HIST 651/AMST 650 Science, Technology & Society
Fall 2017 Tuesday 3:30-6:20, UNIV 319
Course Credit Hours: 3

Sharra Vostral, Ph.D
Associate Professor
University Hall, 672 Oval Drive, #120
office hours: Tues 2-3
svostral@purdue.edu

Description
This course introduces students to the variety of ways that science and technology
have been understood, historicized, and studied as cultural practices. We will
examine the social processes by which scientific and technical knowledge is used,
reconfigured, and contested. Attention will be given to the ways in which culture
shapes, and is shaped by, science and technology. The course will help students: (1)
understand some of the main themes and concerns within science & technology
studies; (2) develop terms and understand theory in relation to the study of science,
technology, and society; (3) incorporate critical approaches for future research.

Meetings
The course meets once per week as will run as a discussion. Students should come
to class each week having read the assigned readings, and having prepared
thoughtful questions for critical inquiry.   Students will also be responsible for
helping to lead at least one discussion during the semester. All are expected to
speak up and contribute to the day's conversation.

Target Audience
The course is targeted to MA and PhD students in History, American Studies, others
from CLA (English, Communication), and ENE with interest in learning approaches
to the cultural and social study of science and technology. This is an
interdisciplinary class, so students from various fields are welcome, and their
various backgrounds will enhance the overall learning environment so that students
learn not just from the instructor but each other.

Learning objectives
Students will be able to:
• appreciate the circumstances and history of technological innovation and scientific
discovery in relation to culture
• understand and recognize how cultural assumptions may influence the practice of
science and development of technologies during the 19th and 20th centuries
• analyze the design of objects to understand cultural consequences of their use
•develop skills for reading critical, theoretical, and historical commentaries and
evaluating them
•gain ability to question scientific practices and technological innovation as social
endeavors, historically situated

Readings
All of the books are available on overnight reserves at the library. All the articles are available through Blackboard.

Weekly papers
Each week students will write a 500-750 word thought piece about the day's readings. This is not meant to be a summary or a review, but a means to elicit questions that the texts raise, and prompt inquiries for the class to discuss as a whole. The assignments will be graded upon how well you engage the texts as a whole (see attached grading rubric at the end of the document).

Individualized Project
Since each of you is at a different stage in your graduate work, a one-size-fits-all assignment is not necessarily the best use of your time. For this course you are required to craft a semester-long project that is appropriate for your dissertation or graduate work AS IT IS INFLECTED WITH IDEAS FROM STS. Possible projects include, but are not limited to: comparative book review (4-5 books), research article, dissertation prospectus, dissertation chapter, grant proposal, media arts project.

Regardless of the end project, you will each need to submit progress reports to a research partner and to me throughout the semester, dates as noted on the schedule.

Guidelines for writing a Book Review and Article Critique
http://www.utoronto.ca/writing/bkrev.html

Grades
Participation and in-class discussion   36 points   25%
         (including partner commentary and primary source reading)
Weekly papers (12 x 3 points)   36 points   25%
Project   72 points   50%
         6   Project Selection and Topic; rationale for carrying out the work
         6   Research Outline/Work Schedule
         10   Rough Draft (5) & comments to partner (5)
         50   Final Project

Grade Scale

A 94-100%; A- 90-93%; B+ 87-89%; B 84-86%; B- 80-83%; C+ 77-79%; C 74-76%; C- 70-73%; D+ 67-69%; D 60-66%; F 0-59%

In case of emergency:
In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised

semester calendar or other circumstances. Here are ways to get information about changes in this course. Blackboard Vista web page, my email address: svostral@gmail.com.

Books

1. Terry Smith, *Making the Modern: Industry Art and Design in America* (Univeristy of Chicago, 1994). ISBN: 978-0226763477
        Available at HSSE reserves
2. Nelly Oudshoorn and Trevor Pinch, *How Users Matter* (MIT Press, 2003). ISBN: 978-0262651097
         Available at HSSE reserves
3. Carolyn de la Pena, *Empty Pleasures: The Story of Artificial Sweeteners from Saccharin to Splenda* (UNC Press, 2010). ISBN: 978-0807872741
        Available at HSSE reserves and library Ebook
4. Lochlann Jain, *Malignant: How Cancer Becomes Us* (University of CA Press, 2013). ISBN 978-0-520-27657-4
        Available as library Ebook
5. Leo Marx, *Machine in the Garden: Technology and the Pastoral Ideal in America*
        Available as library Ebook

Course Schedule

8/22
Artifacts
- Sent via email: Langdon Winner, "Do Artifacts Have Politics?"
- In-class Video: New York: A Documentary Film (Episode 7: The City and the World - Part 4 "Moses on the Move")

8/29
Technology & American Culture
- Leo Marx, *Machine in the Garden* (Library Ebook E169.1 .M35)
- Jeffrey L. Meikle, "Leo Marx's *The Machine in the Garden*," *Technology and Culture*, Volume 44, Number 1 (January 2003): 147-159

9/5
Technological Ideologies
- David Nye, "Intro," chap 1 & 2. *American Technological Sublime* (MIT Press, 1994).
- Merritt Roe Smith, "Technological Determinism in American Culture," in *Does Technology Drive History*? (1994): 1-35.
- In Class Video: Monument to the Dream
- DUE: Project Selection and Topic; rationale for carrying out the work

