Science, Technology, and Politics (PS456/NORS696)

Spring 2004
University of Alaska, Fairbanks

Professor Lovecraft

Meeting places and times: Tuesdays and Thursdays 3:40-5:10pm Gruening 412

My contact information: My office hours are Tuesdays and Thursdays 13:00-15:30 in Gruening 602A or by appointment. My email address is ffall@uaf.edu. I will usually respond within 24 hours during weekdays. My office phone number is 907.454.2688. I do have voicemail and check it regularly during weekdays.

The purpose of this course: During the semester students will be introduced to various theories related to the development and philosophy of science and technology. We will use these theories as a basis to examine how science concurrently shapes, and has been shaped by, politics. Politics can be understood as disputes over claims to authority to decide what is, what is right, and what works for society. The uses of science and technology have helped determine these factors directly and indirectly in America and around the world. This class will begin with an extended discussion of the relationships among science, technology, and politics. Next the course looks at the connections between scientific knowledge, technology and technological expertise, and power. The course then turns to examine the specific roles science and technology have played in America [and examines these roles in a comparative perspective as well as examining "western science" as an export]. Lastly, the role of the "citizen scientist" is pondered. What role do scientists have (should they have) and what roles can we envision for them in the future? Can democracy and a technocratic society coexist? For the Northern Studies graduate students, this class provides reading and lecture material pertaining to scientific and political issues of the North such as oil extraction; the sciences of indigenous peoples; and scientific debates related to the northern environment.

Texts:
(*) a variety of short texts on Ereserve where noted in the syllabus
(1) Fischer: Citizens, Experts, and the Environment
(2) Wilkinson: Science Under Siege
(3) Bronowski: The Common Sense of Science
(*) Recommended: Thomas S. Kuhn. 1970. The Structure of Scientific Revolutions, 2nd Edition.
(4) Kuhn: The Road Since Structure
(5) Jasanoff: The Fifth Branch
(6) Foster and Huber: Judging Science

Course Structure and Requirements: Please read the requirements carefully. This course introduces students to the foundations of an ongoing discussion about the relationships among science, technology, and politics. It also emphasizes the role of the student as a critical thinker who is expected to not only comprehend the basic arguments but analyze, synthesize, and evaluate the works presented. This means that in this course you will be expected to not only remember the material presented to you, but also manipulate this material in creative ways to answer questions posed about the subject.

The readings assignments listed in the course schedule are to have been read prior to class on the day they are noted.

Because this course is being taught both as an advanced undergraduate and graduate class (stacked) the syllabus requirements must demonstrate a substantial difference between the work required of the undergraduate students and those taking the class at the graduate level. Please pay attention to the following:

The **reading load** of the students will be approximately 100-125 pages each week.

The **written work** of the graduate students is required to be more extensive and theoretical in nature than the written work of the undergraduate students. However, this does not exempt any undergraduate students from writing well-constructed papers containing theory. The graduate students will submit two 12-16 page papers drawing mostly from materials in class (12-16 pages of text, not including bibliography, graphs, figures etc…). Each is worth 25% of the course grade. General paper subjects will be assigned but each graduate student may flesh out his or her subject as he or she deems fit (with instructor approval). The undergraduates will submit two 6-8 page papers worth 20% of their grade (6-8 pages of text, not including bibliography, graphs, figures, etc…). Undergraduates must present a draft of each paper (worth 5%) two weeks prior to the submission of the paper. Graduate students are required to submit drafts of the first paper only. All students should feel free to run subjects or outlines by me before beginning their papers.

There is a **participation** grade for all students. I expect each student to participate in the class discussions. Participation will be determined by attendance, contribution to class discussions, posing questions, providing answers, and generally being a useful contributor to the group. This is a seminar style course and will be run as such (see the Agendas below).

The **Agenda** is the list of key questions and points that will be posted a day prior to our class periods (Mondays and Wednesdays). It will be used to guide class discussion and provides a helpful study guide for exams. It will be posted on Blackboard. I will initially develop the Agenda, organize and lead class discussions. However, the graduate students will each be developing an agenda, organizing and leading class discussions twice and the undergraduates will each be responsible for developing the agenda on two occasions but need not organize and lead the class.

Exam 1 will receive the same weight (20%) in the course for both graduate students and undergraduates. It will have the same format and I will expect similar answers. This exam is based on readings required of all the students. The exam will be an in-class exam. You will have the full 3 hours to answer several questions pertaining to the readings and lectures covered up to the exam day. This will be a hand-written exam in short answer and essay format taken without notes or other study aids. You will be given clear ideas about what the exam will cover prior to it. Undergraduates will also take a **final exam**. This exam will follow the same format as Exam 1 and be worth 20% of the course grade.

Do note that excessive absences invite academic problems or even failure because the assignments in this course stress material covered in the lectures and discussions as well as from the texts. Paying attention to your colleagues' questions, comments, and responses is advisable because these interactions often lead to clarification of material. Furthermore, since participation is a part of your grade, showing up to class facilitates your ability to participate.

In summary:
The 456 grades in this course will be compiled from one in-class exam, one final exam, two agenda submissions, and two short 6-8 page papers, each of which will be submitted in draft form first.

The 656 grades in this course will be compiled from one in-class exam, organizing and leading class on two occasions, and two 12-16 page papers.

