

Science, Technology, and Contemporary Society

Autumn Quarter, 2005-06

Lecture: Tu and Th 2:15-4:05
Section: Wed or Th dhr by arrangement
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I. Purpose of the Course

Technology and science are among the most potent forces transforming life on earth in the new millennium. STS 101/201/E 130 is devoted to study of the interaction of these forces with society, primarily but not exclusively in the contemporary U.S. The overarching purpose of the course is to enhance the student's understanding of the natures, social relations, and cultural significance of science and technology. To this end, the course explores key ethical, social, cultural, and policy issues associated with the development of technology and science in contemporary society. Major course themes include: (a) salient sociological features of contemporary science and technology; (b) noteworthy influences of these forces on 21st-century society and culture; (c) the social shaping of scientific and technological activities, products, and systems to serve conflicting interests; and (d) changes in social mentalities, institutions, and policies needed to enhance the influence of science and technology on society in the future.

Note well: STS 101/201/E 130 satisfies Stanford General Education Requirement (GER) 3B (Social Sciences) as well as the School of Engineering's Technology in Society Requirement. The class must be taken for a letter grade.

II. Required Readings

All students taking the class should purchase:

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| 1. SCIENCE, TECHNOLOGY, AND SOCIETY | Robert McGinn |
| 2. TECHNOLOGY | Neil Postman |
| 3. STS 101 COURSE READER #1 | Robert McGinn, ed. |

Students wishing to explore course issues in greater depth, including but not limited to those considering majoring, double majoring, minoring, or doing an honors thesis in STS, should take the course for 5 units instead of 4 and sign up for one of the optional seminar sections on Th and F. Each section will be limited to 15 students and will involve only a modest amount of additional reading. Enrolling in a section will significantly deepen the student's knowledge of (a) the course subject matter, and (b) STS as a field of study that is at once intellectually stimulating and socially relevant.

Students electing to take STS 101 for 5 units should also purchase the following two items:

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|---|--------------------|
| 4. BIOLOGY AS IDEOLOGY: THE CASE OF DNA | Richard Lewontin |
| 5. STS 101 COURSE READER #2 | Robert McGinn, ed. |

III. Schedule of Topics and Assignments (S = science; T = technology; E = engineering)

Part A : Foundations -- Concepts, Frameworks, and Theories

Tu 9/27 Introduction to S, T, and Society (STS) Studies

READING (do reading after class if not done beforehand):

- (1) STS Literacy Questionnaire (distributed, filled out, and discussed in class)
- (2) R. McGinn, *Science, Technology, and Society*, Chapter 1

Th 9/29 S and T: Their Natures and Interrelationship

READING:

- (1) D. Price, "Unsung Genius of Sealing Wax and String," *Natural History*, 1/1984, 49-56
- (2) N. Rosenberg, "The Growing Role of Science in the Innovation Process," in *Science, Technology, and Society in the Time of Alfred Nobel* (Pergamon Press: Oxford, 1982), 231-246
- (3) R. McGinn, Ch. 2

Tu 10/04 Salient Sociological Characteristics of Contemporary S

READING:

- (1) D. Kevles, "Begetting Big Science," *New York Review of Books*, 10/25/1990, 6 ff.
- (2) D. Kevles, "The Crisis of Contemporary Science," *Wilson Quarterly*, XIX, No. 3, 1995, 40-52
- (3) B. Richter, "Long-Term-Research and Its Impact On Society," *American Institute of Physics Bulletin of Science Policy*, No. 37, March 2, 1998
- (4) Three Stanford News Service articles on scientific research at SU (SLAC's asymmetric B-factory funded, testing Einstein's theory via gravity probe B experiment, and corn genome study funded)
- (5) D. Overbye, "After 45 Years (and \$700 Million), a Gravity Experiment Takes Flight," NYT, 4/13/04.

Th 10/6 Salient Sociological Characteristics of Contemporary T and E

VIEWING:

- (1) "Can Venice Survive Its Rescue?"

