

## **ESC 3361 (CV) – Social Issues and Ethics for Computer Science and Engineering**

**Dr. Douglas C. Dow**

**Autumn 2016: MW 2:30-3:45PM CV Seminar Room - GC 1.208B**

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### **Course Description**

The study of politics and values in science, engineering, and commerce involves an analysis of three interlocking areas: technology, politics and law, and ethics. We shall begin with a discussion of science and engineering as social institutions, and their unique place within ethical, political, and policy disagreements. Second, we shall initiate an overview of the two major languages of public normative evaluation (utilitarianism and deontology), as well as a discussion about the problems of debating the normative dimensions of public policy, given the fact of ethical pluralism. We shall then proceed to an examination of selected topics that concerns the interaction between science and technology, ethics, and public policy. Especially relevant will be the concern for how current ethical practices are influenced and challenged by political institutions and technological developments.

The intent of this seminar will not be to generate ‘correct’ answers to any of the conflicts we shall study. Instead, our goals will be to 1) raise awareness of the larger social and political impact of scientific and technological developments; 2) develop a working vocabulary of evaluative terms and concepts derived from political, economic, and ethical theory; and 3) apply this evaluative vocabulary in formulating and critiquing arguments and decisions regarding the ethical problems that are raised. While there are no right or wrong answers, over the course of the semester, we will come to discern better and worse arguments.

### **Component Learning Objectives:**

- 1) Students will be able to better understand the professional, ethical, legal and social issues and implications for the professional responsibilities of engineers and computer scientists.
- 2) Students will be able to develop a working vocabulary of evaluative terms and concepts derived from political, economic, and ethical theory
- 3) Students will be able to apply this evaluative vocabulary in formulating and critiquing arguments and decisions regarding the ethical problems that are raised.

## **Course Requirements**

**Attendance and Participation:** An important requirement for this honors seminar will be active participation in class discussion, debate and analysis. Regular attendance is required, and the professor will take attendance for each class. Each student is expected to have completed the day's readings before class. Be prepared to talk. Everyone will be expected to demonstrate civility and a respect for the thoughts, opinions and beliefs of others. Notes or summaries will not be provided for missed classes. Cell phones and any other electronic noise-makers should be turned off (and not just on vibrate) during class. Because of the frequency by which many students using laptops to take notes also succumb to the temptations to surf the Web, check email, IM, or otherwise disengage themselves from class discussions, the use of laptops or other electronic devices will not be permitted during class.

**Exams:** There will be three exams, each closed book, closed note, in-class essay exams. They will cover both the assigned readings and lecture/discussion material. Each exam will be worth 20% of the final grade. The questions will be distributed one week in advance of the exam.

**Issues Essay:** Each student will be expected to write one issues essay, of between 8-10 pages. This essay will be worth 30% of the final grade, and will be due on Monday, November 28, 2016, at 2:30PM. Students are asked to submit a hard copy of the essay to the professor, and an electronic copy to turnitin.com. For more information on the issues essay, please see below.

**Quizzes:** Each class may begin with a brief quiz covering the readings that are required for that day. These quizzes will test recollection of the main ideas of the reading material and aid as a starter for class discussion. The accumulation of quizzes, combined with attendance and the quality of student participation, especially during the roundtables, will account for 10% of the final grade.

**Roundtable Sessions:** We will hold three formal student-led roundtable discussions, for the Michaels, Nissenbaum, and Wagner/Weitzman books. Roundtables are student lead discussion and debate. Each participant will be expected to come prepared with the book, notes on the book, as well as a list of approximately five to seven questions, comments, or quotations for further deliberation. Everyone participates – no one merely listens.

**Make-ups:** Make-up exams will be given only in documented emergency situations and at the discretion of the professor.

**Syllabus Changes:** The professor reserves the right to amend this syllabus during the semester. Any changes will be announced in class, and students will be responsible for getting and following the new information.

**Grading Scale:** All exams will be graded on a 100-point scale. The following conversion chart will be used to translate numbers into letter grades:

A: 94-100  
 A-: 90-93  
 B+: 87-89  
 B: 84-86

B-: 80-83  
 C+: 77-79  
 C: 74-76  
 C-: 70-73

D+: 67-69  
 D: 64-66  
 D-: 60-63  
 F: below 60

### **University Policies**

All of the requirements and processes contained in this syllabus and made by the professor shall comply with university wide policies. For more information on UTD's academic policies, including student conduct and discipline, religious holidays, academic integrity, email use, withdrawal from the class, grievance policies, incomplete grade policies, and disability services, please go to: <http://provost.utdallas.edu/syllabus-policies/>

### **Books for Purchase**

Books for this class can be purchased at the University Book Store. They may also be purchased at any number of online websites, where used copies may be found. All other readings will be made available by email, in class handout, or will be available online. Unless especially instructed to by the professor, students are not required to print material available electronically.

