

ANTH 3362

Science and Technology in an Anthropological Perspective

Course Description

Anthropological approaches to the study of science and technology seek to understand them as cultural practices, embedded in a social milieu and emergent from social processes. At the same time, scientific knowledge holds a special place and power in the collective imagination. This course examines science and technology from a broad perspective and in multiple regions of the world. We will ask how knowledge is generated, circulated, and adopted (or not), the role of experts, the role of the public, and the effects of technologies on infrastructure, representations of space, and the body.

The course begins with an introduction to the field and is then divided into three broad themes (acknowledging that the field is much broader than what can be covered in one semester). The first thematic section will explore questions of the infrastructure and electricity. The second section will explore practices of data collection and representation, while the last section will focus on the body and tracking technologies.

Course Objectives

By the end of this course, students will be able to:

- Understand foundational concepts in the study of science and technology from an anthropological perspective.
- Identify and critically examine the role of knowledge and data in society.
- Analyze the role of experts and expertise in the field of science and technology.
- Critically examine the effects of technological change.

Required Course Materials

- Messeri, Lisa. 2016. *Placing Outer Space: An Earthly Ethnography of Other Worlds*. Durham: Duke University Press.
- Sanabria, Emilia. 2016. *Plastic Bodies: Sex Hormones and Menstrual Suppression in Brazil*. Durham: Duke University Press.
- Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.

All the books are available as e-books from the library. They have also been ordered through the SMU bookstore.

Course Format

The course consists of a combination of lectures and discussion. On occasion, films will be shown.

Masks

Masks are required in this course. This masking policy is subject to change during the semester, and any changes will be posted clearly in Canvas announcements.

Mask wearing in this class is included as one of the expectations of maintaining professionalism within a culture of respect, such that a failure to follow the classroom requirements would negatively impact the overall professionalism/participation grade for up to 10% of the final course grade.

Turning in assignments / late policies

All assignments must be submitted via Canvas.

If a submission is corrupted, it will accrue late penalties until a working file is submitted. It is the student's responsibility to confirm that their file has been correctly uploaded and is readable. In other words, students must verify that their assignment was successfully submitted; it is not the responsibility of the instructor to alert you if there are any problems. This course uses a feature on Canvas that allows us to grade assignments anonymously. As such, do not write your name on your assignments or give the file a name that identifies you. Assignments submitted late will be graded down by three percent for every 24-hours they are late. The late policy is automatically applied by Canvas and the deductions begin as soon as the deadline elapses.

Extensions are offered only to students with written documentation (i.e., by a healthcare provider, parent, funeral director, Resident Advisor) of a debilitating illness, extenuating circumstances, or death in the family. If you are facing difficult circumstances, do not hesitate to contact me to discuss.

Names and pronouns

If you prefer to be called by a name or gender pronoun that does not match what is listed on the course registry, please let us know so the professor, the TAs, and your fellow classmates can address you correctly.

Statement on Communication

You may contact me via email or the Canvas inbox. I will respond to your question or email within 48 hours. Responses might be slightly delayed on holidays and weekends. Assignments will be graded within ten days of the assignment due date. The grading timeline might be delayed for long essays and long projects.

Computers and cellphones in the classroom

Computers/tablets/cellphones can be used in class only for note-taking and consulting the readings. Research has shown that browsing the internet or viewing unrelated material on your screen is not only distracting to you but to those around you. Therefore, engaging in such behavior compromises everyone's learning environment. If this policy is not followed, students may be asked to leave the room, and I reserve the right to ban laptop/tablet/phone use for the entire class.

Description of Assignment Groups

Analytical Essays [50% of Grade]

These papers are intended for you to critically examine course material by putting readings across weeks in dialogue.

Research paper [35% of Grade]

Conduct ethnographic research about a theme related to the course.

Participation and attendance [15% of Grade]

Students are expected to attend and come prepared for class meetings to discuss the readings. This course depends on the active participation of students and instructor in making it a fruitful experience. Class participation grades will be based on the frequency, pertinence, creativity, and clarity of contributions in class. Comments must reflect critical thinking and engage the course material; comments that are general or personal in nature will not contribute significantly toward your participation grade.

Readings Week 1

Assigned Reading:

- Monday: No assigned reading.
- Wednesday: Film, Naomi Oreskes. "Why we Should Trust Scientists" Ted Salon.
- Friday: Martin, Emily. 1998. "Anthropology and the Cultural Study of Science." *Science, Technology & Human Values* 23 (1):24-44.

Further Reading (Optional)

- Oreskes, Naomi. 2019. *Why Trust Science?* Princeton: Princeton University Press.
- Latour, Bruno. "Give me a laboratory and I will raise the world." In *Give me a laboratory and I will raise the world.* Science observed: Perspectives on the social study of science (1983): 141-170.
- Franklin, Sarah. 1995. "Science as Culture, Cultures of Science." *Annual Review of Anthropology* 24: 163-184.