READING:

- (1) T. Carhart, "Fazioli," *The Piano Shop on the Left Bank* (Random House, 2001), 235-250
- (2) H. Petroski, "Little Things Can Mean a Lot," *The Evolution of Useful Things* (Knopf, 1993), 78-86
- (3) A. C. Funderburg, "Making Teflon Stick," *Invention and Technology*, Summer 2000, 10-20
- (4) D. Dooling, ed., "Big, Bold, and Expensive: Engineering Megaprojects Are Making a Comeback," *IEEE Spectrum*, October 1995, 20-23 and 44-47 (the Boeing 777 and the Kuala Lumpur twin towers cases)
- (5) Staff, "Global Positioning: Accuracy Is Addictive," *The Economist*, 3/14/02
- (6) R. McGinn, Ch. 3

Tu 10/11 Contexts of S and T

READING:

- (1) L. Sharp, "Steel Axes for Stone Age Australians," *Human Problems in Technological Change*, 69-92
- (2) M. Simons, "The Kaiapo: The Amazon's Savvy Indians," NYT, 2/26/89, §6, 37 & 48 ff.
- (3) S. Romero, "How a Byte of Knowledge Can Be Dangerous, Too," NYT, 4/23/00, IV, 4
- (4) R. McGinn, Ch. 4

Th 10/13 Theories of S and T in Society

READING:

- (1) T. Hughes, "From Deterministic Dynamios to Seamless-Web Systems," in *Engineering as a Social Enterprise*, 7-25
- (2) D. Noble, "Social Choice in Machine Design: the Case of Automatically Controlled Machine Tools," *Social Shaping of Technology*, 109-124
- (3) R. Schwartz Cowan, "How the Refrigerator Got Its Hum," *ibid.*, 202-218
- (4) T. Kuhn, "Historical Structure of Scientific Discovery," *Science*, Vol. 136, 6/1/1962, 760-764
- (5) M. Gladwell, "The Televisionary," *The New Yorker*, 5/27/02, 112-116
- (6) R. McGinn, Ch. 5, 93-101

Part B: The Influence of S and T on Modern and Contemporary Society

Tu 10/18 Cultural Institutions: Work and Leisure

READING:

- (1) O. Rossani, "The Bishop of Ravenna: 'Work? Never On Sunday,'" *Corriere della Sera*, 5/6/87, p. 4
- (2) R. Tomkins, "Father Time Becomes a Terror," *Financial Times*, 3/20/99, 12
- (3) D. Bjerklie, "High-Tech Olympians," *Technology Review*, 1/1993, 24-30
- (4) J. Longman, "Someday Soon, Athletic Edge May Be From Altered Genes," *NYT*, 5/11/01, A1ff
- (5) D. Margulis, "When Their Caps Beep, Swimmers Find Rhythm," *NYT*, 6/6/02.
- (6) J. Barnes, "Where Did You Go, Raggedy Ann? Toys in the Age of Electronics," *NYT*, 2/10/01, C1ff.
- (7) R. McGinn, Ch. 6

Th 10/20 Social Groups: Children, Women, Ethnic Minorities, and the Elderly

READING:

- (1) R. Schwartz Cowan, "The 'Industrial Revolution' in the Home: Household Technology and Social Change in the 20th Century," *Technology and Culture*, 17/1, 1976, 1-23
- (2) R. Schwartz Cowan, "From Virginia Dare to Virginia Slims: Women and Technology in American Life," *Technology and Culture*, 20/1, 1979, 51-63
- (3) N. Postman, "The Day Our Children Disappear: Predictions of a Media Ecologist," *Phi Delta Kappan*, 1/1981, 382-386
- (4) R. McGinn, Ch. 7

Tu 10/25 S, T, and the Fine Arts: Painting and Architecture

READING:

- (1) Sant'Elia, "Futurist Manifesto of Architecture," in R. Carrieri, *Futurism*, 150-151
- (2) H. Petroski, "The Amazing Crystal Palace," *Technology Review*, 7/1983, 19-28
- (3) R. McGinn, Ch. 11

