Science, Technology, and Culture

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Course Hours: **Tuesday, 6:45 – 9:30 p.m.**   **HYS G01**

The power of scientific reason often operates through division, producing dichotomies such as West/non-West, modern/traditional, global/local, developed/underdeveloped, and science/non-science. It has even been linked to the colonial conquest of territories, bodies, and minds. How might we understand scientific claims to truth, knowing that they are shaped by relations of power?

Through an interdisciplinary lens that encompasses cultural theory, history, anthropology, literary studies, science studies, and more, this course will investigate the relationship between technoscience and contemporary culture, with emphasis on issues of race, gender, sexuality, class, and other relations of inequality. We will pay particular attention to the social conditions and the material processes out of which technoscientific actors make "universal" claims, as well as ask questions about who is left out of making these claims. By doing so, this course will introduce new ways to think about how power, culture and politics are embedded in both our scientific ways of knowing and in our everyday material worlds.

This course is appropriate for master-level students in Cultural Studies and related disciplines, as well as students from STEM interested thinking more philosophically about how our everyday "reality" is made.

Course Objectives

By taking this course, you will develop the ability to:

• Explain multiple theories on the relationship between science, technology, and culture
• Critically analyze technoscientific discourses in popular culture
• Gain in-depth insight into one aspect of this topic through a final project
• Develop oral fluency in communicating about these issues

Assessment

Classroom Participation 20%
Discussion Leader 20%
Midterm Paper 20%
Final Project 40%

Discussion Leader

Starting in Week 5 (4 Feb.), you will team up with your classmates to lead one 20-minute presentation based on a close reading of a material object. It should be developed through the "Implosion Method," which we will study in class, and demonstrate the relationship between science, technology, and power. This will be followed by a discussion, which your team is responsible for facilitating. You may create a few questions to prompt the class. The questions should not have yes / no answers, but instead open a space for provocative, yet respectful, discussion.

Midterm Paper

For the midterm, you will write a 750-word critical review of a film using course concepts. Specific instructions will be distributed later in the semester.

Final Project

The final project is a 20-minute group presentation that identifies a theme, theory, or concept in the course that you would like to engage with more deeply through a case study. The presentations should demonstrate your group's ability to use the theoretical material to make sense of the role of science and technology in society by providing a critical analysis that both articulates what the theory illuminates about your case, as well as considers its shortcomings. Your group is expected to *clearly and explicitly* communicate the connections the theoretical and empirical material by skillfully directing our attention to the appropriate points of analysis. In addition to the intellectual content, you will also be evaluated on your presentation skills. This includes how well your group communicates the key points of your analysis and guides your peers through the discussion.

Course Schedule

1.   **Jan. 7   Science, Technology, and Culture**

2.   **Jan 14   The Culture of Objectivity**

- bell hooks, "Choosing the Margin as a Space of Radical Openness," *Framework: The Journal of Cinema and Media* (1989)
- Banu Subramaniam, "Through the Prism of Objectivity: Dispersions of Identity, Culture, Science," *Ghost Stories for Darwin: The Science of Variation and the Politics of Diversity* (2014)
- Sharon Traweek, "Male Tales Told During a Life in Physics," *Beamtimes and Lifetimes: The World of High Energy Physics* (1988)

Recommended:

- Sandra Harding, "Stronger Objectivity for Sciences from Below," *Objectivity and Diversity: Another Logic of Scientific Research* (2015)

3.   **Jan 21**   **Ways of Knowing**

- Karen Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," *Signs* (2003)
- Bruno Latour and Steve Woolgar, *Laboratory Life: The Social Construction of Scientific Facts* (1979): pgs. 43-53 only

Recommended:

- Annmarie Mol, "Different Atherosclerosis," *The Body Multiple: Ontology in Medical Practice* (2002)

4.   **Jan 28**   **Lunar New Year Holiday**

5.   **Feb. 4**   **Science and the Self**

- Ian Hacking, "Making Up People," *London Review of Books* (2003)
- Joseph Dumit, "Is it Me or My Brain? Depression and Neuroscientific Facts," *Journal of the Medical Humanities* (2003)

6.   **Feb. 11**   **Technologies of Gender**

- Anne Fausto-Sterling, "The Five Sexes: Why Male and Female are Not Enough," *The Sciences* (2013)
- Katrina Karkazis, "The Misuses of 'Biological Sex,'" *The Lancet* (2019)

Recommended:

- Geoffrey Bowker and Susan Leigh Starr, "To Classify is Human," Sorting Things Out: Classification and Its Consequences (1999), pgs. 1-15 only
- Sarah Richardson, "Sexing the X: How X Became the 'Female Chromosome,' *Signs* (2012)

7.   **Feb. 18**   **Professional Truth**

- Charles Goodwin, "Professional Vision," *American Anthropologist* (1994)
- Lochlann Jain, "What the Oral Polio Vaccine Hypothesis Exposes about Globalized Interspecies Fluid Exchange," *Medical Anthropology Quarterly* (2020)

8.   **Feb. 25**   **Diversity in Science**

- In-class Film: *Picture a Scientist* (2020)
- Katalin Karikó, *Breaking Through: My Life in Science* (excerpts)

9.   **Mar. 4**   **The Politics of Infrastructure**

- Susan Leigh Starr, "Power, Technology, and the Phenomenology of Convention: On Being Allergic to Onions," A Sociology of Monsters (1991)
- Shannon Mattern, "Networked Dream Worlds," *Real Life Magazine* (2019)
- Matti Siemiatycki, Theresa Enright, and Mariana Valverde, "The Gendered Production of Infrastructure," *Progress in Human Geography* (2019)

10.   **Mar. 11**   **Dreaming of Modernity**

- Morris Low, "The Beginnings of Atoms for Peace in Japan," *Visualizing Nuclear Power in Japan* (2020)
- Sheila Jasanoff and Sang-Hyun Kim, "Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea," *Minerva* (2009)

Recommended:

- Film: *Atomic Café* (1982)

11.   **Mar. 18**   **Science and Propaganda**

- In-class Film: *Merchants of Doubt* (2014)

12.   Mar. 25   Digital Surveillance

- Nick Couldry and Ulises Mejias, "Data Colonialism: Rethinking Big Data's Relationship to the Contemporary Subject," *Television and New Media* (2018)
- Virginia Eubanks, "The Allegheny Algorithm," Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor" (2018)

Recommended:

- Ruha Benjamin, "Default Discrimination: Is the Glitch Systemic?" Race after Technology: Abolitionist Tools for a New Jim Code (2019)
- Cathy O'Neill, "Civilian Casualties: Justice in the Age of Big Data," *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Demcracy* (2016)

13.   Apr. 1   Research Methods Workshop

14.   Apr. 8   Technoscience Futures

- Greta Gaard, "Toward a Feminist Postcolonial Milk Studies," American Quarterly (2013)

15.   Apr. 15   Final Presentations