- David Michaels. *Doubt is Their Product: How Industry's Assault on Science Threatens Your Health* (Oxford University Press, 2008)
- Helen Nissenbaum. *Privacy in Context: Technology, Policy, and the Integrity of Social Life* (Stanford University Press, 2010)
- Gernot Wagner and Martin Weitzman. *Climate Shock: The Economic Consequences of a Hotter Planet*. (Princeton University Press, 2015)

### **Issues Essay**

Each student will be expected to write one "issues essay", of between 8-10 pages. This assignment will consist of identifying and assessing a range of opinions on one discrete controversy within professional ethics or public policy (which can encompass business, engineering, computer science, bioethics, health care, and the law). Your goal will be to identify a concrete ethical problem that involves a current topic of public concern, explain why a dilemma or controversy exists, and explore two or more possible positions on this controversy, assessing their principles, their strengths and weaknesses.

This essay will be worth 30% of the final grade. Students will submit to the professor a paragraph description of their topic choice, along with at least two sources, by Wednesday, September 14. This paragraph will both identify a concrete issue of contemporary significance, as well as explain why the issue involves an ethical dilemma.

A hard copy of the final essay will be due at the beginning of class, Monday, November 28, 2016. Students are asked to submit a hard copy of the essay to the professor and an electronic copy to **turnitin.com**.

### **Possible Topics for the Issues Essay**

Abortion	Health and safety regulations
Advance directives	Intellectual Property conflicts
AIDS treatment in developing nations	Land use controversies
Animal research	Net Neutrality
Birth control	Nuclear testing
Chimeras	Organ tr ansplants and fair distribution
Coercive treatment in psychiatry	Overuse/damage of natural resources
Consumer privacy	Patent Law Abuses
Corporate responsibility	Physician-assisted dying
Disaster preparation	Privacy and technology
Driverless Vehicles	Production and disposal of hazardous/toxic substances
Drone Warfare	Stem cell research
Electronic surveillance	Teaching of evolution in public schools
Euthanasia	Video Gaming controversies
Fetal research	Wildlife conservation
Gene research	War on terrorism and privacy
Genetically modified food	Whistle blowing
Climate Change	

**Turnitin.com:** We will be using **turnitin.com** to guard against plagiarism in the issues essays. Each student must submit her or his issue essay to **turnitin.com**. I have established an account for this class. For those who have never used this website before, on the homepage there is a brief tutorial on setting up your class account. You will need both your class ID # and class enrollment password. Be careful: the password is case-sensitive:

**Class ID #: 13196901**

**Class Enrollment Password: Network**

### **Schedule of Readings**

#### **August 22: Introductions**

Syllabus

### **August 24: Ethical Disagreement, Public Policy, and Role Morality**

Michael Davis, “Thinking Like an Engineer: The Place of a Code of Ethics in the Practice of a Profession” from *Philosophy and Public Affairs* (Spring, 1991), pp. 150-167.

Amy Gutmann and Dennis Thompson, “Deliberating on Bioethics” from *Hastings Center Report* (May-June 1997), pp. 38-41.

### **August 29, August 31: Science and Engineering as a Culture and an Institution**

Robert K. Merton. “The Normative Structure of Science” from *The Sociology of Science: Theoretical and Empirical Investigations* (University of Chicago Press, 1973), pp. 267-278.

Piotr Sztompka. “Trust in Science.” *Journal of Classical Sociology* V. 7, No. 2 (2007) pp. 211-220.

**There will be no official seminar meeting Wednesday, August 31, as Dr. Dow will be out of town attending an academic conference.**

### **September 5: Labor Day – Official University Holiday**

#### **September 7, 12, 14: Maximize Benefit: The Languages of Utilitarianism**

Tim Chappell and Roger Crisp. “Utilitarianism” from *Routledge Encyclopedia of Philosophy* pp. 551-556.

David Weinstein. “Utilitarianism” from *The Encyclopedia of Political Thought.*, pp. 1-3.

Jeremy Bentham. *An Introduction to the Principles of Morals and Legislation* (1789) excerpts.

John Stuart Mill. *Utilitarianism* (1863) excerpts.

