HTS 2100

SCIENCE AND TECHNOLOGY IN THE MODERN WORLD R1 & R2

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Office Hours: By appointment

Schedule of Classes: R1: 10.30 am – 12.20 pm, T/Th R2: 1.30 pm – 3.20 pm, T/Th

<u>All the assigned readings are going to be available through Canvas</u>. Please download the syllabus and all the readings on your laptop.

Course Description:

In a significant way science and technology have defined the modern world. Not only the modern times have seen a number of scientific discoveries and technological developments, our understanding of science and technology also undergird the way we view the world. This course focuses on three aspects of science and technology that are often considered characteristic of modernity, namely the separations between nature and culture, objective and subjective, and humans and technology. We will discuss a range of issues related to these three dualist separations. For example, how do biotechnological developments and new discoveries in genomics transform our understanding of the nature-culture divide or how technology has been central to expressions of human agency, subjectivity, and even social values and norms. The broader goal of the course is to explore different facets of science and technology as a situated albeit rigorous knowledge and practice and investigate the role of science and technology in constituting the modern world.

Course Requirements:

Each class will have two students presenting the readings that have been assigned for the day. Presentation should be around 5-7 minutes and should focus on one or two central arguments presented in the assigned readings that the students think are important and need further discussion. There is a signup sheet on Canvas for the presentations.

Assignments include two papers (4-pages each) and a 10-minutes video documentary on the biography of a technology.

The focus of the video assignment will be biography of a technology. This assignment cannot be a chronological catalog of developments in relation to that particular technology. Instead, the focus has to be how and in what ways technical and social factors have been intertwined in the biography of that technology. In this regard, students would also have to investigate the historical role of that particular technology (or scientific project) in re-defining the social life and identity (in the United States or any other country or internationally). Students can utilize clips of non-copyrighted videos that are available, pictures available in the public domain, and use voiceover to narrate the story.

Video assignment has to be a collaborative work carried out by groups of 3-4 students. Each student in any particular group will get the *same grade* for this assignment. The videos will have to be presented in front of the class (see the last page of the syllabus for the schedule), followed by Q&A (10 minutes after each presentation). You *do not* need to submit the videos separately to me. A sign-up sheet is available on Canvas for the group project presentations.

Students (each group) will at first write a short description (2 double-spaced, type-wrtten pages) of a particular technology of their choice (it could also be a scientific project e.g., Human Genome Project or Manhattan Project). The short description should highlight how the biography of the technology (that is chosen by the group) can illustrate different facets of technology and society relationships and which particular aspects of those relationships the students would focus upon. This is a useful exercise also to find out biography of which technology is doable, e.g., biography of the wheel can be very difficult (even though it may not seem so in the first instance). During this process a group may decide to write the biography of a particular aspect of that technology, e.g., digital photography rather than photography or computer chip instead of that of a computer. One can also choose a particular period in the history of that technology, e.g., history of developments in photography from 1900 to 1950 (in this regard students should justify why that time period is important in the biography of that technology).

There will be two writing assignments (4-pages each) for this class. The aim of these assignments is to make students creatively and critically analyze the readings. The question and detailed instructions for the writing assignments will be provided a week before the assignment is due. Students will have one week to write and submit the assignment via Canvas. The assignments would be take-home, i.e., there is *no* in class assignment or exam. All the writing assignments have to be 4 double-spaced, type-written pages with the references listed on a separate page. The aim of these assignments is not only to make students write analytically, but also professionally.

Attendance is necessary. If for health or any other important reason you are not able to attend classes, you should let me know. If you miss 3 classes or more it will significantly impact your grade.

Grades:

Grades will be based on: (i) Analytical papers 1 and $2 \sim 25x2 = 50\%$; (ii) Biography of technology ~ 25% (iii) Class Participation and Presentation ~ 25% (15% on class participation, including attendance and 10% on presentation of readings).

Plagiarism will result in the student getting an F in the course.

Accommodations: Students with disabilities needing reasonable accommodations are encouraged to contact the instructor. The Office of the Dean of Students, ADAPTS Disability Services Program is available to assist us with the reasonable accommodations process. More information at: <u>http://www.adapts.gatech.edu/index.php</u>.

Diversity and Inclusion: Ivan Allen College of Liberal Arts supports Georgia Institute of Technology's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in the broader society.

No extensions will be allowed.

Course Schedule

Week One:

- 5/16: Introduction and students form groups and discuss the topic for biography of technology assignment.
- 5/18: (i) Williams, R. 1980. "Ideas of Nature," in *Problems in materialism and culture* (London, Verso), pp. 67-85. (ii) Documentary: "World's Biggest Mega Dams & Channels: Masters of Engineering."

Week Two:

5/23: (i) Cronon, W. 1996. "The Trouble with Wilderness: Or, Getting Back to the Wrong Nature." *Environmental History* 1(1): 7-28. (ii) Documentary: "Yellowstone: America's National Parks" (*National Geographic*).

5/25: Escobar, A. 1999. "After Nature: Steps to an Anti-essentialist Political Ecology." *Current Anthropology* 40(1): 1-30.

