

# HONR 304T

## Honors Seminar in Lifelong Learning

### Topic: Science, Technology, and Society

Prof. Craig McConnell      Spring 2006

An interdisciplinary examination of the relationships between science, technology, and social institutions and structures. Science and technology play tremendous roles in shaping modern society, yet for many they are largely unexamined forces. How are new technologies developed? What impact do they have on our lives? Who controls the direction of science and technology?

The goal of engaging issues in Science, Technology, and Society is in many ways parallel with the goals of general education: the seminar will emphasize critical engagement of a variety of sources, the ability to discuss complex issues, and the ability to write about these issues. The scientific world that we live in makes STS an important part of Lifelong Learning – throughout your life, you will be confronted with the impact of science, technology, and medicine on your life and on the world in which you live. Risk assessment and policy making in science and technology are complicated endeavors for which all citizens share responsibility.

#### Learning Goals – General Education Category IV (Lifelong Learning)

This course explicitly addresses the following learning goals:

IV.A.2. To understand the course of human life, that is, how human life and experience are constructed and altered through biological, psychological, social, scientific, technological, and cultural influences.

IV.A.3. To understand conceptions of the course of human life from different cultural perspectives.

IV.A.5 To understand the basis and the means by which individuals and society make decisions.

#### Contact Information

I am here to help you do well in this course.

Make good use of office hours and office appointments.

email: cmcconnell@fullerton.edu  
Home Phone: 714 223-0404 (9:00 am to 9:00 pm only)  
Office: H-223C  
Office Hours: MW 10-11; R 5:30-6:30, and by appointment.  
Office Phone: (714) 278-3935 (24-hour voice mail)

Come to class prepared to discuss the readings, come to office hours whenever you feel like it, and enjoy the semester!

## Introductions

Jan. 31 **Introductions, Semester Preview, Seminar Logistics**

Feb. 2 **Science Literacy as a Social Issue**

Read: Robert Hazen, "Why Should You Be Scientifically Literate?"

Robert Yager, "Science-Technology-Society and Education: A Focus on Learning and How Persons Know" in *Visions of STS*

Richard Sclove, "STS on Other Planets," in *Visions of STS*

## STS as Interdisciplinary Inquiry

Feb. 7 **Science, Technology, and Society: An Overview of Methodological Tools and Perspectives.**

Read: Collins and Pinch, "Introduction," "The Role of Patriot in the Gulf War," and "Assigning Blame for the *Challenger* Explosion" in *The Golem at Large*

Feb. 9 Read: Judy Wajcman, "Feminist Perspectives on Technology," in *Technology and the Future*.

Sharon Traweek, "An Introduction to the Cultural, Gender, and Social Studies of Science and Technology" in *Journal of Culture, Medicine, and Psychiatry*.

Eulalia Sedeño, "Gender: The Missing Factor in STS," in *Visions of STS*.

Feb. 14 Read: Leo Marx, "Does Improved Technology Mean Progress?" in *Technology and the Future*.

Bruno Latour, "Do You Believe in Reality? News from the Trenches of the Science Wars" in *Pandora's Hope: Essays on the Reality of Science Studies*.

Feb. 16 Writing Workshop I

**Informal Writing Assignment #1 Due at Beginning of Seminar**

## Science, Technology and Policy

Feb. 21 **How Science Policy is Made**

Read: Thomas Gieryn, "The (Cold) Fusion of Science, Mass Media, and Politics" in *Cultural Boundaries of Science*

Winner, *The Whale and the Reactor*, Ch. 1-3.

Feb. 23 Read: Daniel Kevles, "Big Science and Big Politics in the United States: Reflections on the Death of the SSC and the Life of the Human Genome Project," in *Historical Studies in the Physical and Biological Sciences*

Thomas Hughes, "The Evolution of Large Technological Systems" in *The Science Studies Reader*

- Feb. 28                    Read: Lars Fuglsang, “Three Perspectives in STS in the Policy Context” in  
*Visions of STS*  
 Albert Teich, “STS from a Policy Perspective” in *Visions of STS*  
 Norman Clark, “Science and Technology Policy,” in *The Political  
 Economy of Science and Technology*
- Mar. 2                    **The Impact of Science Policy on People’s Lives**  
 Read: Collins and Pinch, “The Science of the Lambs: Chernobyl and the  
 Cumbrian Sheepfarmers” and “ACTing UP: AIDS Cures and  
 Lay Expertise” in *The Golem at Large*
- Mar. 7                    Writing Workshop II  
**Informal Writing Assignment #2 Due at Beginning of Seminar**  
 Science, Technology, and the Internet
- Mar. 9                    Read: Sherry Turkle, “What are We Thinking about When We Are Thinking about  
 Computers?” in *The Science Studies Reader*  
 Sherry Turkle, “‘Spinning Technology’: What We are Not Thinking About  
 When We Are Thinking About Computers,” in *Technological  
 Visions*
- Mar. 14                    Read: Edward Tenner, “The Computerized Office: The Revenge of the  
 Body” in *Why Things Bite Back: Technology and The  
 Revenge of Unintended Consequences*.
- Mar. 16                    Read: Edward Tenner, “The Computerized Office: Productivity Puzzles” in  
*Why Things Bite Back: Technology and The Revenge of  
 Unintended Consequences*.
- Mar. 21                    Read: Neal Stephenson, “In the Beginning was the Command Line”  
 Mar. 23                    Read: Andrews, “Mobilization” Chapters in *How the Web Was Won*.  
 Peter Lyman, “Information Superhighways, Virtual Communities,  
 and Digital Libraries: Information Society Metaphors as  
 Political Rhetoric,” in *Technological Visions*
- Mar. 28                    **[Spring Recess – No Class Today]**  
 Mar. 30                    **[Spring Recess – No Class Today]**
- Apr. 4                    Writing Workshop III  
**Essay #1 Due at Beginning of Seminar**  
 Science, Technology, and Medicine
- Apr. 6                    Read: Weinberg, “The Dark Side of the Genome” in *Technology Review*  
 Zola, “Medicine as an Institution of Social Control.” in *The  
 Sociology of Health and Illness*.