Binyamin Appelbaum. “As U.S. Agencies Put More Value on Life, Businesses Fret” *The New York Times*. February 16, 2011.

Dirk Haubrich. “Cost-Benefit Analysis” from *International Encyclopedia of the Social Sciences*, 2<sup>nd</sup> Ed. pp. 150-151.

Robert H. Frank. "Why is Cost-Benefit Analysis so Controversial?" *Journal of Legal Studies* (June 2000), pp. 913-930.

### **September 19, 21, 26: Do the Right Thing: Deontological Ethics and Rights**

Immanuel Kant. *Groundwork for a Metaphysics of Morals* (1785) excerpts.

Onora O'Neill. "Kantian Ethics" from *Routledge Encyclopedia of Philosophy*, pp. 200-203.

Thomas E. Hill, Jr. "Respect for Persons" from *Routledge Encyclopedia of Philosophy*, pp. 283-286.

Michael Rosen. "Kantian Dignity" from *Dignity: Its History and Meaning*, pp. 19-31.  
Thomas E. Hill, Jr. "The Importance of Autonomy" in *Autonomy and Self-Respect* (Cambridge University Press, 1991), pp. 43-51.

Willard Gaylin. "Worshiping Autonomy" *The Hastings Center Report* (Nov.-Dec. 1996), pp. 43-45.

### **September 28: First Exam**

### **Oct. 3, 5: Fetuses and Chimeras: Controversies in Stem Cell Research**

National Bioethics Advisory Commission. *Ethical Issues in Human Stem Cell Research: Executive Summary* (September 1999)

George W. Bush. Statement on Federal Stem Cell Research Policy (August 9, 2001).

Barak Obama. Statement on Federal Stem Cell Research Policy (March 9, 2009)

John A. Robertson. "Ethics and Policy in Embryonic Stem Cell Research" *Kennedy Institute of Ethics Journal* 9.2 (1999) 109-136.

Glenn McGee and Arthur Caplan. "The Ethics and Politics of Small Sacrifices in Stem Cell Research." *Kennedy Institute of Ethics Journal* 9.2 (1999) 151-158

Robert P. George and Patrick Lee. "Acorns and Embryos" *The New Atlantis* (2005), pp. 90-100.

Liza Mundy. "Souls On Ice: America's Embryo Glut and the Wasted Promise of Stem Cell Research." *Mother Jones*. July/August 2006.

**October 10, 12: Interest Group Products and Scientific Credibility (Roundtable)**

David Michaels. *Doubt is our Product* (2008).

**October 17, 19, 24: Technology and Democracy**

Norman J. Vig. "Technology, Philosophy, and the State: An Overview" in *Technology and Politics* (eds.) Michael E. Kraft and Norman J. Vig (Duke University Press, 1988)

Langdon Winner. "Do Artifacts Have Politics?" in *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (University of Chicago Press, 1986)

Bruno Latour. "A Collective of Humans and Non-Humans: Following Daedalus's Labyrinth" in *Pandora's Hope* (Harvard University Press, 1999).

**October 26: Second Exam**

**October 31, November 2, 7: The Environment and the Form of Tragedy (Roundtable)**

Gernot Wagner and Martin Weitzman. *Climate Shock: The Economic Consequences of a Hotter Planet*. (2015)

Garrett Hardin. "The Tragedy of the Commons" *Science* 162 (1968) pp. 1243-1248.

**November 9, 14, 16: Technological Innovation and Privacy (Roundtable)**

Helen Nissenbaum. *Privacy in Context: Technology, Policy, and the Integrity of Social Life* (2010).

**Fall Break: Monday November 21 - Friday November 25**

**November 28, 30: Death and End-of-Life Medical Choices**

Daniel Bergner. "Death in the Family" *New York Times*. December 2, 2007.

Douglas C. Dow. "Washington v Glucksberg". *Encyclopedia of the United States Constitution*

New York State Task Force on Life and the Law. *When Death is Sought: Assisted Suicide and Euthanasia in the Medical Context*. Supplement to the Report (April 1997)

Kathryn L. Tucker. "In the Laboratory of the States: the Progress of *Glucksberg's* Invitation to States to Address End-Of-Life Choice" *University of Michigan Law Review* (June 2008).

Neil M. Gorsuch. "An Argument Against Legalization" in *The Future of Assisted Suicide and Euthanasia* (Princeton University Press, 2006), pp. 157-180.

**December 5: Review****December 7: Third Exam**