Introduction to Analyzing Sociotechnical Systems

ASB 591 (line number 24470)

Wednesdays
2:00pm-4:45pm
ECG Room 305

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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 seminars as well. 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 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. The final paper will be to 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.

To help you frame and think through your paper topic there will be a few assignments required throughout the semester. On March 10th you will submit a two to three page paper proposal which outlines a paper topic, presents the two methodologies you will use, provides a brief bibliography, explains the materials you will use in your research, and a hypothesis of what you think you will find.

On April 14th, 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 26-28th. Each group will turn in a lesson plan describing their project on April 7th (15% of grade).
Course Schedule

January 20th – Introduction – Technology, Progress, and Social Change
General Motor’s Futurama Exhibit at the New York World’s Fair (1939)

January 27th – Why study technology?
“Industrial Society and its Future” – excerpts

Frames and Claims Presentations

February 3rd – Social Construction of Technological Systems (SCOT)

February 10th – Actor Network Theory

February 17th – Technological Momentum and Co-production

February 24th – Presenting to the public
Laura Martin, “Arizona Science Center’s Public Presentation Introduction Guide”

March 3rd – Feminist Critiques of Technology
Judy Wajcman, “Reproductive Technology: Delivered into Men’s Hands,” Feminism Confronts Technology, pp. 54-80.
March 10th – Cultural Studies of Technology

Dual Case study proposal due

March 17th – Celebrate St. Patrick’s Day and Spring Break!

March 24th – Nanodays Prep and Matthew Harsh

March 26th – 28th – Nanodays Presentation at Tempe Festival of the Arts

March 31st – Science Fiction
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.
Neal Stephenson, *Diamond Age or A Young Lady’s Illustrated Primer*, Bantam Books 1995. It is a long book… read at least the first half… and feel free to pick up whatever version you want. Or should we do a movie?

April 7th – Technology and Race
Ray Fouche – article tba

Nanodays lesson plan due

April 14th – Student Presentations

April 21st – Technology and Archaeology
 tba

April 28th – Technology and the Future

Dual Case study due
Other Course Matters…

**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 on the Request for Grade of Incomplete form (http://students.asu.edu/forms/incomplete-grade-request). Students who do not make such arrangements will be given the grade earned based on the assignments completed.

**Late Assignments**

The due date for each assignment is listed on the course schedule. One third of a letter grade will be deducted for every day the assignment is late unless alternative arrangements have been made with the professor. Excuses for turning an assignment in late must be made and approved in advance of the due date of the assignment. Requests for excuses must be written, either on paper or email, and approval must be obtained, either by an email reply or by having the paper excuse signed. In order to avoid a late penalty, the late assignment must be submitted with a copy of the email approval or signed written excuse.

**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.abor.asu.edu/1_the_regents/policymanual/chap5/5Section_C.pdf

**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 work with other students on assignments, 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.

**Student Support and Disability Accommodations**

ASU offers support services through Counseling (http://students.asu.edu/counseling), the Learning Resources Center (www.asu.edu/lrc), and the Disability Resource Center (http://www.asu.edu/studentaffairs/ed/drc/). If you are a student in need of special arrangements for 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.

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*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.*