

SCTS 504 Science, Technology & Society Theories

SCTS 504, W 6:00-8:50PM / 3600 Market, Rm 724

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Office hours: By appointment Monday-Friday

Course Description

In this course we will survey key theories, concepts, and intellectual controversies that have animated the field of Science and Technology Studies over the last 35 years. Beginning with a brief introduction to early scholarship and the field's historic landmarks, we will quickly move on to lab studies, the science wars, feminist and postcolonial interventions, technopolitics, and more recent work in biomedicalization, multispecies relations and participatory design. This progression will allow us to investigate how the field developed, worked through intellectual divisions (or not), and is engaged by multiple disciplines. Our authors will include Ludwig Fleck, Donna Haraway, Bruno Latour, Sandra Harding, Sheila Jasanoff, David Hess, Langdon Winner, Susan Leigh Starr, among many others. In addition to weekly reading responses, in-class discussion, and concept papers that allow students to query assigned texts, each class will include a salon segment. The salon component of class will allow for discussion of current events, material objects, and other case studies in relation to the theories we are reading about. The term will end with a take-home final exam.

The course will have six learning outcomes. You will:

1. Learn foundational theories and concepts that have animated the field of Science and Technology Studies.
2. Learn key debates within and beyond the field of STS, which have shaped scholarship over the last three decades.
3. Gain an ability to identify scholars and scholarship that have been central to the field, as well as the field's history.
4. Cultivate analytic acumen that is specific to the field of Science and Technology Studies (STS).
5. Develop an ability to think about and discuss core STS theories in the context of contemporary issues.
6. Develop analytic writing skills in support of a literature review.

Grading

Reading Responses	20%	(10, 2 points each)
Concept Assignments	40%	(4, 10 points each)
ST Salon Share	10%	(10 points)
Take-Home Final Exam	30%	

Point breakdowns for grades: 98-100 (A+); 93-97 (A); 90-92 (A-); 88-89 (B+); 83-87 (B); 80-82 (B-); 78-79 (C+); 73-77 (C); 70-72 (C-); 68-69 (D+); 63-67 (D); 60-62 (D-) Below 60 (F)

Attendance is required. You are allowed one unexcused absence. Subsequent unexcused absences will result in a five-point grade reduction per absence. Please see Drexel's official policy on excused versus unexcused absences. Please be in your seat and ready to start at 6PM.

Course Assignments and Evaluation

Grading Rubrics

Grading rubrics for reading responses, concept papers, salon shares, and the take-home exam can be found on Blackboard.

Assignments

Concept papers should be submitted electronically as double-spaced Word documents in 12-point font, with 1-inch margins. The heading of each paper should include the following information: Name, Assignment, Title, Date, Word Count. Title your file as follows before emailing it to me: Last name_Paper# (For example, Kenner_2)

Assignments must be turned in **by 2:00PM the day the assignment is due** to receive full credit. I do not accept late assignments unless accompanied by an excused absence. Or rather, I will consider them starting at 50% their worth before 2:00PM the day they were due. *Your grade is very dependent on meeting assignment deadlines throughout the term.* Details on what is expected in each assignment are provided below. You are responsible for maintaining electronic backup copies of your work. I also recommend reading and thinking about digital citizenship (http://www.digitalcitizenship.net/Nine_Elements.html).

Reading Responses (2pts X 10 responses = 20 points / 20%)

Prior to each class, post a reading response in the Black Board Discussion Forum. Your reading response should include a brief reflection on the assigned reading for the week, as well as at least two question that you'd like to discuss in class. You get a point for the staccato reflection, and a second point for your discussion question. Reference page numbers and chapter but **DO NOT SUMMARIZE**. You will not receive credit if you are summarizing. To receive credit you **MUST** have TWO questions in each week's reading response. Your reflection and questions can focus on something substantive from the assigned readings, but you are also welcome to bring in current events and reference past readings or discussions. Just don't summarize the readings! The weekly reading responses are designed to prepare you for class discussion, and... we all read the same thing you did... These must be posted by 2:00PM each and every Wednesday for the entire term, except the Wednesday before Thanksgiving. Otherwise, you are posting a reading response the day of every class.

