Philosophy of Technology
PHIL 360 / STS 360

Prof. Daniel Little CASL 3088
delittle@umich.edu 593-5179
Office Hours: TTR 11-12

Course Description:
Technology may be defined broadly as the sum of a set of tools, machines, and practical skills available at a given time in a given culture through which needs and interests are satisfied and the interplay of power and conflict furthered. This course in the philosophy of technology presents an interdisciplinary approach to the role of technology in society. The course raises critical questions about the ways that technology intertwines with human life and the workings of society. Do human beings control technology? For whose benefit? What role does technology play in human wellbeing and freedom? What role does technology play in the exercise of power?

Course Objectives:
- Expose students to multi-disciplinary perspectives on the role and effects of technology in society, and the normative considerations that technologies raise in social life
- Allow students to gain knowledge about some key contemporary technology problems, including nuclear power and artificial intelligence research
- Develop students' ability to analyze and reason about the complex issues raised by technology in human society

Required Materials
Thomas Hughes, *Human-Built World*
Thomas Hughes, *Rescuing Prometheus*
Daniel Little, *Philosophy of Technology* (e-book)
Charles Perrow, *Normal Accidents*
Byron Reese, *The Fourth Age: Smart Robots*
Diane Vaughan, *Challenger Launch Decision*
Lynn White, Jr., *Medieval Technology and Social Change*

Assignment and Grading Distribution:

1 10-12 page paper	50% of grade
Final examination	30% of grade
Canvas discussion posts and participation	20% of grade

Course Outline:

9/5
Introduction to technology in society
Klein and Zellmer, "Mississippi River Stories: Lessons from a Century of Unnatural Disasters" (online)

9/10
What is the "philosophy of technology"?
Technology in Hegel, Marx, Kojeve
Little, *Philosophy of Technology* (e-reader document) chapters 1-2

9/12
How does technology intersect with human life and freedom?
Little, *Philosophy of Technology*, chapters 3-5

9/17
Technology in society
Lynn White, *Medieval Technology and Social Change*, chapter 1

9/19
How do major technological advances influence social change and the course of history?
Lynn White, *Medieval Technology*, chapter 2

9/24

Technology and culture
Hughes, *Human-Built World*, chapters 1-2

9/26
Hughes, *Human-Built World*, chapters 3-4

10/1
The social composition of largescale technology
Hughes, *Rescuing Prometheus*, chapters 1-2

10/3
Hughes, *Rescuing Prometheus*, chapter 3

10/8
Managing complex technology
Vaughan, *The Challenger Launch Decision*, chapters 1-2

10/10
Vaughan, *The Challenger Launch Decision*, chapters 3-4

10/15
FALL STUDY BREAK

10/17
An evolving case: 737 MAX
Case materials, Prezi analysis (Canvas)
Case materials (Canvas)

10/22
Ethical issues in technology
Video lectures from the Markula Center for Applied Ethics on technology and business ethics

- Brian Green, What is Technology Ethics? Markula Center for Applied Ethics https://youtu.be/UISZx6K9enQ
- Kirk Hanson, Five Ways to Think Ethically. Markula Center for Applied Ethics https://youtu.be/OTpwUUNepZc
- Kirk Hanson, What is Business Ethics? Markula Center for Applied Ethics https://youtu.be/vmVu66Fpd9U
- Kirk Hanson, Am I Responsible? Markula Center for Applied Ethics https://youtu.be/IEmxFkEbfZo

10/24
Ethical issues in technology
Little, *Paradox of Wealth and Poverty*, chapter 1 (Canvas document)

10/29
Little, *Paradox of Wealth and Poverty*, chapter 4 (Canvas document)

10/31
Dealing with technology risks
Perrow, *Normal Accidents*, chapter 1

11/5
Perrow, *Normal Accidents*, chapter 2

11/7
Perrow, *Normal Accidents*, chapters 3-4

11/12
Technology and the environment
Little, *Paradox of Wealth and Poverty*, chapter 7 (Canvas document)

11/14
Climate change and geo-engineering
Futurism: geoengineering https://futurism.com/climate-change-geoengineering
https://futurism.com/images/technological-fixes-for-climate-change

11/19
Nuclear energy
Innovation and regulation
Walker and Wellock, *A Short History of Nuclear Regulation 1946-2009* (online)

11/21
Nuclear energy
Risks and potential benefits
Richard Rhodes, "Why Nuclear Power Must be Part of the Energy Solution" (Yale Environment 360)
Charles Perrow, "Fukushima and the inevitability of accidents" (online)
Dave Lochbaum and Union of Concerned Scientists, Nuclear Plant Accidents: Fermi Unit 1 (online)

11/26
Nuclear energy
GAO Study of Davis-Besse Nuclear Reactor Incident (online)

11/28

Thanksgiving holiday

12/3
Artificial intelligence as an emerging technology
Byron Reese, *The Fourth Age*, Parts One, Two

12/5
Artificial intelligence as an emerging technology
Byron Reese, *The Fourth Age*, Parts Three, Four
Bostrom and Yudkowsky, The ethics of artificial intelligence (online)
https://intelligence.org/files/EthicsofAI.pdf

12/10
Wrap-up
Perrow, *Normal Accidents*, chapter 9
Little, Latent hazards of technology (online)

PAPER DUE 12/3