6. Tuesday, February 13 — Research, Risk, and Regulations
19 Pages (First Paper Topic Suggestions Distributed)
- Stephen Stich, “The Recombinant DNA Debate: Some Philosophical Considerations,” in *The Recombinant DNA Debate*, ed. by David A. Jackson and Stephen P. Stich (Englewood Cliffs, New Jersey: Prentice – Hall, Inc, 1979), 183 – 201 (19 pages)
2. Plant Biotechnology (7 Meetings)
- At the present time, the two most commonly used applications of plant biotechnology are genetically engineered herbicide resistance and genetically engineered pesticide production. The most common concerns expressed about these applications can be divided into the following groups: food safety, negative impact on nontarget organisms, enhanced weediness, increased pesticide resistance in pests, and agricultural system effects. Drawing from some of the scientific literature on those risks, from work in technology studies which articulate the main ethical issues involved in the world food system, from work in environmental ethics on the ethical grounding for respecting the environment and non-human organisms, and from work in applied ethics on our moral obligations to the needy, we will evaluate Roundup Ready soybeans, Bt corn, and golden rice. We will also explore the F.D.A.’s guidelines on food safety and on food labeling.
7. Thursday, February 15 — Introduction to Plant Biotechnology; Background on Technology Studies, Ethical Theory, and Environmental Ethics
54 Pages
- Ian Barbour, “Views of Technology,” Ch. 1 in *Ethics in an Age of Technology* (San Francisco: HarperSanFrancisco, 1993), 3 – 25 (23 pages)
 - Ian Barbour, “Human Values,” Ch. 2 in *Ethics in an Age of Technology* (San Francisco: HarperSanFrancisco, 1993), 26 – 27, 32 – 41. (12 pages)
 - Ian Barbour, “Environmental Values,” Ch. 3 in *Ethics in an Age of Technology* (San Francisco: HarperSanFrancisco, 1993), 57 – 72, 80 – 82. (19 pages)

8. Tuesday, February 20 — Introduction to Ethical Issues in Agriculture; FDA Policy
35 Pages (First Paper Topics Due at the Beginning of Class)
- Ian Barbour, “Agriculture,” Ch. 4 in *Ethics in an Age of Technology* (San Francisco: HarperSanFrancisco, 1993), 85 – 115 (31 pages)
 - FDA, “FDA’s Policy for Foods Developed by Biotechnology,” <http://vm.cfsan.fda.gov/~lrd/biocon.html>, 1995 (3 pages)
 - FDA, “FDA Announces Proposal and Draft Guidance for Food Developed through Biotechnology,” January 17, 2001. (1 page)
 - For reference only: FDA, “Foods Derived from New Plant Varieties Derived through Recombinant DNA Technology,” <http://vm.cfsan.fda.gov/~lrd/biocon.html>, July 1999 (3 pages)
 - For reference only: FDA, “Foods Derived from New Plant Varieties”
9. Thursday, February 22 — USDA and EPA Policy; A Positive View on Food Safety and Environmental Risk
54 Pages
- Janet Carpenter, “Case Studies in Benefits and Risks of Agricultural Biotechnology: Roundup Ready Soybeans and Bt Field Corn,” (National Center for Food and Agricultural Policy, January 2001), (54 pages)
10. Tuesday, February 27 — Substantial Equivalence and Food Safety
10 Pages
- Erik Millstone, Eric Bruner, and Sue Mayer, “Beyond ‘Substantial Equivalence,’” in *Nature* 401 (October 7, 1999) (2 pages)
 - Anthony Trewavas, and C. J. Leaver, “Conventional Crops Are the Test of GM Prejudice,” in *Nature* 401 (October 14 1999): 640 (1 page)
 - Peter Kearns and Paul Meyers, “Substantial Equivalence is a Useful Tool,” in *Nature* 401 (October 14 1999): 640 (1 page)
 - Derek Burke, “No GM Conspiracy,” in *Nature* 401 (October 14 1999): 640 (2 pages)
 - Henry Miller, “Substantial Equivalence: It’s Uses and Abuses,” in *Nature Biotechnology* 17 (November 1999): 1042 – 1043 (2 pages)
 - Mark Tester, “Seeking clarity in the debate over the safety of GM foods,” in *Nature* 402 (December 9 1999): 575 (1 page)
 - Steve L. Taylor and Susan L. Hefle, “Seeking clarity in the debate over the safety of GM foods,” in *Nature* 402 (December 9 1999): 575 (1 page)
 - Mae – Wan Ho, “Seeking clarity in the debate over the safety of GM foods,” in *Nature* 402 (December 9 1999): 575 (1 page)
 - Erik Millstone, Eric Bruner, and Sue Mayer, “Seeking clarity in the debate over the safety of GM foods,” in *Nature* 402 (December 9 1999): 575 (1 page)
11. Thursday, March 1 — Labeling Issues
41 Pages
- U. S. Food and Drug Administration, “Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Developed Using Bioengineering,” Draft of January 2001 (4 pages)
 - Consumer’s Union, “Why We Need Labeling of Genetically Engineered Food,” <http://www.consumer.org/food/whywenny/798.htm> (7 pages)