Th 10/27 Midterm Exam

Tu 11/01 Ethical Issues in S

VIEWING:

- (1) "Do Scientists Cheat?" (NOVA, 1988; written and directed by N. Buckner and R. Whittlesey)

READING:

- (1) H. DeWitt, "The Selling of a Wonder Weapon," *Stanford Magazine*, 3/91, 28-33
- (2) M. Weiss, "Blood Test," *West Magazine (San Jose Mercury News)*, 10/15/95, 8ff.
- (3) L. Lederman, "The Responsibility of the Scientist," *NYT*, 7/24/99, A15

Th 11/03

Ethical Issues in E

READING:

- (1) W. Broad, "Missile Contractor Doctored Tests, Ex-Employee Charges," *NYT*, 3/7/00, A1ffW.
- (2) J. Morgenstern, "The Fifty-Nine Story Crisis," *Journal of Professional Issues in Engineering Teaching and Practice*, January 1997, 23-29, originally printed in *The New Yorker*, May 29, 1995, 45-53
- (3) W. Wilson, "Ethics and the Consulting Engineer: the Case of the Composite-Material Bicycle" (1995)
- (4) R. Boisjoly, "Ethical Decisions: Morton Thiokol and the Space Shuttle CHALLENGER Disaster," ASME Winter Annual Meeting, 12/1987, 1-13
- (5) R. DeGeorge, "Ethical Responsibilities of Engineers in Large Organizations: the Pinto Case," *Business and Professional Ethics Journal*, Vol. 1, No. 1, 1981, 1-14

Tu 11/8

S, T, and International Relations

READING:

- (1) R. Dore, "Latecomers' Problems," *European Journal of Development Research*, 1/1, 6/89, 100-107
- (2) S. Diamond, "The Disaster in Bhopal: Lessons for the Future," *NYT*, 2/3/85, 1, 8, 9
- (3) D. Rieff, "A Global Culture?" *World Policy Journal*, 2/1994, 73-81

Th 11/10

The Influence of S and T on Contemporary U.S. Culture

READING:

- (1) N. Postman, *Technopoly* (all)

Part C: The Influence of Modern and Contemporary Society on S and T

Tu 11/15

Cultural and Political-Economic Influences on the Practice and Products of Contemporary S & T

READING:

- (1) L. Zuckerman, "Making Computers Relate to Their Human Partners," *NYT*, 3/4/00, B9ff.
- (2) R. Sinsheimer, "The Presumptions of Science," in *Limits to Scientific Inquiry*, 23-35
- (3) D. Baltimore, "Limiting Science: A Biologist's Perspective," in *ibid.*, 37-45
- (4) S. Hornig, "Reading Risk: Public Response to Print Media Accounts of Technological Risk," *Public Understanding of Science* 2, 1993, 95-109
- (5) B. Siegel, "Managing Risks: Sense and Science," *Los Angeles Times*, 7/5/87, 1 and 26-28
- (6) L. Winner, "Do Artifacts Have Politics?" *Daedalus*, Vol. 109, No. 1, 1980, 121-135
- (7) M. Pollan, "Playing God in the Garden," *NYT*, 10/25/98, 44ff.
- (8) A. Pollack, "Biological Products Raise Genetic Ownership Issues," *NYT*, 11/26/99, A1ff.

