

**HTS 3082 A — SOCIOLOGY OF SCIENCE
GEORGIA INSTITUTE OF TECHNOLOGY
FALL 2016**

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Meeting Time: T/TH 9:30 am – 10:55 am
Room: Engr Science & Mech 201
Office Hours: TH 2 – 4 pm or appointment

How to contact the instructor: Please contact Professor Singh by using the T-Square site dedicated to the course. I will respond to your e-mails within 36 hours.

COURSE DESCRIPTION

The aim of this course is to undertake a detailed examination of the sociological contribution to the analysis of science. Students will be able to describe the social, political, and economic forces that influence social behavior through the examination of complex relationships between science and society and a sociological examination of the process by which knowledge is produced.

This course will take up two primary lines of inquiry.

- 1) How is scientific knowledge produced? In what ways, if any, does sociological analysis of the production of scientific knowledge illuminate dimensions of social structure and social process?
- 2) How do sociologists explain the role and consequences of scientific knowledge in contemporary society? What do we learn from such analyses about contemporary social life?

Because these are not only empirical, but also deeply theoretical questions, answering them requires that we read across the history and philosophy of science, in addition to engaging with contemporary writings in the sociology of science and science and technology studies (STS). This semester, the course will focus specifically on science and technology in relationship to health, illness, and medical practices.

AREA E APPROVED LEARNING OUTCOME:

Students will demonstrate the ability to describe the social, political, and economic forces that influence social behavior. To demonstrate that they have met the Area E social science learning outcome, students will critically analyze five weekly assigned readings; investigate and write a sociological analysis of a controversial scientific issue; describe, analyze and write an 8-10 page paper on a scientific issues using theories and/or concepts learned in the course; and orally present a poster of the final paper. The students will also draw on and apply the course materials to a contemporary scientific issue by picking a media representation of science and presenting their findings to the class.

COURSE LEARNING OUTCOMES

Because of taking this course, students will:

1. Explain key conceptual, theoretical, and empirical developments in the sociology of science from the mid 20th century to the early 2000s;
2. Compare, contrast, and apply approaches in the sociology of science;
3. Identify their own assumptions about the relationships among knowledge, science, medicine, politics, and publics;
4. Describe how science works as a social process;
5. Critique the norms and boundaries of science;
6. Identify and define social factors that shape the content of science;
7. Recognize theoretical approaches to the sociology of scientific knowledge, including feminist studies of science;
8. Analyze scientific issues, including a scientific controversy using sociological definitions and concepts;
9. Develop individual critical thinking, analytical, reading and writing skills.

REQUIRED TEXTS

The following books are required for the course and are available at Georgia Tech Book Store (Barnes and Nobles) and can be found at your favorite online book store.

Sergio Sismondo. 2010. *An Introduction to Science and Technology Studies Second Edition*. 2010. Malden: Wiley Blackwell.
ISBN-10: 1405187654 | ISBN-13: 978-1405187657

In addition to this book, many articles and book chapters will be required reading. These are all eligible for reading responses. I have supplied many of these readings on T-square when indicated. Otherwise, you are required to find the articles through the Library Database: Web of Science.

Note: The Text book (Sismondo) is NOT eligible for reading responses.

COURSE REQUIREMENTS

1. Class Participation (5%) and Reading Responses (20%)

Class participation includes keeping up on assigned readings and contributing effectively to class discussions. Students are expected to do all the assigned reading thoroughly before coming to class and be prepared to participate actively in class discussions. Most class meetings will involve some group discussion of the readings.

To help prepare for class participation, you should reflect on the following questions for each assigned reading:

- 1) What question is the author trying to answer? What is the intellectual history of this question? That is, in what sociological (or other) traditions is it located?
- 2) What is the author's definition of "science" or "technology" (or the aspect of science and/or technology on which she or he focuses, e.g., knowledge, expertise, practice, etc.)?
- 3) If the paper is empirical, what is the nature of the author's evidence and how does she or he bring that to bear on the research questions? If it is theoretical, how tight are the connections between the links in the argument? What, if any, premises are smuggled in unheralded?
- 4) Whether empirical or theoretical, how satisfactorily does the author link the evidence and arguments to the conclusions?
- 5) What does the reading accomplish? What contribution does it make to sociology? What have you learned from it? How might you use it in your work?
- 6) What comparisons can you draw from previous readings?