- Consumer Alert, “Food Labeling — The Problems of Mandated Information for Biotechnology,” <http://www.consumeralert.org/issues/food/Label – biotech.html> (6 pages)
 - Paul Thompson, “Food Safety and the Ethics of Consent,” Ch. 4 in *Food Biotechnology in Ethical Perspective* (London: Blackie Academic and Professional, 1997): 57 – 80 (24 pages)
12. Tuesday, March 6 — Negative Views on G.E. Herbicide Resistant Crops
60 Pages
- Gary Comstock, “Against Herbicide Resistance,” Ch. 2 in *Vexing Nature* (Boston: Kluwer academic Publishers, 2000), 47 – 83 (37 pages)
 - Recommended, but not required: Marc Lappé and Britt Bailey, “Dangers in Herbicides,” Ch. 3 in *Against the Grain* (Monroe: Common Courage Press, 1998) (10 pages)
 - Recommended, but not required: Marc Lappé and Britt Bailey, “Are We Ready for Roundup Ready Foods?,” Ch. 4 in *Against the Grain* (Monroe: Common Courage Press, 1998) (13 pages)
13. Thursday, March 8 — Bt Corn and the Monarch Butterfly
33 Pages
- Kenneth E. Goodpaster, “On Being Morally Considerable,” in *The Journal of Philosophy* 75 (June 1978): 308 – 325 (18 pages)
 - John E. Losey, Linda S. Rayor, and Maureen E. Carter, “Transgenic Pollen Harms Monarch Larvae,” *Nature* 399 (20 May 1999): 214 (1 page)
 - John Hodgson, “Monarch Bt-corn Paper Questioned,” *Nature Biotechnology* 17 (July 1999): 627 (1 page)
 - Carol Kaesuk Yoon, “No Consensus on the Effects of Engineering on Corn Crops,” *New York Times*, November 4, 1999 (1 page)
 - Eric Niiler “GM Corn Poses Little Threat to Monarch,” *Nature Biotechnology* 17 (December 1999): 1154 (1 page)
 - Carol Kaesuk Yoon, “E. P. A. Announces New Rules on Genetically Altered Corn,” *New York Times*, January 17, 2000 (1 page)
 - Monsanto, “Butterflies and Bt Corn Pollen, Lab Research and Field Realities,” February 15, 2000, <<http://www.biotechknowledge.com/showlib.php3?3069>>, Reference No. 3069. (7 pages)
 - Val Giddings, “BIO Statement Regarding Purported New Findings on Bt Corn and Monarch Butterflies,” August 21, 2000, <http://www.biotechnknowledge.com/showlib_us.php.3?3854>, Reference No. 3854 (1 page)
 - Carol Kaesuk Yoon, “New Data in Duel of Biotech Corn vs. Butterflies,” *New York Times*, August 22, 2000. (1 page)
 - Rebecca Goldberg, “Assessing Environmental and Evolutionary Impacts,” (Presented at *Governing GMOs*, University of Minnesota, 2000) (2 pages)
 - For reference only: Laura C. Hansen and John J. Obrycki, “Field Deposition of Bt Transgenic Corn Pollen: Lethal Effects on the Monarch Butterfly” in *Oecologia* August 19, 2000 (13 pages)
- Tuesday, March 13 — No Class (Spring Recess)

Thursday, March 15 — No Class (Spring Recess)

