

Community and Environmental Sociology 245
Sociology 245
Integrated Liberal Studies 275
Technology and Society
TR 9:30-10:45AM 1213 Engineering Hall
Fall 2016

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Course Description

This course explores the relationship between science, technology, and society. It is premised on the idea that science and technology affect our social, cultural, economic, and political lives, and, equally, scientific research and technology development are shaped by their social, cultural, economic, and political contexts.

The course has four goals:

1. Challenge students to reflect on their own assumptions about the relationships among knowledge, science, technology, society, and politics.
2. Allow students to develop a set of analytical tools with which to consider the place of science and technology in society.
3. Engage students in analyses of major contemporary controversies, enabling each student to acquire in-depth knowledge of one issue of her/his choosing.
4. Improve students' skills in writing and public speaking.

Requirements and Evaluation

- 1. Class participation and attendance.** Most of the in-class learning that goes on will be through group discussion and related activities. You must show up prepared for class, engage in discussion, ask questions, dare to be wrong, listen to your fellow students, and share your ideas respectfully. The time each week in discussion represents the only meaningful difference between taking the course and simply using the syllabus as a private reading list. Preparation for class (reading, thinking, and writing) is essential to each participant's intellectual development as well as to the experience of the group.

Since this is a discussion-oriented class, you are expected to contribute to the class discussions. Lack of class participation could hurt your final grade. If you are a passive learner and never or almost never raise your hand in class to ask or answer questions or contribute thoughtful comments, your participation grade in this course will not be higher than BC.

2. **Attendance** is imperative. You are entitled to four absences throughout the semester. Each absence beyond the limit of four will result in lowering your course grade by one half grade: i.e., 5 absences turns an A into an AB; 6 absences turns an A into a B. Since I do not distinguish between "excused" and "unexcused" absences, I suggest you keep your four absences in reserve for illness or other unanticipated events that might interfere with your attendance.

3. **Assignments**

- a. Details for each assignment are available at Learn@UW.
- b. Unless otherwise indicated all written assignments should be uploaded to the Learn@UW Dropbox.
- c. **Written Assignment Formatting:** All written assignments should be formatted with 1-inch margins, 12pt font (Times New Roman, if possible), and double-spaced. Please number your pages, and when providing hard copy submissions staple papers in upper left-hand corner. Your paper should have a title, and your name should appear on the paper.
- d. **Grading Criteria for Written Work** (based on and modified from the syllabi of Professor Aili Mari Tripp):
 - i. *Well defined argument.* An argument is a claim or set of claims that you defend. Most often your defense will draw on evidence. Evidence may come in many forms, and the appropriate form will vary from paper topic to paper topic. Sometimes your personal experience will provide appropriate evidence, sometimes data from a government source will make sense, and in some cases quoting from a novel will fit the assignment. See iii below. For a clear discussion of argument and defending arguments see:
<http://writingcenter.unc.edu/handouts/argument/>
 - ii. *Originality of Ideas.* As appropriate, do your own views and voice come through clearly?
 - iii. *Serious Engagement of Alternative Arguments.* As appropriate, do you seriously consider arguments other than those you make?
 - iv. *Use of Evidence.* Evidence to support your argument is crucial. Ungrounded arguments are weak. Are you clear about what the evidence is in the case you consider? Are you clear about the breadth of applicability of the evidence you cite? In other words, do you understand the extent to which it is appropriate to generalize from the evidence you draw on? Some evidence is better than other evidence. Do you provide an assessment of evidence quality, as appropriate? For further discussion on evidence, see: <http://writingcenter.unc.edu/handouts/evidence/>
 - v. *Clarity of Presentation.* Are your ideas clearly expressed? Is your paper focused or does it wander? Can a reader easily identify your main points? Are the ideas presented elaborated sufficiently? Are there sign-posts to guide the reader? Are terms defined?
 - vi. *Grammar, Spelling, Citations.* Have you footnoted or cited ideas and facts that are not your own? Of course, all quoted material should appear in quotation marks. Citations for readings from the syllabus should simply

indicate author, date, and page number if relevant [e.g., (Collins 1995: 102)]. Citations for other readings should follow the same format within the text and also appear in a reference section at the end of the paper. You should have few spelling and/ or grammatical errors.

vii. *Organization*. Is the paper organized effectively? Is the sequence of points made logical and clear? Does each paragraph have a central idea that a reader can easily identify?