Reading Responses: Each student is responsible for turning in 5 one to two-page written responses based on selected articles and/or book chapters indicated by a * in the syllabus. Responses should include: 1) citation of the assigned reading; 2) major concepts and/or theories addressed; 3) a critique of the reading using the questions above; and 4) two thoughtful questions for the class – these will be the basis of our class discussion. Please do not write extended summaries of the readings. **All reading responses must be posted by 6 pm the day before class on T-Square blogs.**

No credit will be given to responses turned in late or that do not meet the above criteria. Only excellent responses will receive complete credit. You may not make up responses at the end of the semester.

By having prepared a response to the material in advance and sharing your responses with the rest of the class, it is my hope that you will be better prepared to engage in productive class discussions and that you will gain more from each other's analyses than you would otherwise. I will be looking for clear intellectual engagement.

2. Attendance Policy

Attendance will be taken and is part of your final grade. Beginning with the 4th absence 1% will be deducted from your final grade. For each successive absence an additional percentage point will be deducted from your final grade. For example, 5 absences would result in a 2% deduction from your final grade; 6 absences would result in a 3% deduction, and so on. Absences as defined by the University Senate (serious illness, illness or death of a family member, university related trips, major religious holidays) will be excused.

3. Media Representation of Science (10%)

Starting Week 4 of the course, student groups of 4 or 5 will select one or two articles from a reputable national newspaper about science to share with the class. (e.g., New York Times, Washington Post, Wall Street Journal, Los Angeles Times, Chicago Tribune). Sources from Internet that are not from a reputable news source will not be accepted. Please refer to the Library Resources for details on how to access these newspapers.

There are 3 components to this assignment:

- 1) Post at least one article that you want to share with the class on T-square Forum. It should be relevant to the course content of the week and represent a contemporary example of science that the class can use for discussion. Groups must work together to find an article/articles. If two articles are posted they should be in conversation with one another (e.g., 2 sides to a scientific issue or 2 examples of lay expertise/boundary work/etc.) All articles posted must be read by the entire class and must be posted 40 hours before class to allow enough time to read/view (Tuesday by 5pm). The instructor must clear the articles first, so please allow for enough time.
- 2) In the comment section, each student must describe in at least 500 words why this article was picked and how it relates to the class by drawing on at least one sociological concept or ideas we have discussed in class. You can also use the list of questions below to help guide your analysis.
- 3) As a group, lead a 15 minute discussion of article you posted and an elaboration of the your 500 words. Start with a very brief summary of article. Each person must contribute in the discussion.
- 4) As a group, provide a list of key concepts and definitions from the readings for the week and distribute to class.

I will create a sign up list the first week of class on T-square.

4. Writing Assignments (65%)

You are required to write two papers for this course:

1. Controversy Paper (15%). This paper will be a sociological analysis of a scientific controversy based one of these PBS documentaries that discuss current controversial topics:

- The Vaccine War and follow and at least 3 follow up stories:

Video: <http://www.pbs.org/wgbh/pages/frontline/the-vaccine-war/>

- Climate of Doubt and at least 3 follow up stories
- Video: <http://www.pbs.org/wgbh/pages/frontline/climate-of-doubt/>
- League of Denial: The NFL Concussion Crisis and at least 3 follow up stories: <http://www.pbs.org/wgbh/frontline/investigation/the-nfls-concussion-crisis>
- Video: <http://www.pbs.org/wgbh/frontline/article/concussion-watch/>

You will be responsible for viewing one of these documentaries and writing a 5 page (double space/12 font) analysis consisting of:

- 1) **Introduction** to the controversy – brief.
- 2) The **major stakeholders involved** – who are they, what position of power do they hold, what is their social location?
- 3) How is science used to support or reject the controversial claims? What type of science (and whose expertise) counts as legitimate? In what ways are these debates being resolved (see p.130-132, Sismondo).
- 4) In your analysis draw on at least **two concepts** discussed in class: paradigm shift, normative science, normal science, thought styles, boundary work, interpretive flexibility, experimenters regress, core set, black box, etc. Describe the sociological concept and directly relate it to the controversy.
- 5) Incorporate at least 2 follow-up stories and address how the controversy has shifted.
- 6) **Conclusion** – Based on your analysis, what conclusions can you draw about the scientific controversy in question? What is your position on this controversy? Indicate your reasons for the position you take about this controversy even if you are still undecided? How does your social location and understanding of the topic influence the position you take in this controversy? What role does science (and whose science) contribute to your conclusions?
- 7) **Cite all references:** Cite the documentary, news stories, and all resources used from class in your analysis.