14. Tuesday, March 20 — Humanitarian Concerns

65 Pages

- Peter Singer, “Famine, Affluence, and Morality,” in *Philosophy and Public Affairs* 1 (Spring 1972): 229 – 243 (15 pages)
- Onora Nell, “Lifeboat Earth,” in *Philosophy and Public Affairs* 4 (Spring 1975): 273 – 292 (20 pages)
- Madeleine Nash, “Grains of Hope,” in *Time* (July 31, 2000): 39 – 46 (8 pages)
- Maarten J. Chrispeels, “Biotechnology and the Poor,” in *Plant Physiology* 124 (September 2000): 3 – 6 (4 pages)
- Kimbrell, Andrew, “Why Biotechnology and High-Tech Agriculture Cannot Feed the World,” in *The Ecologist* 28 (September/October 1998): 294 – 298 (5 pages)
- Vandana Shiva, “Genetically Engineered Vitamin ‘A’ Rice: A Blind Approach to Blindness Prevention,” http://www.biotech-info.net/blind_rice.html (2 pages)
- Recommended, but not required: Ingo Potrykus, “The “Golden – Rice” Tale” (16 pages, distributed in class)
- For reference only: Xudon Ye, Salim Al-Babili, Andreas Klöti, Jing Zhang, Paola Lucca, Peter Beyer, and Ingo Potrykus, “Engineering the Pro-Vitamin A (Beta – carotene) Biosynthetic Pathway into (Carotenoid-Free) Rice Endosperm,” *Science* 287 (January 14 2000): 303 – 305 (3 pages)

3. Patents and Biotechnology (5 Meetings)

In this section, we will look at the patent law system and the main court cases involving biotechnology. We will address such questions as the following. What, if anything, ethically justifies the patent law system? What rights do developing countries have to compensation for the use of their plant genetic resources? Does allowing life patents encourage harm to the environment or show improper respect for life? And is it permissible to patent human DNA?

15. Thursday, March 22 — Background on Patenting and the History of Biotechnology Patenting

35 Pages

- Robert Merges, “Introduction to the Patent Act,” Ch 2. § A in *Patent Law and Policy* (Charlottesville, Virginia: Michie Law Publishers, 1997), 51 – 61 (11 pages)
- Robert Merges, “Natural Substances and Living Things: Introduction,” Ch. 2 §D Subsection 1 in *Patent Law and Policy* (Charlottesville, Virginia: Michie Law Publishers, 1997), 157 – 163 (7 pages)
- Robert Merges, “Natural Substances and Living Things: Plants,” Ch. 2 §D Subsection 2 in *Patent Law and Policy* (Charlottesville, Virginia: Michie Law Publishers, 1997), 164 – 175 (12 pages)
- Robert Merges, “Natural Substances and Living Things: Animals,” Ch. 2 §D Subsection 3 in *Patent Law and Policy* (Charlottesville, Virginia: Michie Law Publishers, 1997), 176 – 180 (5 pages)

16. Tuesday, March 27 — A Critique of the Utilitarian Argument for Patents

32 Pages

- Michele Svatos, “Biotechnology and the Utilitarian Argument for Patents,” in *Scientific Innovation, Philosophy, and Public Policy*, eds. by Ellen Frankel Paul,

Fred D. Miller, Jr., and Jeffrey Paul (Cambridge: Cambridge University Press, 1996), 113 – 144 (32 pages)

17. Thursday, March 29 — Intellectual Property and Developing Countries
20 Pages (3rd paper topic distributed)
 - Hope Shand, “There is a Conflict Between Intellectual Property Rights and the Rights of Farmers in Developing Countries,” in the *Journal of Agricultural and Environmental Ethics*: 1991 131 – 142 (12 pages)
 - Sidney B. Williams, Jr., “There is Not a Conflict Between Intellectual Property Rights and the Rights of Farmers in Developing Countries,” in the *Journal of Agricultural and Environmental Ethics*: 1991 143 – 150 (8 pages)
18. Tuesday, April 3 — Patenting Living Organisms
49 Pages
 - Ned Hettinger, “Patenting Life: Biotechnology, Intellectual Property, and Environmental Ethics” in the *Boston College Environmental Affairs Law Review* 267 (Winter 1995) (29 pages)
 - R. Stephen Crespi, Ch. 26 in *Biotechnology, Morality, and Patents*, edited by Sigrid Sterkx (Burlington, Vermont: Ashgate Publishing Company, 2000) 277 – 296 (20 pages)
19. Thursday, April 5 — Patenting Human DNA
23 Pages
 - Pilar Ossorio, “Legal and Ethical Issues in Biotechnology Patenting” (23 pages)

4. Animal Biotechnology (4 Meetings)

In this section, we will survey the techniques and uses of animal biotechnology, and evaluate some of the concerns that have been expressed about them. Some of the concerns are based on consequentialist considerations concerning human safety and animal welfare, but others are based on non-consequentialist considerations regarding the social value of small farms, animal rights, and the integrity of animal species.