- e. **What is technology? What is science?—1** (5%) Due: September 8, before class. Upload your paper to the Learn@UW Dropbox. See assignment sheet.
- f. **Index Card Assignments** (15%). During 5 classes across the semester, I will ask you to bring to class an index card with answers to three to five questions about the reading for a particular day (see below for dates). I will provide you with the index card and the questions in advance of the class. Your index cards will provide the basis for class discussion. If you complete all five index cards, answering all of the questions I ask, you will receive an “A” for this portion of the course grade. Your grade for this portion of the course will be lowered by one-fifth for every index card assignment you do not complete or complete fully.
- g. **Rhetoric and Science** (10%) September 29 by 9:30 a.m. See assignment sheet.
- h. **Science and Technology Policy and the Presidential Election Essay** (5%) Due: October 6 at 9:30 a.m. See assignment sheet.
- i. **Gender and Technology** (10%) Due by 9:30 a.m. on October 27. See assignment sheet.
- j. **Critical Review of the *Immortal Life of Henrietta Lacks*** (10%) Due: By 9:30 a.m. on November 8 or 10. See assignment sheet.
- k. **Critical Review of *Intuition*** (10%) Due: November 17 or 22 by 9:30 a.m. See assignment sheet.
- l. **Group presentation and facilitation** (25%). See assignment sheet.
- m. **What is technology? What is science?—2** (5%) Due: December 16 by 5 p.m. Follow the instructions for the first ‘What is technology? What is science?’ assignment, except upload to Dropbox without handing in a hard copy. See assignment sheet.
- n. **Individual Write-Up of Group Presentation** (5%) Due: December 20 by 5 p.m. See assignment sheet.

4. Improving Your Writing. Writing is one of the most important skills with which you will leave the University. You should take your writing seriously and work hard to improve it. The University has a Writing Center where trained graduate students and professionals will work with you on your papers and help you to make them better. I urge you to take advantage of this resource. The Writing Center is at 6171 Helen C. White (263-9305). You are advised to make an appointment in advance of your desire to meet with a member of the Writing Center. This is especially important at the end of the semester.

5. **Academic Honesty.** You are responsible for understanding the University's standards for academic honesty. These are described on the University's website at <https://www.students.wisc.edu/doso/students/>.
6. **Grading.** Sometimes the end of the semester comes and students indicate to me that they are not clear about how each course requirement figures into their final grade and/ or how I grade individual assignments. I believe that the description above is exceedingly clear. Indeed, drawing on what I say above, you should be able to determine your grade at any point during the semester. If there is something you are unsure about, it is your responsibility to talk to me. I am always available.
7. **Accommodations.** If you have a disability or face any other challenge that could affect your participation and/or performance in this course, please contact me as soon as possible in order to discuss appropriate and helpful accommodations.

Required Reading

The books from which we will read substantial parts are available for purchase at A Room of One's Own (315 W Gorham St, Madison, WI 53703, 257-7888):

- Allegra Goodman. 2007. *Intuition*. New York: Dial Press.
- Rebecca Skloot. 2010. *The Immortal Life of Henrietta Lacks*. New York: Crown Publishers.

In addition, I will try to have these books on reserve at Helen C. White. Shorter readings will be available at Learn@UW.

Schedule

Beginnings

Sept 6: Introduction to the Course

- Introductions by instructor and students.
- Review of syllabus and assignments.

Sept 8: What is Science? What is Technology?

- **Assignment:** "What is technology?" or "What is science?"
 - Written paper due before class.
 - Be prepared to discuss your paper in class.

Where Science and Technology Meet Society

Sept 13: A Politics to Technology?

- Winner, Langdon (1986). “Do Artifacts Have Politics?” in *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago, University of Chicago Press): 19-39.
- Index card assignment.

Sept 15: No class

- Prepare to make group project selection.
 - See list at the end of this syllabus.
 - If you have alternative or additional topic possibilities, please email me with your suggestions no later than midnight on September 15th.

Sept 20: A Politics to Science?

- Kinchy, Abby J. and Daniel Lee Kleinman (2005). “Democratizing Science, Debating Values: New Approaches to ‘Politicized’ Science under the Bush Administration.” *Dissent* Summer: 54-62.
- Small group discussion.

Sept 22: Facts, Values and Ethics

- Pfatteicher, Sarah K. A. 2010. Introduction and Chapter 1 in *Lessons amid the Rubble*. Baltimore: Johns Hopkins University Press.
- Small group discussion.

Sept 27: Rhetoric in Science and Technology & Group Project Sign-up

- Peter B. Medawar (1964) “Is the Scientific Paper Fraudulent?” *The Saturday Review* (August 1): 42–43. <http://www.unz.org/Pub/SaturdayRev-1964aug01-00042>
- Eleonore Pauwels (2013) “Mind the Metaphor,” *Nature* 500 (29 August): 523-524.
- Lecture and discussion.
- Group Project Sign-up.