- Apr. 11                   Read: Edward Tenner, “Medicine: Conquest of the Catastrophic” in *Why Things Bite Back: Technology and The Revenge of Unintended Consequences*.  
                                   Shelley McKellar, “Artificial Hearts: A Technological Fix More Monstrous Than Miraculous?” in *Technological Fix*
- Apr. 13                   Read: Edward Tenner, “Medicine: Revenge of the Chronic” in *Why Things Bite Back: Technology and The Revenge of Unintended Consequences*.
- Apr. 18                   ***Advanced Individualized Reference Consultations with CSUF Science Librarian Report Directly to PLN 420.***
- Apr. 20                   Read: Stephen Jenkins, “Do Vitamin C and Other Antioxidants Benefit Health?” in *How Science Works: Evaluating Evidence in Biology and Medicine*.
- Apr. 25                   Read: Stephen Jenkins, “What Causes Cancer? The Complexities of Causation” in *How Science Works: Evaluating Evidence in Biology and Medicine*
- Apr. 27                   Writing Workshop IV  
                                   **Essay #2 Due at Beginning of Seminar**

## Science, Technology, and the Environment

- May 2                   **The Environment as an Expendable Resource**  
                                   Read: Hardin, “The Tragedy of the Commons” in *Science*.  
                                   Winner, *The Whale and the Reactor*, Ch. 4-6.
- May 4                   Read: Winner, *The Whale and the Reactor*, Ch. 7-10.
- May 9                   **The Environment in Which We Live**  
                                   Read: Colborn, Dumanoski, and Myers, *Our Stolen Future*, Ch. 1-5.
- May 11                   Read: Colborn, Dumanoski, and Myers, *Our Stolen Future*, Ch. 6-10.
- May 16                   Read: Colborn, Dumanoski, and Myers, *Our Stolen Future*, Ch. 11-14.  
                                   Frank Uekoetter, “Solving Air Pollution Problems Once and for All: The Potential and Limits of Technological Fixes,” in  
                                   *Technological Fix*
- May 18                   Writing Workshop V  
                                   **Essay #3 Due at Beginning of Seminar**
- May 23                   Final Draft of **Extended Essay** Due in My Office by End of Exam Period.  
                                   (Tuesday May 23, 2 p.m.)

## Course Requirements

Your final grade will be calculated based on four components of the course:

- Your support of an active learning community in our in-class discussion of shared readings. This aspect will make up 30% of your final grade. All seminar participants will be expected to come to each session prepared to discuss the week's reading. I strongly urge you to prepare reading notes for each of the major reading assignments (reminders of your reactions, insights, questions, and concerns that will allow you to take an active part in these discussions.)
- Four times in the course of the semester you will play a leading role in setting the agenda for our discussion. On those occasions, you will be expected to prepare guiding questions or topics for discussion that will serve to start our discussion (these notes must be typed and submitted at the beginning of the session for you to receive full credit). This aspect will make up 20% of your final grade.
- Five times in the course of the semester you will participate in Writing Workshops. These workshops will emphasize clarity of argument and engagement with our shared readings. The informal writing assignments should be 2-3 pages in length, the formal essays 4-5 pages in length. The Writing Workshops will make up 25% of your final grade.
- The remaining 25% of your final grade will be based on the production of an extended essay that will be due at the end of the final exam period scheduled for the course. Your extended essay should be based on one of the three formal essays that you produced earlier in the semester, with revisions that are based in part on the feedback that you received on the formal essay and in part on additional sources beyond our shared reading that you will pursue independently. The extended essay should be 8-12 pages in length.

There will be no extra credit options. Students will be assessed with +/- grades.

## Required Texts:

Collins and Pinch, *The Golem at Large*  
Winner, *The Whale and the Reactor*  
Colborn, Dumanoski, and Myers, *Our Stolen Future*

Additional readings will be on reserve at Pollak Library.

**Reading assignments are listed on the day that they will be discussed (you need to have the reading done before the day that it is indicated on the schedule).**

## Academic Integrity

It is your responsibility to review the CSUF policy on academic dishonesty, which is printed on page 558 of the 2005-2007 Catalog and available on the web at the following site:

<http://www.fullerton.edu/senate/PDF/300/UPS300-021.pdf>

**Plagiarism will not be tolerated.** If you are unsure of how to avoid plagiarism, come talk to me or refer to the following web site:

<http://www.fullerton.edu/deanofstudents/Judicial/Plagiarism.htm>