Week Three:

5/28: <u>Short Description of Biography of Technology Due via Canvas (by midnight)</u>

- 5/30: (i) Pollan, M. 1998. "Playing God in the Garden," New York Times Magazine, October 25. (ii) Guthman, J. 2007. "Commentary on teaching food: Why I am fed up with Michael Pollan et al." Agriculture and Human Values 24: 261-64. (iii) Documentary: "Botany of Desire" (Michael Pollan).
- 6/1: (i) Keller, E.F. 2014. "From Gene Action to Reactive Genomes." *The Journal of Physiology* 592: 2423-2429. (ii) Ian Hacking 2006. "Genetics, Biosocial Groups & the Future of Identity." *Daedalus* 135 (4): 81-95.

Week Four:

- 6/6: (i) Gould, Stephen Jay. 1994 (November). "The Geometer of Race." *Discover*, 65-69. (ii) Bhopal, Raj & Liam Donaldson. 1998. "White, European, Western, Caucasian, or What? Inappropriate Labeling in Research on Race, Ethnicity, and Health." *American Journal of Public Health*, 88(9): 1303-1307.
- 6/8: (i) Duster, Troy. 2005. "Race and Reification in Science." Science 307 (5712): 1050-1051. (ii) Duster, Troy. 2007. "Medicalisation of Race." Lancet 369 (9562): 702-704. (iii) Duster, Troy. 2007. "Lessons from History: Why Race and Ethnicity Have Played a Major Role in Biomedical Research." The Journal of Law, Medicine & Ethics 34 (3): 487-496.

Week Five:

6/11: First Assignment Due via Canvas (by midnight)

- 6/13: (i) Fujimura, J., T. Duster, & R. Rajgopalan. 2008. "Race, Genetics, and Disease: Questions of Evidence, Matters of Consequence." *Social Studies of Science* 38 (5): 643-656. (ii) Reardon, Jenny and Kim TallBear. 2012. "Your DNA Is Our History": Genomics, Anthropology, and the Construction of Whiteness as Property." *Current Anthropology* 53 (S5): S233-S245.
- 6/15: (i) Bolnick, D. A. et al. 2007. "Genetic Ancestry Testing." Science 318: 399-400;
 (ii) Nelson, A. 2008. "Bio Science: Genetic Genealogy Testing and the Pursuit of African Ancestry." Social Studies of Science 38(5): 759-783.

Week Six:

- 6/20: (i) Fausto-Sterling, Anne, "The Five Sexes, Revisited," *The Sciences* 40 (4): 18-23. (ii)Melanie Blackless, A. Charuvastra, A. Derryck, A. Fausto-Sterling, K. Lauzanee, E. Lee. 2000. "How Sexually Dimorphic Are We? Review and Synthesis," *American Journal of Human Biology* 12: 151-166.
- 6/22: (i) Longino, H. 1987. "Can there be a feminist science?" *Hypatia* 2 (3): 51-64. (ii) Bell, Susan. 1995. "Gendered Medical Science: Producing a Drug for Women." *Feminist Studies* 21 (3): 469-500.

Week Seven:

- 6/27: (i) Johnson, J. (Bruno Latour). 1988. "Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer." *Social Problems* 35 (3): 298-310. (ii) Schivelbusch, W. 1978. "Railroad Space and Railroad Time." *New German Critique* 14: 31-40.
- 6/29: Casper, M. 1994. "Reframing and Grounding Non-Human Agency." *American Behavioral Scientist* 37 (6): 839-56.

Week Eight:

- 7/4: Clarke, Adele and Montini T. 1993. "The Many Faces of RU486: Tales of Situated Knowledges and Technological Contestations." *Science, Technology and Human Values* 18 (1): 42-78.
- 7/6: (i) Dumit, J. "Is It Me or My Brain? Depression and Neuroscientific Facts." *Journal of Medical Humanities* 24(1/2): 37-47. (ii) Hayles, K. 2007. "Hyper and Deep Attention: The Generational Divide in Cognitive Modes." *Profession*, pp. 187-199.

Week Nine:

- 7/11: (i) Gee, J. P. 2003. "What Video Games Have to Teach Us About Learning and Literacy," *ACM Computers in Entertainment* 1(1): 1-4. (ii) Bean, A. et al. 2017. "Video Game Addiction: The Push to Pathologize Video Games." *Professional Psychology: Research and Practice* 48 (5): 378-389.
- 7/13: (i) Kietzmann, J. H. et al. 2011. "Social media? Get serious! Understanding the functional building blocks of social media." *Business Horizons* 54: 241-251. (ii) Couldry, N. 2008. "Mediatization or mediation? Alternative understandings of the emergent space of digital storytelling." *New Media & Society* 10 (3): 373-391.

Week Ten:

7/16: Second Assignment Due via Canvas (by midnight)

7/18: Nakamura, L. 2009. "Don't Hate the Player, Hate the Game: The Racialization of Labor in World of Warcraft." *Critical Studies in Media Communication* 26 (2): 128-144.

7/20: Biography of Technology Presentations

Week Eleven:

7/25: Biography of Technology Presentations

7/27: Biography of Technology Presentations