Sept 29: Rhetoric in Science and Technology Assignment Discussion

Oct 4: No class

- Research and prepare presidential election assignment.

Oct 6: The Presidential Election and Science and Technology Policy

- Discuss presidential candidate positions.

Ethics, Risk, Accidents, and Disaster

Oct 11: Engineering and Risk

- Pfatteicher, Sarah K. A. 2010. Chapter 2 in *Lessons amid the Rubble*. Baltimore, Johns Hopkins University Press.
 - Small group discussion.

Oct 13: Normal Accidents

- Charles Perrow. 1981. “Normal Accident at Three Mile Island,” *Society* July/ August: 17-26.
- Index card assignment.
- Group Project Assignments Announced.

Oct 18: Organizational Culture and Accidents

- Diane Vaughan. 2008. “On Slippery Slopes, Repeating Negative Patterns, and Learning from Mistake: NASA’s Space Shuttle Disasters.” Pages 262-277 in Daniel Lee Kleinman, et al. (eds.), *Controversies in Science and Technology: From Climate to Chromosomes*, volume 2. New Rochelle, NY: Mary Ann Liebert, Inc. Publishers.
- Index card assignment.

Oct 20: In Class Work on Group Projects

Oct 25: Epistemic Accidents

- John Downer. 2011. “‘737-Cabriolet’: The Limits of Knowledge and the Sociology of Inevitable Failure,” *American Journal of Sociology* 117:3: 725-762.
- Index card assignment.

Gender, Science, and Technology

Oct 27: Gender, Science, and Technology

- Ruth Schwartz Cowan. 1985. “The Industrial Revolution in the Home.” Pages 281-301 in Donald MacKenzie and Judy Wajcman (eds.), *The Social Shaping of Technology*. 2nd edition. London: Open University Press.
- Joanne McNeil. 2015. “Why do I have to call this app ‘Julie’?” *New York Times* December 20, 2015. http://www.nytimes.com/2015/12/20/opinion/sunday/why-do-i-have-to-call-this-app-julie.html?_r=0
- Writing assignment discussion.

Nov 1: Knowledge Gaps in the Aftermath of Disaster

- Scott Frickel and M. Bess Vincent. 2007. "Hurricane Katrina, contamination and the unintended organization of ignorance," *Technology in Society* 29:181-188.
- Kleinman, Daniel Lee and Sainath Suryanarayanan. 2013. "Dying Bees and the Social Production of Ignorance." *Science, Technology, and Human Values*. 38:4: 492-517
- Index card assignment
- Small group discussion

Nov 3: Living Digital

- Sherry Turkle. 2015. "Stop Googling, Let's Talk," *New York Times*. September 26. <http://www.nytimes.com/2015/09/27/opinion/sunday/stop-googling-lets-talk.html>

Race, Ethics and the Politics of Medicine

Nov 8

- Skloot. *The Immortal Life of Henrietta Lacks*. Pages 1-176.
- **Assignment:** Critical Assessment of the Skloot book.

Nov 10

- Skloot. Pages 179-328
- **Assignment:** Critical Assessment of the Skloot book.

Nov 15: In Class Work on Group Projects

Science and Fiction

Nov 17: Laboratory Life and Intuition--1

- Allegra Goodman. *Intuition*. Pages 3-228
- **Assignment:** Critical Assessment of *Intuition*

Nov 22: Laboratory Life and Intuition--2

- Allegra Goodman. *Intuition*. Pages 228-385.
- **Assignment:** Critical Assessment of *Intuition*

Nov 24: Thanksgiving—No Class

Group Presentations

Nov 29 Group #1 Presentation

Dec 1	Group #2 Presentation
Dec 6	Group #3 Presentation
Dec 8	Group #4 Presentation
Dec 13	Group #5 Presentation
Dec 15	Group #6 Presentation

Group Presentations - Possible Topics

Each student will provide ranked preferences for which three among these topics s/he would like to work on. Sign up for one of the following topics, as explained in the description of assignments. I will then assign students to presentation groups. Topics:

- Climate Change
 - Meat production and climate change
- Alternative Fuels
- Fracking
- Food and Technology
 - Genetically modified crops
 - Antibiotics and meat production
- Nuclear Power
- The Future of Television
- Growing up Digital
- Personalized medical care
- Conflicts of Interest in Science
- Youth and Digital Technology