Part D: Task Force Reports

Th 11/17

No lecture today; use time to prepare presentations

Tu 11/22

Thanksgiving Recess

Th 11/24

Thanksgiving Recess

Tu 11/29 TFRs I: Contemporary Industrial Design

READING:

- (1) M. Zanuso, "Design and Society," in *Design Since 1945*, 18-22
- (2) D. Rams, "Appliances," in *Design Since 1945*, 82-85

Th 12/1 TFRs II: Noteworthy But Neglected Influences of S and T on Society

Tu 12/6 TFRs III: (a) Public Policies for Improved Societal Management of S and T and (b) S, T, and Public Service

Th 12/8 Retrospection and Conclusion

READING:

- (1) U.S. National Academy of Sciences, "Leading Climate Scientists Advise White House on Global Warming," USNAS Press Release, 6/6/01
(<http://www4.nationalacademies.org/news.nsf/isbn/0309075742?OpenDocument>)
- (2) T. Athanasiou, "Global Warming Backgrounder," *Foreign Policy in Focus*, January 2004
(<http://www.fpiif.org/papers/03petropol/climate.html>).
- (3) G. Brown, "Reorienting Scientific and Technological Inquiry to Tackle the Global Crisis Facing Humanity," *Chronicle of Higher Education*, 4/22/92, B1-B2
- (5) A. Ansari, "The Greening of Engineers: A Cross-Cultural Experience," *Science and Engineering Ethics*, Vol. 7, 2001, 105-115

FINAL EXAM: Th, Dec. 15, 3:30-6:30 PM

IMPORTANT NOTE: the student is responsible for planning ahead and taking whatever steps are necessary to enable him/her to be available to take the final exam on the day on which it is scheduled, even if that turns out to be the last day of exam period. **No alternative exam day will be offered.** Pleas such as...

"My parents bought me a nonrefundable ticket on the Concorde SST from Palo Alto to Kabul that leaves the day of the final, so I can't be here"; or

"I have job interviews the entire day of the final with the six Silicon Valley startups, and I can't cancel those appointments without putting my prospective stock options at risk"; or

"My Antarctic Studies teacher just announced that he has unilaterally moved the final exam for his course to the very day and time of the scheduled STS 101 final"; or

"I have a yodeling and distance-shouting semi-final match that day in the Bernese Alps against the dreaded eight-time world champion team from Liechtenstein."

will **not** be accepted as excuses. Please insure that plane tickets purchased by or for you are for flights departing after, not before or on the day of the final.

IV. Course Requirements

1. completion of and reflection on the assigned readings **prior to lecture**;
2. thoughtful participation in class discussions;
3. completion of the midterm exam;

4. an in-class presentation -- for details on format and topics see Section VI of this syllabus -- or a "Critical Commentary" of 975-1025 words on the set of presentations made on ONE of the three prescribed topics spelled out in Section VI; and
5. completion of the final examination.

V. Grading

1. mid-term exam: 25%
2. in-class presentation ("Task Force Report") or Critical Commentary: 25%
3. final exam: 50%
4. high quality class participation could affect the student's grade if her or his combined performance on the preceding three items yields a grade on the border between adjacent levels (e.g., between B+ and A-).

VI. Presentations and Critical Commentaries

Option 1 (Tuesday, November 29)

Excellence in Contemporary Industrial Design

On Tuesday, November 29, **seven** pairs of students will make presentations on contemporary industrial design. After appropriate background reading, "field work," and discussion (e.g., with friends, classmates, or the instructor), each duo will select from everyday life a specific item of technology that they regard as a compelling example of excellent contemporary industrial design. The object chosen should be displayed in class on the day of the presentation.

Each duo will make a carefully prepared 12-minute presentation on their chosen item. Here are some things that each duo should consider covering in its presentation:

* briefly situate the object historically and culturally. Are earlier design influences reflected in the object? Is your item a work of American, British, German, Italian, Japanese, Scandinavian, Swiss or other national design, or is it devoid of any stylistic elements that reveal a particular national origin? Either way, does that say anything noteworthy?

* What about the object marks it as a work of contemporary (meaning here, say, post-WWII) industrial design?

* apart from features that the item must have if it is to effectively fulfill its function, how, if at all, has the item's design been affected by the society or forces that gave rise to it or by the society or user group for which it is intended?

* explain why, in your view, the object is an excellent work of contemporary industrial design. Pay attention to the aesthetic, economic, functional, technological-production, and social use aspects or dimensions of the work. What is admirable about the item as a piece of industrial design, not only about its aspects considered individually but also collectively, i.e., about how its aspects work together to form a happy synthesis?