Concept Papers (10pts x 4 papers = 40%)

You will submit four papers over the term, each worth 10 points towards your final grade. The concept papers are designed to prepare you for the final exam, but they can also be used to explore different analytic genres. Each paper should be approximately 1000-1500 words long. There are four genres that you can write in: 1) Annotation; 2) Book Review; 3) Literature Review; 4) Blog Post. You can write in one of the four genres twice; that means you must write in three different genres, but you can write in one genre twice.

Annotations

Annotations work in a mode of summary; they are similar to literature reviews except they focus in on one particular text. To do a concept paper in this form, choose ONE reading and in a very formulaic way, write an essay that addresses does the following:

1. State the main argument of the text. What is the thesis? (1 paragraph, usually the first)
2. Give three examples of how the author supports the main argument. (Could be several distinct paragraphs)
3. Discuss how the text draws on other work in STS and contributes to an existing literature/conversation.
4. Use at least three quotes from the reading to support your argument.

Book Review

More essay like than an annotation, book reviews have the same four formulaic components as the annotations, they are different in on very important way: The book review must present your own argument. It has more of your own voice and perspective. It might also reference other works that are similar. Of course, we are not reading any books, so the book review should really be thought of as an "article review." Another way to think about the difference between the annotation and the book review ("article" review) is that the annotation is quite formulaic, whereas the review can be literary and essay-like.

Literature Review

A literature review takes a particular concept or theme, and discusses how several authors have contributed to our understanding of the concept or theme. Similar to a book review, you should present your own argument (thesis statement) at the outset of the paper. You should draw on at least three or four texts from class to present your argument. I highly recommend incorporating elements from the annotation formula into the literature review.

Blog Post

Blog posts are essays that make an argument using a range of media – images, URLs, videos, other visuals, etc. You have the most freedom in composing a blog post submission, but these must be just as well-written and crafted as the other three genres. You must present an argument that draws on course materials and concepts. It must address course content. So the blog option might seem the most fun, creativity is often hard work!

In-text citations are expected for every concept paper and a bibliography must be included at the end of all papers. You can use any bibliographic style you like, but these must be accurate and you must state which reference style you're using. You are free to do your papers on any of the assigned course readings, at any stage in the class.

Take-Home Exam (30%)

Take-Home exam questions will be distributed on Sunday November 27th. I will provide 5-6 questions and you will be required to answer 2-3 of these questions, in essay form, using materials read over the course of the term. Your exam submission should be around 10,000 words, not including the required bibliography. The concept papers are designed to prepare you for this exam. We will take time during the final class session to review course materials and concepts.

Academic Policies

Academic Honesty

Academic honesty of the highest order is expected. It is not acceptable to submit work done for another class in this class, though it is acceptable to build on previous work. Talk to me if you have questions about this. Nor, of course, is it acceptable to submit work done by someone else as your own. Citations must be included for both indirect and direct quotation, providing clear documentation of sources. Special care must be taken to properly cite digital resources. Here is a useful review of plagiarism: <http://www.unc.edu/depts/wcweb/handouts/plagiarism.html>. *If I am able to confirm plagiarism or another form of academic dishonesty on any assignment in this course, you are likely to fail the entire course.* As Drexel students, you are responsible for reading and adhering to Drexel's Code of Conduct:

http://www.drexel.edu/studentlife/community_standards/studentHandbook/general_information/code_of_conduct/

Attendance

Attendance is required. Students are allowed one unexcused absence. All other unexcused absences will result in a five-point grade reduction for each unexcused absence. See Drexel's Academic Policy on absences, <http://drexel.edu/provost/policyweb/absence.html>

Grade Appeals

You may appeal a grade through a written statement describing the grounds on which a change of grade should be considered appropriate. Grade appeals must be submitted within one-week of receiving the grade. Before initiating a formal appeal, feel free to talk to me. Please wait a minimum of 24-hours after receiving the grade before contacting me about a grade appeal.