Readings Week 2

Assigned Reading

- Monday: Jasanoff, Sheila. "Technologies of Humility: Citizen participation in governing science." *Minerva* 41:223-244.
- Wednesday: Winner, Langdon. 1980. "Do Artifacts Have Politics?" *Daedalus* 109 (1): 121-136.
- Friday: Haraway, Donna. 1988. "Situated knowledges: The science question in feminism and the privilege of partial perspective." *Feminist studies* 14 (3):575-599.

Optional

- McGaw, Judith. 1996. "Reconceiving Technology: Why Feminine Technologies Matter." In *Gender and Archeology*, edited by Rita P Wright. University of Pennsylvania Press.

Module 1 – Energy, Infrastructure

This module is devoted to the study of energy and infrastructure. The readings are anchored by *Spaceship in the Desert*, an ethnography that analyzes the efforts to design a carbon-neutral city. In addition, we will examine nuclear and wind power, with an emphasis on the accident at the Fukushima Daiichi nuclear power plant.

Readings Week 3

- Monday: No class, Labor Day.
- Wednesday: Gupta, Akhil. 2015. "An Anthropology of Electricity from the Global South." *Cultural Anthropology* 30 (4): 555-568. <https://doi.org/10.14506/ca30.4.04>.
- Friday: Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.
 - Read Intro.

Optional (further reading)

- Winther, Tanja, and Harold Wilhite. 2015. "Tentacles of Modernity: Why Electricity Needs Anthropology." *Cultural Anthropology* 30 (4): 569-577. <https://doi.org/10.14506/ca30.4.05>.

Readings Week 4

- Monday: Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.
 - Read Chapters 1 and 2.
- Wednesday: No assigned reading.

- Friday: Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.
 - Read Chapter 3.

Readings Week 5

- Monday: Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.
 - Read Chapter Four.
- Wednesday: Madsen, Michael, and Lise Lense-Møller. *Into Eternity: a Film for the Future*. San Francisco, CA: Video Project, 2010. Film.
- Friday: Howe, Cymene. 2014. "Anthropocenic Ecoauthority: The Winds of Oaxaca." *Anthropological Quarterly* 87 (2): 381-404. <https://doi.org/10.1353/anq.2014.0029>.

Readings Week 6

- Monday: Günel, Gökçe. 2019. *Spaceship in the Desert: Energy, Climate Change, and Urban Design in Abu Dhabi*. Durham: Duke University Press.
 - Read Chapter 5 - Epilogue.
- Wednesday: Morris-Suzuki, Tessa. 2014. "Touching the Grass: Science, Uncertainty and Everyday Life from Chernobyl to Fukushima." *Science Technology & Society* 19 (3): 331-362.
- Friday: Kimura, Aya H. 2019. "Citizen Science in Post-Fukushima Japan: The Gendered Scientization of Radiation Measurement." *Science as Culture* 28 (3): 327-350. <https://doi.org/10.1080/09505431.2017.1347154>.

Optional

- Sternsdorff-Cisterna, Nicolas. 2015. "Food after Fukushima: Risk and Scientific Citizenship in Japan." *American Anthropologist* 117 (3):455-467. doi: 10.1111/aman.12294.
- Kuchinskaya, Olga. 2012. "Twice invisible: Formal representations of radiation danger." *Social Studies of Science* 43 (1):78-96. doi: 10.1177/0306312712465356.

Module 2 – Measurement, representations

This module examines the processes by which knowledge is gathered and represented. The module is anchored by the ethnography *Placing Outer Space*, which examines the work of planetary scientists. We will also focus on the role of documents, statistics, and maps.

Readings Week 7

- Monday: Messeri, Lisa. 2016. *Placing Outer Space: An Earthly Ethnography of Other Worlds*. Durham: Duke University Press.
 - Read Introduction
- Wednesday: Hull, Matthew S. 2008. "Ruled by records: The expropriation of land and the misappropriation of lists in Islamabad." *American Ethnologist* 35:501-518. doi: 10.1111/j.1548-1425.2008.00095.x.
- Friday: Messeri, Lisa. 2016. *Placing Outer Space: An Earthly Ethnography of Other Worlds*. Durham: Duke University Press.
 - Read Chapter 1.

Optional

- Latour, Bruno. "Visualisation and Cognition: Drawing Things Together." In *Knowledge and Society: Studies in the Sociology of Culture Past and Present*, edited by H Kuklick. Jai Press.
- Thompson, E P. 1967. "Time, work-discipline, and industrial capitalism." *Past & Present* 38:56.