9/12
Metaphor in Science & Technology
- Theodore L. Brown, Chap 1 & 2 in *Making Truth: Metaphor in Science*, University of Illinois Press, 2003.
- Ron Eglash, "Broken Metaphor: The Master-Slave Analogy in Technical Literature," Technology & Culture, 48.2 (April 2007).
- Upchurch and Simona Fojtova, "Women in the Brain: A History of Glial Cell Metaphors," *NWSA Journal* 21.2 (2009): 1-20.
- Metaphor Class Exercise

9/19
The Fix
- Lisa Rosner, *The Technological Fix: How People Use Technology to Create and Solve Problems*, intro, afterward.
- Clarke, Adele E.; Mamo, Laura; Fosket, Jennifer Ruth; Fishman, Jennifer R.; Shim, Janet K.; Riska, Elianne. *Biomedicalization: Technoscience, Health, and Illness in the U.S.* (Durham: Duke University Press, 2009). Chapters 1, 2, 3. (Ebook at library)

9/26
Gender & Science
- Londa Schiebinger, "Why Mammals are Called Mammals: Gender Politics in Eighteenth-Century Natural History," The American Historical Review, Vol. 98, No. 2. (April 1993): 382-411.
- Carol Cohn, "Sex & Death in the Rational World of Defense Intellectuals" Chap 9 in *Women, Science & Technology*
- Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (intro, ch. 4).
- DUE: Research Outline/Work Schedule

10/3
Technology and Design
- Terry Smith, *Making the Modern: Industry Art and Design in America* (on HSSE reserve, N6512.5.M63 S63 1993) and (divide sections)

10/10 – No Class. Fall Break.

10/17
Technology and Users
- Nelly Oudshoorn and Trevor Pinch, *How Users Matter* (divide sections)

10/24
Race and Technology

- Rayvon Fouché, "Say it Loud, I'm Black and I'm Proud': American Artifactual Culture, and Black Vernacular Creativity," *American Quarterly* 58.3 (2006): 639-661.
- David S. Edmunds, Ryan Shelby, Angela James, Lenora Steele, Michelle Baker, Yael Valerie Perez and Kim TallBear. "Tribal Housing, Codesign, and Cultural Sovereignty," *Science Technology Human Values* published online 25 June 2013
- Lisa Nakamura, "Indigenous Circuits: Navajo Women and the Racialization of Early Electronics Manufacture," *American Quarterly,* 66:4, December 2014, 919-941.

10/31
Science, Technology, and Consumption
- Carolyn de la Pena, *Empty Pleasures: The Story of Artificial Sweeteners from Saccharin to Splenda* (UNC Press, 2010) Ebook.

11/7
Expertise and Politics
- Steven Epstein, "The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials," *Science, Technology & Human Values* 20 (1995), pp. 408-437.
- Stephen Hilgartner, *Science on Stage* (2000), chapters 1, 2.
- Stephen Hilgartner, Introduction, "Studying Absences of Knowledge: Difficult Subfield or Basic Sensibility?" (11/14/14)
- Croissant, Jennifer L. "Agnotology: Ignorance and Absence or Towards a Sociology of Things That Aren't There." *Social Epistemology* 28, no. 1 (2014): 4–25.

11/14
Science, Technology & Medicine
- Nelly Oudshoorn, "The Birth of Sex Hormones," in Feminism and the Body, ed. Londa Schiebinger (2000).
- Anne Fausto-Sterling, "The Bare Bones of Sex: Sex & Gender" *Signs* 30.2 (2005): 1491-1527.
- Alix Spiegel, "How a bone disease grew to the fit the description" NPR (12/21/09)
- David Serlin, *Replaceable You*, Intro, ch. 1.
- Sharra Vostral, "Technology and Passing," from *Under Wraps*, chapter 2
- DUE: Rough Draft (submitted to your research partner for review)

11/21 - Thanksgiving

11/28
STS Book Award

- S. Lochlann Jain, *Malignant: How Cancer Becomes Us* (University of California Press, 2013) (ebook)
- DUE: Comments back to Partner

12/5
Final Presentations

Final Assignment due 12/12

Grading Criteria for Weekly Writing Assignments
The weekly writings allow you to show how you are thinking about course issues and that you are ready to participate in discussions. Though your writings should demonstrate that you understand the readings, your entries can be exploratory rather than definitive. They may include observations about what you need to explore further. They don't have to be brilliantly written but they should represent your own thinking about a topic. If you discuss your personal experiences, remember that they are not necessarily universal!

Evaluating Criteria
        •Formatting: the essay is no more than 2 pages long (500-750 words)
         Please indicate word count at the end of the assignment.
        •Content: does the homework reveal the writer's understanding of the readings, arguments, or central issues at stake?
        •Argument: does the writer argue logically, supporting his or her generalizations with adequate evidence concerning the questions? Does the writing focus squarely on the topic and handle the questions thoroughly?
        •Creativity: does the writer show imagination in constructing a response? Is the interpretation innovative? Is the assignment well-written?

Grading Scale
        •each homework writing assignment is work 3 points.
        •your lowest grade will be dropped at the end of the term OR you may take one free day.
        •each entry will be evaluated according to this scale:

        3 good — fulfills all criteria; is thoughtful and clearly written
        2 ok — good, but there are problems with some or all criteria
        1 poor — needs work; problems with most criteria
        0 failing — doesn't fulfill most criteria or is unreadable.

Assignments are due to Blackboard before class. Procrastinators take note: you will not be able to make up missing assignments. If you are absent, make sure to post your assignment beforehand.

Plagiarism
Plagiarism, the unacknowledged use of another's words or ideas, is a serious offense against scholarship, your classmates, and the university. Students who plagiarize will receive a zero for the specific assignment and, depending upon individual circumstances, may fail the entire course. I will formally prosecute plagiarism cases through the university.