

Fall 2021

## **STS 201-017: Understanding Technological Society**

Derek Levine

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### **Recommended Citation**

Levine, Derek, "STS 201-017: Understanding Technological Society" (2021). *Humanities Syllabi*. 515.  
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## **Introduction to Science, Technology and Society**

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Class meetings: Mon./Wed. 10AM-11:20AM (Central King Hall 310)

Office hours: By appointment

Science, Technology, and Society (STS) is an interdisciplinary field of study focusing on the interrelation between science and technology (on the one hand) and society (on the other). We will be drawing on the literature of the Social Science field, including history, culture, philosophy, politics and sociology to investigate and explore the following questions: How do science and technology shape society? How do social processes frame scientific and technological enterprises? What environment is conducive to fostering the development of scientific innovation and exploration.

Assigned Textbooks:

1. Langdon Winner, "*The Whale and the Reactor*" 2nd Edition, University of Chicago University Press, 2020; ISBN:13: 978-0226692548
2. Laura D'Andrea Tyson, "*Who's Bashing Whom Trade Conflict in High Technology Industries*," Institute for International Economics, 1992; ISBN- 13: 978-0881321067
3. Derek Levine "*The Dragon Takes Flight: China's Aviation Policy, Achievements and international Implications*," Brill 2015; ISBN-13: 978-9004299481 available online for free at <https://digitalcommons.du.edu/cgi/viewcontent.cgi?article=2388&context=etd>

### **Course Goals:**

Upon completion of the course, students will be able to:

1. Delineate intellectual foundations of science, including the discovery of how innovative scientific research is different from textbook science.
2. Discern ways in which societal practices and attitudes influence the development of science and technology.
3. Discern ways in which science and technology impact society.

### **Requirements and Grading:**

3 Exams:

60%

Group Project	15%
Final Exam	25%

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### **Weekly Readings**

You must complete all of the required readings prior to the first class meeting of each week.

### **Team Paper:**

During the 5th week of class, we will form teams of 4 people who will work together on a final “team project/presentation worth 15% of your final grade.” Your group will choose from one of five different scenarios that will govern your teamwork. Specifically, your team may become a 1) product design firm, 2) environmental organization, 3) a science and technology policy think-tank, 4) a community advocacy group, or 5) a group of concerned journalists. Under each of these options, you will be asked to choose a team leader, take on different roles, and figure out how to produce a collaborative paper and a PowerPoint Presentation as well as other documents as required by your specific scenario. Your team grade will be modified based on your individual contributions.

### **Tentative schedule for reading assignments:**

#### **Week 1 Introduction: What Is STS?**

Langdon Winner, *The Whale and the Reactor*, Chapters 1 & 2

#### **Weeks 2 Philosophy of Technology**

Langdon Winner, *The Whale and the Reactor*, Chapters 3 & 4

#### **Week 3 Technology Reform and Revolution**

Langdon Winner, *The Whale and the Reactor*, chapters 5 & 6

**Week 4 Excess and Limits of Technology**

Langdon Winner, The Whale and the Reactor, chapters 7 & 8

**Week 5 Excess and Limits of Technology-Continued**

Langdon Winner, The Whale and the Reactor, chapters 9 & 10

**Week 6 High-Technology Trade Challenge**

Tyson Chapters 1

**Week 7 Trade and System Conflict**

Tyson Chapters 2

**Week 8 From MOSS to Motorola**

Tyson Chapter 3

**Week 9 Semiconductor Industry**

Tyson Chapter 4

**Week 10 Commercial Aviation Industry**

Tyson Chapter 5 & 6

**Week 11 Cautious Activism**

Tyson Chapter 7

**Week 12 China's Commercial Aviation Industry**

Levine Chapters 1 and 2

**Week 13 Development of the Y-10**

Levine Chapter 3

**Week 14 Strategies for Competing with China's C-919**

Levine Chapter 5

**Week 15 World Trade Organization**

Levine Chapter 6