Introduction to Analyzing Sociotechnical Systems

HSD 504 (LN 18928)

Wednesdays 1:30pm-4:15pm
IL 149

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Technologies are powerful transforming forces in today’s global society. They have fueled the world’s economy to new heights, been an integral part of controlling disease, and provided new ways of traveling and communicating. But they have also been implicated in fostering unemployment, economic inequity, environmental destruction, and the development of new diseases.

This class will explore a variety of methods by which one can analyze technological systems in an effort to better direct them towards public good. It will examine the processes by which technologies are shaped, developed, and integrated into society. It starts with the basic lesson that separating people from technologies is an artificial, and dangerous, distinction – hence the use of the phrase “sociotechnical systems” in the course’s name.

Assignments

The primary component of the course will be the weekly seminar. It is imperative that you not only attend the seminars but that you also engage and participate in them. To emphasize this, a significant part of your grade (35%) will be based on your engagement in the seminar. Students may be assigned specific responsibilities to facilitate discussion. We will discuss in the first class meeting how the class would like to do this.

The primary written work will be a “double case study” (35% of grade). In the double case study students will take a technological system or controversy about a technology and analyze it using two different methodological or theoretical approaches presented in the class – i.e. SCOT, Actor Network Theory, cultural studies, public value mapping, policy analysis, co-production, gender studies, oral interviews, surveys, etc. In the final paper you will compare and contrast the two different approaches in terms of the questions they can answer and the insights they can offer. You will have to be disciplined to keep the paper manageable. Papers should be 15-20 pages in length double spaced.

To help you frame and think through your paper topic there will be a few assignments required throughout the semester. On February 27th you will submit a two to three page paper proposal which outlines a paper topic, presents the two approaches you will use, provides a brief bibliography, explains the materials you will use in your research, and offers a hypothesis of what you think you will find. On April 10th and 17th, students will be asked to present the primary findings of their double case study to the class (15% of grade). These ten to fifteen minute presentations should be a professional display of your work to an interdisciplinary audience. They will be set up as though you were presenting at an academic conference. The feedback you get from these presentations can then be used in writing the final paper. Do take these presentations seriously. If you want a job in academia you’ll have to ace the presentation. Use this as practice.

This course is designed to be more than simply an academic exercise. It is important for all people to understand the ways in which the social and technical are intertwined. To explore this process the class will participate in “Nanodays.” Students will be divided into groups to develop a presentation/poster/demonstration that introduces the public to a basic idea about the social aspects of technology. Members of the class may be paired up with natural scientists and engineers to develop these projects in an interdisciplinary way. These demos will be presented to random members of the public at the Tempe Festival for the Arts on March 30th – April 1st. Each person or group will turn in a lesson plan describing their project on April 17th (15% of grade).
Course Schedule

January 9th – Introduction – Technology, Progress, and Social Change
General Motor’s Futurama Exhibit at the New York World’s Fair (1939)

January 16th – Why study technology?
“Industrial Society and its Future” – excerpts

Frames and Claims Presentations

January 23rd – Social Construction of Technological Systems (SCOT)

January 30th – Actor Network Theory

February 6th – Technological Momentum and Co-production

February 13th – Feminist Critiques of Technology
Judy Wajcman, “Reproductive Technology: Delivered into Men’s Hands,” Feminism Confronts Technology, pp. 54-80.
February 20th – Technology and Race

February 27th – Cultural Studies of Technology
Spencer Weart, Nuclear Fear: A History of Images, Harvard University Press, 1988, Preface, Ch 1, Ch 2, Ch 6, Ch 8, Ch 17, conclusions.

March 6th – Ethnographies and Interviewing Techniques

March 13th – Celebrate Spring Break!

March 20th – Technological Literacy
Laura Martin, “Arizona Science Center’s Public Presentation Introduction Guide.”

March 27th – Science Fiction as a tool for thinking about the future
Clark Miller and Ira Bennett, “Thinking Longer Term about Technology: Is there value in Science Fiction-Inspired Approaches to Constructing Futures,” Science and Public Policy 35(8), pp. 597-606.
Science Fiction book or movie… maybe Charles Stross’s Rule 34, Cruise/Spielberg’s Minority Report, or Neal Blomkamp’s District 9?

April 3rd – Technological Disruptions

April 5th – April 7th – Nanodays Presentation at Tempe Festival of the Arts

April 10th – Student Presentations
April 17th – Student Presentations / Student Choice of topic

⇒ Nanodays lesson plan due ⇒

April 24th – Student Choice of topic

⇒ Dual Case study due ⇒

Academic Integrity
All students are responsible for reviewing and following ASU’s policies on academic integrity: http://provost.asu.edu/academicintegrity. If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, school, and/or dean. Academic dishonesty includes borrowing ideas without proper citation, copying others’ work (including information posted on the internet), and failing to turn in your own work for group projects. Please be aware that if you follow an argument closely, even if it is not directly quoted, you must provide a citation to the publication, including the author, date, and page number. If you directly quote a source, you must use quotation marks and provide the same sort of citation for each quoted sentence or phrase. You may study for exams with other students and discuss your research paper, however, all writing that you turn in must be done independently. If you have any doubt about whether the form of cooperation you contemplate is acceptable, ask the TA or the instructor in advance of turning in an assignment. Please be aware that the work of all students submitted electronically can be scanned using SafeAssignment, which compares them against everything posted on the internet, online article/paper databases, newspapers and magazines, and papers submitted by other students.

Incompletes
A mark of "I" (incomplete) is given by the instructor when you are otherwise doing acceptable work but are unable to complete the course because of illness or other conditions beyond your control. You are required to arrange with the instructor for the completion of the course requirements. The arrangement must be recorded using the form at http://students.asu.edu/forms/incomplete-grade-request. Students should be proactive and discuss this with their instructor and TA before the end of the semester.

Late Assignments
Late assignments will have 1/3rd of a letter grade deducted each day they are late. Advanced written or e-mailed notice that you will miss a class or have to turn in an assignment late could help your cause. Even on excused classes you will need to turn in your questions to receive any credit.

Student Standards
Students are required to read and act in accordance with university and Arizona Board of Regents policies, including: The ABOR Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: http://www.azregents.edu/policymanual/default.aspx

Student Support and Disability Accommodations
ASU offers support services through Counseling (http://students.asu.edu/counseling), the Student Success Center (https://studentsuccess.asu.edu/), and the Disability Resource Center (http://www.asu.edu/studentaffairs/ed/drc/). If you are a student in need of special arrangements we will do all we can to help, based on the recommendations of these services. For the sake of equity for all students, we cannot make any accommodations without formal guidance from these services.

Campus Resources
As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.

- Tutoring: http://studentsuccess.asu.edu/node/24
- Financial Aid: http://students.asu.edu/financialaid
- Major/Career Exploration: http://uc.asu.edu/majorexploitation/assessment
- Career Services: http://students.asu.edu/career
- Student Organizations: https://students.asu.edu/clubs/tempe

This syllabus is subject to further change or revision, as needed, to best realize the educational goals of the course.

Necessary revisions will be announced in class with fair prior notice.