* does the object have any noteworthy social or cultural implications?

In carrying out this project, each duo should regard itself as archeologists of everyday technics, i.e., as investigators digging beneath the surface in attempting to reveal non-obvious underlying forces, features, meanings, or significance. In so doing, be ingenious, clever, and insightful. Select objects which are not particularly obvious choices so that we shall all be able to expand our awareness of contemporary industrial design and improve our understanding of its nature, role(s), and factors that shape it. Items discussed in recent years have included a TV remote-control device, a credit card, a telephone answering machine, the "Top Shelf" microwave dinner, a high-tech athletic shoe, a modern wine-bottle corkscrew, Tupperware, a Honda motorbike, an

electronic drum machine, RayBan Wayfarer sunglasses, a Kryptonite bike lock, the Gillette Sensor razor, a GoreTex back pack, and disposable contact lenses.

Option 2 (Thursday, December 1)

Noteworthy but Neglected Influences of Science and Technology on Society

On Thursday, December 1, **seven** pairs of students will make 12-minute presentations on what they, in light of appropriate research and reflection, have concluded are *noteworthy but neglected influences of science and/or technology on contemporary American society*. Each duo should address a single noteworthy (science- or technology-related) social change, e.g., a change in a social institution or in the structure of society, a change in the condition of a particular social group, a change in society's value system or ideology, a change in a particular kind of social behavior (such as crime, courting, celebration, or status seeking), or a change in an established form of social or cultural activity such as art, religion, law, etc. The influence discussed may be regarded by the presenters as a problematic, benign, or double-edged one. Consider the possibility that several developments in science and technology may underlie the single social change you choose to address.

Identify the specific social change being addressed and indicate which developments in science or technology are linked to its emergence. Be sure the causal linkage between the social change in question and the related technical developments is made clear. Comment on why the change chosen is worthy of note, why it or its link with technology or science has been overlooked or given short shrift, and what the significance is of that neglect or devaluation. What if anything does that oversight or devaluation say about American culture, politics, or economics? Be sure to choose an aspect of social change which is neither obvious or hackneyed, nor one which has already been addressed in course readings or discussions. Rather, choose one that will surprise, engage, and illuminate. In the past, student duos have discussed changes in aspects of society such as sports, crime, religion, drug use, toys, dating, the lifeways of handicapped people, divorce, and the undergraduate education of science and engineering students, and traced these (in whole or in part, directly or indirectly) to changes in technology or science. Note: do not start out with a specific technology or scientific development and then canvass all the social changes that might be linked thereto. Do the reverse: start out with a noteworthy social change and then seek noteworthy but arguably neglected ways that S and T have contributed to bringing it about.

Option 3 (Tuesday, December 6)

- (a) **Public Policy for Improved Societal Management of Science and Technology**
- (b) **Public Service, Science, and Technology**

On Tuesday, December 6, **seven** pairs of students will make carefully researched and orchestrated 12-minute presentations on (a) specific public policies that they believe would, if adopted and implemented, significantly enhance the influence of science and/or technology on contemporary American (or, if preferred, world) society; or (b) episodes of public service that involve science and/or technology in U.S. society.

(a) These presentations should focus on a specific proposed policy aimed at improving the way we as a society handle the specific science- or technology-related aspect or area of society you choose to address. Indicate what the present public policy is (if there is any) regarding the area or aspect of society in which you are interested, what (as you see it) are the problems with or shortcomings of the situation as it now exists under current policy, the elements of your proposed new policy, how the latter will be an improvement over the current situation, and -- to the extent that it is not obvious -- why that situation or problem is important enough to deserve attention in the first place. What kind of positive change might be effected? Why is it plausible to think that the proposed policy might in fact lead to at least some of the projected improvement?