Course Drop Policy

See http://www.drexel.edu/provost/policies/course_drop.asp

Course Change Policy

As the instructor, I have the right to modify this syllabus at any time. I will solicit feedback from the class before any changes are made, and students will be notified in a timely manner both in class and via Drexel email.

Students with Disabilities

Students with disabilities that have been certified by the Office of Disability Resources should inform me of their needs as soon as possible. The Office of Disability Resources is located at 3201 Arch Street, Suite 210. For more information, see <http://www.drexel.edu/oed/disabilityResources/>

Quarter Schedule

All reading material will be provided via blackboard.

***** WEEK ONE / FIELD ORIENTATIONS *****

Wednesday September 21^a

Wednesday Reading:

Sergio Sismondo's "Science and Technology Studies and an Engaged Program" (2008, p. 13-31)

Sarah Franklin's "Science as Culture, Cultures of Science" (1995, p. 163-184)

Michael Fischer's "[Four Genealogies for a Recombinant Anthropology of Science and Technology](#)" (2007, p. 539-615)

David Hess's "[Neoliberalism and the History of STS Theory](#)" (2013, p. 1-15)

Wednesday Assignment:

Reading Response #1

***** WEEK TWO / FACTS & MATTERS *****

Wednesday September 28^a

Wednesday Reading:

Ludwig Fleck's [Genesis and Development of a Scientific Fact](#) (1935)

Stephen Shapin's [Pump and Circumstance: Robert Boyle's Literary Technology](#) (1984)

Susan Leigh Star's "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39" (1989)

Evelyn Fox Keller's "[Gender and Science: Origins, History, and Politics](#)" (1995)

Wednesday Assignment:

Reading Response #2

***** WEEK THREE / ACTOR NETWORK THEORY *****

Wednesday October 5^a

Wednesday Reading:

Michel Callon's "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fisherman of Saint Brieuc Bay"

Bruno Latour's *Science in Action* (selections)

Annemarie Mol's "Ontological Politics: A Word and Some Questions" (1999)

John Law's "Notes on the Theory of Actor Network: Ordering, Strategy, and Heterogeneity" (1992)

Bruno Latour's "On Actor Network Theory: A Few Clarifications" (1996)

Wednesday Assignment:

Reading Response #3

*****Concept Paper #1 Due*****

***** WEEK FOUR / TECHNOPOLITICS & DESIGN *****

Wednesday October 12ⁿ

Wednesday Reading:

Langdon Winner's "Do Artifacts have politics?"

Lucy Suchman's Human-Machine Reconfigurations: Plans and Situated Actions (pages 24-68 are required, but what comes before page 24 is helpful...)

Hughes's "The Evolution of Large Technical Systems"

Bijker's "The Social Construction of Bakelite"

Donna Haraway's "Cyborg Manifesto"

Wednesday Assignment:

Reading Response #4

***** WEEK FIVE / DROWNING IN EXPERTISE *****

Wednesday October 19ⁿ

Wednesday Reading:

Collins and Evan's "Third Wave"

Rip

Jasanoff

Wynne

Collins and Evan's Reply

Wednesday Assignment:

Reading Response #5

*****Concept Paper #2 Due*****

***** WEEK SIX / FEMINIST EPISTEMOLOGIES *****

Wednesday October 26ⁿ

Wednesday Reading:

Sandra Harding, "Rethinking Stanpoint Epistemology: What is Strong Objectivity?"

D. Haraway, "Situated Knowledges: The Science Question in Feminism & the Privilege of Partial Perspective."

Bauchspies & Puig de la Bellacasa, "Feminist STS: A Patchwork of Moving Subjectivities."

Banu Subramanian, "Moored Metamorphoses."

Jane Bennett's "Political Ecologies" from Vibrant Matter or Elizabeth Wilson's "Gut Feminism."