20. Tuesday, April 10 — Case Study on Recombinant Bovine Somatotropin
25 Pages
 - Sheldon Krimsky and Roger Wrubel, “Animal Growth Hormones: The Case of Bovine Somatotropin,” Ch. 9 in *Agricultural Biotechnology and the Environment* (Urbana: University of Illinois Press, 1996), 166 – 190 (25 pages)
21. Thursday, April 12 — Our Duties to Animals and an Introduction to Current Uses and Prospects for Animal Biotechnology
31 Pages
 - Sheldon Krimsky and Roger Wrubel, “Transgenic Animals,” Ch. 10 in *Agricultural Biotechnology and the Environment* (Urbana: University of Illinois Press, 1996), 191 – 211 (21 pages)
 - Immanuel Kant, “Our Duties to Animals,” in *Contemporary Moral Problems*, ed. James E. White (Belmont, CA: Wadsworth Publishing Company, 2000), 489 (1 page)

- Tom Regan, “The Case for Animal Rights,” in *Contemporary Moral Problems*, ed. James E. White (Belmont, CA: Wadsworth Publishing Company, 2000), 500 – 508 (9 pages)
22. Tuesday, April 17 — The Use of Animals in Medical Research and in Agriculture
45 Pages
- R. G. Frey, “Medicine, Animal Experimentation, and the Moral Problem of Unfortunate Humans,” in *Scientific Innovation, Philosophy, and Public Policy*, eds. by Ellen Frankel Paul, Fred D. Miller, Jr., and Jeffrey Paul (Cambridge: Cambridge University Press, 1996), 181 – 211 (31 pages)
 - Tibor R. Machan, “Do Animals Have Rights?,” in *Contemporary Moral Problems*, ed. James E. White (Belmont, CA: Wadsworth Publishing Company, 2000), 509 – 515 (7 pages)
 - Marry Anne Warren, “Difficulties with the Strong Animal Rights Position,” in *Contemporary Moral Problems*, ed. James E. White (Belmont, CA: Wadsworth Publishing Company, 2000), 516 – 522 (7 pages)
23. Thursday, April 19 — Genetic Engineering and the Species Integrity Argument
44 Pages (Third paper topics, or rough drafts, are due)
- David E. Cooper, “Intervention, Humility, and Animal Integrity,” Ch. 11 in *Animal Biotechnology and Ethics*, eds. Alan Holland and Andrew Johnson (London: Chapman and Hall, 1998), 145 – 155 (11 pages)
 - Bernard E. Rollin “On Telos and Genetic Engineering,” Ch. 12 in *Animal Biotechnology and Ethics*, eds. Alan Holland and Andrew Johnson (London: Chapman and Hall, 1998), 156 – 171 (16 pages)
 - Robin Attfield, “Intrinsic Value and Transgenic Animals,” Ch. 13 in *Animal Biotechnology and Ethics*, eds. Alan Holland and Andrew Johnson (London: Chapman and Hall, 1998), 172 – 189 (18 pages)

6. Political Considerations (6 meetings)

Some of the objections voiced by the public are not so much about the particular governmental decisions that have been made regarding biotechnology as they are about the political process by which those decisions, right or wrong, were made. In this section, we look at different conceptions of the proper bases for political decision making, we will explore the role that public preferences on the one hand and expertise on the other should play in democratic decision making. We will ask how conflicts of interest should be handled. And we will ask whether radical environmental activism against companies who engage in genetic engineering is justified.