The policy proposed can be primarily political, economic, social, or cultural in nature or intended effect. Be imaginative, but avoid putting forth utterly utopian policy proposals, i.e., ones whose chances of being adopted in their essentials at some point in the foreseeable future are virtually nil. Among policy topics explored in recent years are recycling, worker retraining, the adjudication of lawsuits with salient scientific or technological components, international institutions for enhancing technology transfer, limiting nuclear proliferation, diffusing personal computers in high schools, and the representation of women and minorities in science and engineering.

(b) For this sub-option, a presentation should focus on some episode or experience of public service involving science and technology (PSSST) in which the presenters are/were involved. Students electing this option might already be involved in a public service/service learning project through the Haas Public Service Center or they might elect to get involved this quarter in such a project through Haas, which maintains an extensive list of public service/service learning opportunities and of contact persons. One can imagine a wide variety of PSSST ventures that, subjected to searching analysis and/or related to course materials, would form appropriate bases for in-class presentations under option IIIb; e.g., teaching technical literacy to young people at a youth development center or computer literacy to seniors at a senior center, doing survey work for a public or community organization grappling with the siting of a hazardous facility in a local neighborhood, volunteering with a community group concerned with the influx of traffic through its neighborhood, helping a community or public service organization get on-line and helping members learn how to create and maintain Web pages, and working with a technology-related public service organization, e.g., Computer Professionals for Social Responsibility (they maintain an office in Palo Alto). Under this option, two years ago a student in the course made a fine presentation about service learning he had done helping to computerize the office of the Czech Helsinki Human Rights Organization in Prague. He not only described the computerization process but addressed the effects this transformation had on the content, structure, and effectiveness of work in the organization.

Whatever PSSST episode is chosen, the presentation should, as above, do more than simply *describe* the presenter's or presenters' experience. Beyond description, it should also shed light on problematic aspects of the phenomenon studied, relate it insightfully to course materials where appropriate, indicate what was learned through the experience, and make suggestions for more effectively addressing the STS-related problem in the future.

NOTE WELL: (1) Because class time is limited, the 12-minute time limit will be **strictly** enforced. Thus student duos should be sure to have their presentations tightly organized and carefully timed. (2) **Do not get up in front of the class and read a script.** However, feel free to use sequenced note cards with key words, figures, and quotes to assist you in making your case without great loss of eye contact. Make everything count. Visual aids are welcome, but please let the instructor know beforehand if you will need a slide projector, overhead, etc. (3) Read the formulations of the respective options **very carefully** before embarking on your assignment. If unsure about what is meant, request clarification by the instructor.

Option 4 (See below for dates)
A Critical Commentary

Each student not doing an in-class presentation will compose a thoughtful, rigorous, carefully written, and fastidiously edited Critical Commentary (CC) on the complete set of presentations made on one of the three topic options. The CCs must be typed double-spaced and be between 975 and 1025 words. (AN ACCURATE WORD COUNT AT THE BOTTOM OF THE LAST PAGE OF YOUR PAPER IS REQUIRED.) Each CC should take careful measure of the topic and the specific presentations made under it. Consider recording the presentations for later scrutiny. A CC might concern itself with identifying recurrent themes or concerns that linked several of the presentations, making illuminating contrasts between them, highlighting interesting connections with course

materials, uncovering problematic assumptions or arguments made by the presenters, indicating what their choices and remarks reveal about contemporary society and culture, etc. The key to doing a good job on this assignment option is composing NOT A MERE SUMMARY, BUT A CREATIVE, PROBING, ILLUMINATING, SYNTHETIC CRITICAL ANALYSIS of the group of presentations you elect to study. Your analysis should be the product of a serious, critical confrontation between your intellect, assumptions, and experience (including the experience of the course) on the one hand, and, on the other, the most fruitful, suggestive, and challenging ideas and contentions offered by the group of presenters with whose work you choose to come to grips. **Note well:** There are examples of excellent and mediocre CCs from previous years on file for perusal in the STS office (370/109)

NOTE WELL: CCs are to be handed in at the STS office no later than 5:00 PM, Friday, December 9.