Wednesday Assignment:

Reading Response #6

***** WEEK SEVEN / RACIALIZED SCIENCE *****

Wednesday November 2nd

Wednesday Reading:

Foucault (1977-1978) Lectures 1-5, and 13, from Security, Territory, Population, p. 16-175 and 435-455.

Lundy Braun's (2013) "Measuring Vital Capacity" from Breathing Race Into the Machine, p. xiii-xxix.

Kim Tallbear (2013) "Genomic Articulations of Indigeneity" p. 509-533.

Peter Chow-White (2012) "The Informationalization of Race: Communication, Databases, and the Digital Coding of the Genome" p. 81-103.

Lisa Yaszek's (2006) "Afrofuturism, Science Fiction, and the History of the Future" p. 41-60.

Wednesday Assignment:

Reading Response #7

*****Concept Paper #3 Due*****

***** WEEK EIGHT / CHOOSE YOUR OWN ADVENTURE *****

Wednesday November 9th

Wednesday Reading:

Choose Your Own Adventure

Wednesday Assignment:

Reading Response #8

***** WEEK NINE / INFRASTRUCTURING & BIG DATA *****

Wednesday November 16th

Wednesday Reading:

Star and Bowker's *Sorting Things Out: Classification and Its Consequences* (1-50)

Paul Edwards, et al. "Science Friction: Data, Metadata, Collaboration"

Diane Nelson's *Who Counts? The Mathematics of Death and Life After Genocide* (7-92)

Natasha Dow Schüll's "Data for Life: Wearable Technology and the Design of Self-Care"

Wednesday Assignment:

Reading Response #9

*****Concept Paper #4 Due*****

***** WEEK TEN / NO CLASS – THANKSGIVING HOLIDAY *****

Wednesday November 23rd

No Class / Thanksgiving

Take-Home Exam Questions will be distributed Sunday November 27th

***** WEEK ELEVEN / EXPERIMENTS, COLLECTIVES, COLLABORATORIES *****

Wednesday November 30th

Wednesday Reading:

Chris Kelty's "Collaboration, etc."

Kim Fortun's "Experimental Systems"

María de la Puig's "From Matters of Concern to Matters of Care"

Wednesday Assignment:

Reading Response #10

*****Take-Home Exam Due Monday December 5th by Noon*****

Class Discussion Questions

Each week you should come to class, having read the assigned material, with a sense of what discussion questions will be most relevant to each text. Persistent reflection on these questions will keep you prepared for quizzes and class discussion as well as help you plan your final assignment.

- * What is an exemplary STS text, and why?
- * What are the different **disciplinary approaches** that inform STS? How is this realized methodologically, and what do different approaches offer and what are their limitations?
- * What are the text's **prescriptive intentions** and how are they realized?
- * How does the author deal with **complexity**?
- * What **conceptual frameworks** does the author draw on and contribute to? What are the basic tenets of the framework, how is the framework used, what does it highlight and what does it omit?
- * STS is known for dealing with **technoscientific knowledge formation and legitimation** -- think of discussion on "expertise," "epistemic communities," and "boundary objects." How does the text contribute to or resist this tradition?
- * What kind of **feminist analysis** is being made in the text?
- * How does the text describe **the practice and space of technoscience**? (Think about the differences between lab studies, clinics, and scholarship on environmental justice.)

* What concepts are used to describe the contemporary **political economic order**? (Globalization, informationalism, neoliberalism, post-industrialism, for example)

* How does the text explain the content and operation of **dominant ideological frameworks**? How do dominant ideologies work and how are oppositional frameworks conceived?

* How does the text conceive of **democracy** and technoscientific political process, if at all? What is the driving force of social movements and how is citizenship enacted?

* How does the author discuss **the broader impact of technoscience** on individuals, society, and culture writ large? How does technoscience have a broad impact, and how is power exercised through technoscience?

* How does **change** happen within the technosciences? What drivers of change are highlighted in the text? What impedes or shapes the direction of change? What is the role of individuals and organizations? What is the role of language, culture, economics, and politics?