24. Tuesday, April 24 — Harm, Offense, and the Legitimate Bases for Government Action
44 Pages
- Joel Feinberg, “General Introduction,” in *Harm to Others*, by Joel Feinberg (New York: Oxford University Press, 1984), 3 – 29 (27 pages)
 - John Stuart Mill, “The Harm Principle,” in *The Philosophy of Law*, edited by Frederick Schauer and Walter Sinnott – Armstrong (Fort Worth: Harcourt Brace College Publishers, 1996), 310 – 313 (4 pages)
 - Joel Feinberg, “The Offense Principle,” in *Social and Political Philosophy*, edited by George Sher and Baruch A. Brody (Fort Worth: Harcourt Brace College Publishers, 1996), 84 – 96 (13 pages)

25. Thursday, April 26 — The Role of Expertise in a Democracy
28 Pages (Rough drafts will be handed back)
- Robert Dahl, “Guardianship,” Ch. 4 in *Democracy and Its Critics* by Robert Dahl (New Haven: Yale University Press, 1989), 52 – 64 (13 pages)
 - Robert Dahl, “A Critique of Guardianship,” Ch. 5 in *Democracy and Its Critics* by Robert Dahl (New Haven: Yale University Press, 1989), 65 – 79 (15 pages)
26. Tuesday, May 1 — The Role of Preferences in a Democracy
51 Pages
- Robert Dahl, “Is Political Equality Justified,” Ch. 4 in *Controlling Nuclear Weapons*, by Robert Dahl (Syracuse: Syracuse University Press, 1985) 53 – 68 (16 pages)
 - Cass Sunstein, “Democracy and Shifting Preferences,” in *The Idea of Democracy*, edited by David Copp, Jean Hampton, and John Roemer (Cambridge: Cambridge University Press, 1993), 196 – 230 (35 pages)
27. Thursday, May 3 — Legislative Ethics and Conflicts of Interest
40 Pages
- Dennis F. Thompson, “Legislative Ethics,” Ch. 4 in *Political ethics and Public Office*, by Dennis F. Thompson (Cambridge: Harvard University Press, 1987) 96 – 122 (27 pages)
 - Dennis F. Thompson, “Mediated Corruption: The Case of the Keating Five,” in *American Political Science Association Review* 87.2 (1993): 369 – 381 (13 pages)
28. Tuesday, May 8 — Alleged Regulatory Failures
49 Pages
- Brewster Kneen, “Made To Order: Regulation,” Ch. 9 in *Farmageddon* (Gabriola Island: New Society Publishers, 1999), 119 – 154 (36 pages)
 - Eichenwald, Kurt; Kolata, Gina; Peterson, Melody, “Biotechnology Food: From the Lab to a Debacle,” in *The New York Times*, January 25, 2001 (9 Pages)
 - Franken Shrub, “Bush’s Ties to Monsanto,” in *The Village Voice* (1 page)
 - The Edmunds Institute, “The Old Revolving Door” (2 pages)
 - Melody Peterson, “Biotech Expert’s new Job Casts a Shadow on Report,” in *The New York Times*, August 16, 1999 (2 pages)
29. Thursday, May 10 — Radical Environmental and Animal Rights Activism
49 Pages (Final drafts or final papers are due)
- Ronald Dworkin, “Civil Disobedience and Nuclear Protest,” in *A Matter of Principle* by Ronald Dworkin, 104 – 119 (16 pages)
 - Reuters, “French Rebel Bove Convicted for GM Food Assault,” *Planet Ark*, March 16, 2001 (2 pages)
 - Bioengineering Action Network, “The Cross – Pollinator #1, Harvest, 1999,”
 - Kim Murphy, “Eco-terror Groups Fights Fire with Fire, More Fire,” in *The Denver Post*, May 2, 2000 (4 pages)
 - Denny Henke, “GE Trees Destroyed at Oregon State,” *Genetix Alert News Release*, March 23, 2001 (3 pages)
 - Dave Foreman, “Earth First!” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 187 – 191 (5 pages)

- Dave Foreman, “Strategic Monkeywrenching” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 192 – 194 (3 pages)
- Eugene Hargrove, “Ecological Sabotage: Pranks or Terrorism?” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 250 – 251 (2 pages)
- Edward Abbey, “Earth First! And the Monkey Wrench Gang” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 252 (1 page)
- Dave Forman, “More on Earth First! And the Monkey Wrench Gang” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 253 (1 page)
- Eugene Hargrove, “Editor’s Response” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 254 (1 page)
- Michael Martin, “Ecosabotage and Civil Disobedience,” in *Radical Environmentalism*, edited by Peter C. List (Belmont: Wadsworth Publishing Company, 1993) 255 – 265 (11 pages).