Schedule and Reading Assignments for the Optional Seminar Section(s)

(Note: except for the Lewontin book, all section readings are in STS 101 Course Reader **#2**)

<u>Date</u>	<u>READINGS</u>
10/5-6	<p>TOPIC: THE NATURES AND RELATIONSHIP OF SCIENCE AND TECHNOLOGY; FEATURES OF CONTEMPORARY SCIENCE AND TECHNOLOGY</p> <ol style="list-style-type: none"> O. Handlin, "Science and Technology in Popular Culture," from G. Holton, ed., <i>Science and Culture: A Study of Cohesive and Disjunctive Forces</i> (Houghton Mifflin: Boston, 1965), pp. 184-198. N. Rosenberg, "Is Science Exogenous?" <i>Inside the Black Box: Technology and Economics</i> (Cambridge University Press: New York, 1982), 141-159. National Science Board, <i>Science and Engineering Indicators -- 2004</i>, "Overview" (Arlington, VA; National Science Board, 2004). No copyright http://www.nsf.gov/sbe/srs/scind04/start.htm.
10/12-13	<p>DECONSTRUCTING MYTHS OF CONTEMPORARY SCIENCE AND ENGINEERING</p> <p>Discuss the most illuminating and controversial STS issues explored in: R. Lewontin, <i>Biology as Ideology</i> (pp. 3-123). Each student should come to seminar prepared, when called upon, to identify and launch discussion of one specific such issue.</p>
10/19-20	<p>THEORIES OF SCIENCE AND TECHNOLOGY IN SOCIETY</p> <ol style="list-style-type: none"> Reread the articles assigned for Tu 10/14 on Theories of S and T in Society. Discuss them with a view to understanding them more deeply and appreciating their respective strengths and weaknesses. H. Gjøen and M. Hård, "Cultural Politics in Action: Developing User Scripts in Relation to the Electric Vehicle," <i>Science, Technology, and Human Values</i>, Vol. 27, No. 2, 2002, 262-281 Reread pp. 93-101 of the text, then critically and carefully discuss McGinn's IDUAR model. What exactly is it meant to do? What are its strengths and weaknesses? How does it relate to the other theories of S and T in Society discussed in class? How does the Gjøen and Hård essay on the electric vehicle relate to the IDUAR model?

- 10/26-27 INFLUENCES OF SCIENCE AND TECHNOLOGY ON SOCIAL INSTITUTIONS AND GROUPS
- From among the articles assigned for the class sessions of 10/19 and 10/21, reread and ponder the one you found the most illuminating or problematic; come to class prepared to indicate in what respects you found them so (i.e., illuminating and/or problematic) *and why*.
- 11/2-3 ETHICAL ISSUES IN SCIENCE AND ENGINEERING
- From among the articles assigned for the class sessions of 11/2 and 11/4 , choose one that you believe raised an interesting and non-obvious ethical issue that needs deeper exploration. Come to class prepared to indicate which article and issue you've chosen, *why* you think your issue needs further exploration, and start the ball rolling by indicating how you think that exploration might go forward.
- 11/9-10 TECHNOLOGY AND CONTEMPORARY CONSCIOUSNESS IN THE U.S.
- Re Postman's *Technopoly* : each seminar member should come to class ready to identify and briefly discuss a specific passage from the book that compelled his or her attention. Be prepared to indicate *why*.
- 11/16-17 CULTURAL AND POLITICAL-ECONOMIC INFLUENCES ON SCIENCE AND TECHNOLOGY
- From among the articles assigned for the class sessions of 11/16, reread and ponder the one you found the most illuminating or problematic; come to class prepared to indicate in what respects you found it so (i.e., illuminating or problematic) *and why*.
- 11/23-24 No class: Thanksgiving holiday.
- 11/30 & 12/1 Discuss assigned readings for 12/2
Review Course Concepts, Theories, Themes, etc.