Readings Week 8

- Monday: No class, Fall Break
- Wednesday: Film, Excerpts from *Black Holes: The Edge of All We Know*, directed by Peter Galison.
- Friday: Messeri, Lisa. 2016. *Placing Outer Space: An Earthly Ethnography of Other Worlds*. Durham: Duke University Press.
 - Read Chapters 2-3

Readings Week 9

- Monday: Vertesi, Janet. 2008. "Mind the Gap: The London Underground Map and Users' Representations of Urban Space." *Social Studies of Science* 38 (1):7-33. doi: 10.1177/0306312707084153.
- Wednesday: Merry, Sally Engle, and Summer Wood. 2015. "Quantification and the Paradox of Measurement." *Current Anthropology* 56 (2):205-229. doi: 10.1086/680439.
 - The article is followed by comments and discussion. The assigned reading is the main article; comments and discussion are optional (though you might find the dialogue quite interesting).
- Friday: Messeri, Lisa. 2016. *Placing Outer Space: An Earthly Ethnography of Other Worlds*. Durham: Duke University Press.
 - Read Ch. 4-Conclusion

Optional

- Leuenberger, Christine, and Izhak Schnell. 2010. "The politics of maps: Constructing national territories in Israel." *Social Studies of Science* 40 (6):803-842.
- Biruk, Crystal. 2012. "Seeing like a research project: Producing "high-quality data" in AIDS research in Malawi." *Medical Anthropology* 31 (4):347-66. doi: 10.1080/01459740.2011.631960.

Module 3 – The Body

In this module we will study the intersections between technology and the body. The main reading is *Plastic Bodies*, an ethnography that analyzes hormonal contraceptives. We will also read about the use of wearable devices to track bodily activity, and the gendering of robots.

Readings Week 10

- Monday: Sanabria, Emilia. 2016. *Plastic Bodies: Sex Hormones and Menstrual Suppression in Brazil*. Durham: Duke University Press.
 - Read Introduction - Chapter 1
- Wednesday: (In lecture viewing) Gazit, Chana., David. Steward, and Blair. Brown. *The Pill*. Boston]: WGBH Educational Foundation.; Distributed by PBS Home Video, 2006. Film.
- Friday: Sanabria, Emilia. 2016. *Plastic Bodies: Sex Hormones and Menstrual Suppression in Brazil*. Durham: Duke University Press.
 - Read Chapter 2.

Optional

- Martin, Emily. 1991. "The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles." *Signs* 16 (3):485-501.

Readings Week 11

- Monday: Schüll, Natasha Dow. 2016. "Data for life: Wearable technology and the design of self-care." *BioSocieties* 11:317-333. doi: 10.1057/biosoc.2015.47.
- Wednesday: Sanabria, Emilia. 2016. *Plastic Bodies: Sex Hormones and Menstrual Suppression in Brazil*. Durham: Duke University Press.
 - Read Ch. 3-4

- Friday: Greenhalgh, Susan. 2012. "Weighty subjects: The biopolitics of the U.S. war on fat." *American Ethnologist* 39 (3):471-487. doi: 10.1111/j.1548-1425.2012.01375.x.

Optional

- Lupton, Deborah. 2015. "Quantified sex: A critical analysis of sexual and reproductive self-tracking using apps ." *Cult Health Sex* 17 (4):440-453. doi:10.1080/13691058.2014.920528.
- Meneley, Anne. 2019. "Walk This Way: Fitbit and Other Kinds of Walking in Palestine." *Cultural Anthropology* 34 (1):130-154. doi: 10.14506/ca34.1.11.

Readings Week 12

- Monday: No class at 10am; attend Professor Schull's lecture at 5pm over zoom.
- Wednesday: Sanabria, Emilia. 2016. *Plastic Bodies: Sex Hormones and Menstrual Suppression in Brazil*. Durham: Duke University Press.
 - Read Ch. 5 - conclusion
- Friday Robertson, Jennifer. 2010. "Gendering Humanoid Robots: Robo-Sexism in Japan." *Body & Society* 16 (2):1-36. doi: 10.1177/1357034x10364767.

Optional

- Frumer, Yulia. 2018. "Cognition and emotions in Japanese humanoid robotics." *History and Technology* 34 (2):157-183. doi: 10.1080/07341512.2018.1544344.

Readings Week 13

- Monday: Burrell, Jenna. 2016. "How the machine 'thinks': Understanding opacity in machine learning algorithms." *Big Data & Society* 3 (1):1-12. doi: 10.1177/2053951715622512
- Wednesday: Noble, Safiya Umoja. 2018. *Algorithms of oppression: How search engines reinforce racism*. New York: New York University Press.
 - Read Ch. 1 Download Read Ch. 1
- Friday: No class, American Anthropological Association Conference. Work on your papers and sign up for ethnographic paper consultations.
 - Consult the calendar for available times.
 - You can sign up for appointments marked as "office hours" and "ethnographic paper consultations" -- they are the same.
 - Please sign up at least 24 hours in advance.

Readings Week 14 | 3 hours

Monday: No class, sign up for individual ethnographic paper consultations.

- Consult the calendar for available times.
- You can sign up for appointments marked as "office hours" and "ethnographic paper consultations" -- they are the same.
- Please sign up at least 24 hours in advance.

Wednesday & Friday: Thanksgiving break

Readings Weeks 15-16

- The syllabus for this class reflects choices I made for how to approach the study of science and technology. However, there are many topics that could not be included. I will ask the class to suggest a topic you'd like to read about that is not currently covered by the syllabus and I will do my best to find readings that will be assigned during this period.