

SOCIETY and TECHNOLOGY
SOCIOLOGY 166
Spring 2013

Dr. Timothy King

Time: **Monday 2:00-5:00PM**

Location: **50 Birge**

Office Hours: **Wed 4:00-5:00PM, 483 Barrows**

Email: **tim.king.phd@gmail.com**

Final Exam: **May 14, 11:30-2:30PM**

This course will focus on the relationship between society and technology from a social sciences perspective. This course will provide students with an understanding of how technology has influenced society and social change, how technologies vary among societies and cultures, and how a society can foster (or hinder) its own technological development. This course will focus on current technologies and their impact on modern societies; in particular, we will look at the relationship between “new technologies” and modern societies: cellular phones, home computers, the internet, Western medicine, advanced weapons technologies, and transportation. This course will also provide examples of technology across the ancient world to illustrate the societal impact of certain significant technologies: writing, metallurgy, agriculture, animal domestication, currency, ceramics, watercraft, and gunpowder.

Course Requirements:

1). **Lectures:** Class attendance is essential to passing this course – missing more than 3 class sessions will result in a failing grade. If serious or significant reasons require a student to miss a class session, proof of reason for absence must be provided and students must notify me in advance (if possible) if they expect to miss a class session. It will be the responsibility of the student to contact me (during office hours) to collect any assignments or course materials they have missed due to absence.

2). **Required Readings:**

Readings will be assigned at the end of each class session. Additional readings (articles) will also be provided.

- Rogers, Everett. *Diffusion of Innovations*, 5th ed. Free Press (2003).
- A number of articles will be provided and assigned each class session

3). **Exams:** A midterm exam and a final exam will constitute 70% of the course grade (35% each exam). These examinations will test student understanding of in-class materials and the homework reading assignments.

4). **Assignments and Projects:** 30% of the course grade will be from group homework assignments and a term project, which will assigned and discussed in class.

5). **Academic Integrity:** The University's policy on academic honesty will be strictly enforced. In other words, cheating in any form can be grounds for failing the entire course. Including material from elsewhere and presenting it as your own work is not permissible. All quoted text or graphics must be submitted with full citation. Text and graphics taken from the internet must be cited with a full URL reference.

6). **Grading and Assessment:**

Midterm Exam: 35%

Final Exam: 35%

Assignments and Projects: 30%

7). **Performance Quality:** Your grade on assignments and exams will be based upon your knowledge and understanding of course and reading materials, and your competence in applying these materials to your work and class discussions.

This schedule may be subject to change or revision, brief PDF readings may be assigned in class.

SESSION 1 (Mon Jan 28) – COURSE INTRODUCTION and OVERVIEW

In this class session, students will be introduced to course materials, we will review the syllabus, and we will look at the nature of technology and its impact on the social world, and how the social world affects technologies. We will look at "fundamental technologies" - the materials all people need to survive - and the technologies in our own lives.

SESSION 2 (Mon Feb 4) -- SOCIAL COMPLEXITY and TECHNOLOGY

In this session, we will examine the current "Global Digital Divide" – the differential access to information and communications technologies, and how access to resources affects innovation and rates of diffusion. We will review of Elman Service's stages of social complexity: the relationship between social complexity and technological innovation, economy, craft specialization, and population size – how these factors have historically affected the development and diffusion of technologies.

SESSION 3 (Mon Feb 11) – THE NATURE OF DIFFUSION

In this class session, we will examine the nature of technological diffusion, how materials diffuse at different rates and how different groups adopt technologies at different rates.

reading: Rogers CH1 (pp. 1-35) “Elements of Diffusion”

MONDAY FEB 18 - NO CLASS/HOLIDAY

SESSION 4 (Mon Feb 25) – THE NATURE OF DIFFUSION (part II)

In this class session, we will examine the nature of technological diffusion, how materials diffuse at different rates and how different groups adopt technologies at different rates.

reading: Rogers CH6 (pp.219-265) “Attributes of Innovations and Their Rate of Adoption”

SESSION 5 (Mon Mar 4) – ARTIFICIALLY SOCIAL: ROBOTICS

In this class session, we will examine our current and future relationships with artificial intelligence. We will examine the “Frankenstein Complex” and Masahiro Mori’s “Uncanny Valley” – as robots look and behave more like us, the more unsettling they become. We will also address ethical concerns about the use of robots in warfare, the perceived hazards of artificial intelligence, and deception as an adaptive behavior in A.I.

reading: Rogers CH4 (pp. 136-166) “The Generation of Innovations”

SESSION 6 (Mon Mar 11) – EVOLUTION and TECHNOLOGY

In this class session, we will examine the nature of technology through the lens of evolutionary models - can technologies be understood, and predicted, through evolutionary models: facing selective regimes, Lamarckian Evolution, differential fitness, etc.

reading: Rogers CH8 (pp.300-362) “Diffusion Networks”

SESSION 7 (Mon Mar 18) – MIDTERM EXAMINATION

MONDAY MARCH 25 - NO CLASS/HOLIDAY

SESSION 8 (Mon Apr 1) – TECHNOLOGY, RATIONALITY, and SCIENCE

In this class session, we will examine the nature of "technologically progressive" and "technologically conservative" societies - how societal norms affect the way in which a society develops and adopts technologies.

reading: Rogers CH5 (pp. 168-216) “The Innovation-Decision Process”

SESSION 9 (Mon Apr 8) - TECHNOLOGY and THE HUMAN BODY

In this session, we will examine the relationship between the human body and technology: medicine, prosthetics, birth control and fertility, stem cell therapy, eugenics, and "trans-humanism" – when the line between human and non-human may blur.

SESSION 10 (Mon Apr 15) – TECHNOLOGY, INFORMATION and LITERACY

In the class session, we will examine the history and current uses of information storage and communication. We will examine how the Internet has affected the communication, publication, and moderation of information at a global level. We will examine how writing and literacy affects the technology and sciences of a society, and how literacy and publishing provide a significant advantage in competitive environments.

reading: Rogers CH11 (pp. 436-468) “Consequences of Innovations”

SESSION 11 (Mon Apr 22) – TECHNOLOGY, COMPETITION, and WARFARE

We will examine the strong relationship between technology, competition, and warfare – how competition motivates innovation and technological development. And how the competition of warfare can accelerate technological and social change, as an adaptation to potential threats. We will examine the Cold War “Space Race” between the U.S. and Soviet Union, and the impact this competition had on many modern technologies – and we will examine how the modern “X-Prize” has revolutionized private spaceflight. We will also examine how adaptation of weapons technologies has affected warfare in developing nations.

SESSION 12 (Mon Apr 29) – GREEN TECHNOLOGY and "MAKER-CULTURE"

In this session, we will examine the expanding American “DIY/Maker Culture” – how technological innovations are not coming from large research institutions, but from the garages and home laboratories of “Makers.” We will examine the rise of “Maker Culture” and the social consequences of private (rather than corporate/commercial) technological innovation. We will examine the rising trend in home-made “3-D printers” and the Bay Area “Maker” phenomenon.

reading: Rogers CH7 (pp. 267-297) “Innovativeness and Adopter Categories”

FINAL EXAM - May 14, 11:30-2:30PM