The grade breakdown: For **456**: Exam 1 = 20%; Final Exam = 20%; Short Papers= 20% each (5% of which will be for the drafts), Two agendas=10%; Participation = 10%.

For **656**: Exam 1 = 20%; Paper 1 = 25%; Paper 2 = 25%; Two classes = 10% each; Participation=10%.

The grade scale: 100-90 = A; 89-80 = B; 79-70 = C; 69-60 = D; 59-0 = F. Grades that have fractions of points of .5 or higher will be rounded up.

There are no curves on any exam, quiz, or final grade. There is no extra credit. However, I do take into account a student's willingness to work hard, improve over time, and contribute to class discussion. At any time during the semester if you feel you are not performing at your desired level please feel free to contact me. Remember that the earlier you discuss your concerns with me, the better your chances will be to improve your performance in the course.

Should you be required to be away due to any University of Alaska Fairbanks (UAF) sponsored events, job interviews, medical emergencies, or other reasons that may have a negative impact on your grade you MUST provide documentation in order for me to consider your case. Should you be unable to take one of the exams, you must contact me

PRIOR to the exam. There will be one opportunity to take a make-up exam after the initial exam has been given if you receive my permission to do so.

Scholastic Dishonesty: As described by the UAF scholastic dishonesty constitutes a violation of the university rules and regulations and is punishable according to the procedures outlined by the UAF. Scholastic dishonesty includes, but is not limited to, cheating on an exam, plagiarism, and collusion. Cheating includes providing answers to or taking answers from another student. Plagiarism includes use of another author's words or arguments without attribution. Collusion includes unauthorized collaboration with another person in preparing written work for fulfillment of any course requirement.

Leaving the Course:
Last day for full refund of tuition and materials 23 January 2004
Last day to drop the course so that it does not appear on your record 30 January 2004
Last day to withdraw from the course with a "W" on your record 12 March 2004

This syllabus is subject to change by the professor at any time during the semester. However, any changes will not result in more work than already scheduled for the students.

COURSE SCHEDULE

15 Jan: First Class Day – Introduction to Coursework and Overview of Subject

Introduction to the Debates About Science, Technology, and Politics
WEEK 1: 20/22 January "History"
20 Jan John Marks: Science and the Making of the Modern World, chapters 1, 2, and 3
David Knight: The Age of Science, Chapter 1
Film: Things to Come

22 Jan Bronowski: Chapter 1
Fischer: Preface and Chapter 1

WEEK 2: 27/29 January What is Science?
Wilkinson Forward by Brower
Bronowski: The Common Sense of Science Chapters 2-8

WEEK 3: 3/4 February Scientific Revolutions
Bronowski: Chapter 9
Kuhn: Forward, Chapters 1-3
Quine and Ullian "The Method of Hypothesis" (ERES)

WEEK 4: 10/12 February Sex and Scientific Inquiry
ALL ERES
Sandra Harding: After the Neutrality Ideal: Science, Politics, and "Strong Objectivity" (Social Research v.59 n. 30 Fall 1992 p 567-587)
James Winders: Chapter 4 Science and Culture: Gender and Race ca. 1850-1900.

Richard Udry: The Politics of Sex Research (The Journal of Sex Research v.30 May 93 p 103-110)
Discuss paper 1 Thursday

WEEK 5: 17/19 February Culture and Race
ALL ERES
Susantha Goonatilake: Toward a Global Science: Mining Civilizational Knowledge, Chapters 1-5
D.P. Chattopadhyaya: "On the Nature of Interconnection between Science, Technology, Philosophy and Culture."

WEEK 6: 24/26 February Us and Them and Power
ALL ERES
Foucault as discussed by Rabinow: Introduction
Donna Hardaway: Simians, Cyborgs, and Women: The Reinvention of Nature, Introduction, Chapters 1 and 2
"Rethinking Primate Aggression" by Richard Conniff Smithsonian, August 2003
Searle "Minds, Brains, and Programs"

The Issue of Technology
WEEK 7: 2/4 March
Keith Laidler, Chapter 1
John F. Kasson: Civilizing the Machine: Technology and Republican Values in America 1776-1900, Introduction and chapter 1 (ERES)
Foster and Huber Chapter 1
Jasanoff Preface and Chapter 1
Paper 1 Draft Due

Science and Technology in American Policymaking – Besieged, Safe, or Surreal?
WEEK 8: 9/11 March
9 March = Midterm Exam
Sheila Jasanoff: The Fifth Branch: Science Advisors as Policymakers
Chapters 2, 3, 4,

Spring Break!

WEEK 9: 23/25 March
Jasanoff Chapter 11
Foster and Huber Chapters 2-4
Paper 1 Due

WEEK 10: 30 March/ 1 April
Foster and Huber Chapters 5-9

WEEK 11: 6/8 April
Jasanoff: Chapters 7 and 9
Wilkinson: Introduction, Prologue, and Confessions
Paper 2 Draft Due

WEEK 12: 13/15 April
Wilkinson: Latter Day, Fear and Loathing, Caveman Poet

Scientists and Scientific Culture
WEEK 13: 20/22 April
Keith Laidler: Chapter 9
Jasanoff: Chapter 10
Fischer: Chapters 2, 3, 4

WEEK 14: 27/29 April
Fischer: Chapters 6, 11, 12
Kuhn: Chapter 5
Paper 2 Due

- **Final Exam 3:15-5:15pm 6 May 2004**