DUE DATE: WEDNESDAY October 12 – 11:55 PM in T-Square Assignments

2. Final Paper (8-10 pages) (50%).

The goal of the paper is to illustrate that you can describe, analyze, and discuss science from a sociological perspective using any theme or topic of the course as a starting point. You may do this by picking an aspect of science such as objectivity, truth, facts, authority, standards, expertise, peer review, controversy, practices, norms, and/or power to name just a few to illustrate what it means to apply the sociological imagination to studying science. Please include a clear introduction, supporting paragraphs, a conclusion and a bibliography that includes at least 5 class readings, and at least 5 readings from the sociology of science that you found outside of class readings that supplement and contribute to your essay in a meaningful way. The paper is to be 8-10 pages double-spaced.

Here are some key questions to think about as a starting point for the analysis of your paper (edited from Callon 1995)

- What does scientific (or knowledge) production consist of? What is the nature of scientific (knowledge) production?
- Who are the actors and what competence (skills/expertise) do they have? What level of agency/power is given to human and non-human actors?

- How does one define the underlying dynamics of scientific (knowledge) development?
- How is agreement obtained?
- What forms of social organization (internal or external) are assumed?
- How are the overall dynamics of science described?
- What is the relationship between science/technology and society, how is science/technology explained within a social context?
- What is the relationship between science/technology and society, how is science/technology explained within a historical, social, and cultural context?
- Identify what human values are inherent in the issue: why/how?
 - Identify the ethical issues involved, why and for whom?
 - Identify values involved, why and for whom?
- Identify major, minor and invisible actors and their role in the issue.
- Identify who benefits? Who is harmed? Who is excluded? And why
- Are there unintended consequences? If so, why and for whom?

DUE DATES: Submit all parts of the paper in T-square/Drop Box by midnight

September 8 – Turn in one-page summary of paper topic: – see topic ideas below.

October 28 (15%) - Annotated Bibliography– Details forthcoming.

November 22, 29 and December 1 (15%) – Poster Presentation of Final Paper – Details forthcoming.

December 8 (20%) - Final Paper due

In order to receive full credit, all sections of the paper must be turned in on time.

Topic Ideas

Getting started with your final paper...

Add @sciencemagazine,

@NYTimesScience and/or

@NatureMagazine to your Twitter feed and tune into current science news to find an area, controversy, or case that interests you.

Browse online resources for STS bibliographies on topics that you get excited about. The Syllabus Collection on the 4S website (4sonline.org) or the STS Wiki, (stswiki.org) both have terrific lists of readings and writing topics that can inspire.

Consult the STS Handbooks for more grounding in your choice of theoretical perspective or empirical site.

COURSE EVALUATION

		<u>Calculate your grade</u>
Participation/Reading Responses	25%	(your grade)(.25) = a
Media Representation	10%	(your grade)(.10) = b
Paper 1: Controversy Paper	15%	(your grade)(.15) = c
Paper 2: Final Paper (3 parts)	50%	(your grade)(.50) = d
Attendance (deduct % points based on # of absences)		= e
Total	100 %	(a+b+c+d) – e = your grade

Course grade: 90-100=A 80-89=B 70-79=C 60-69=D Lower than 60=F

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: <http://www.adapts.gatech.edu/index.php>.

POLICIES FOR WRITTEN WORK

All written papers are to be typed, double-spaced, using 12-pt. time New Roman font, and must include page numbers, proper use of citations, and bibliographies. Please use ASA citation style. I have posted a quick guide to ASA citation style on T-Square/Resources/ASA citation.

All assignments will be turned in through T-square. The reading responses will be written as blogs and all other writing assignments and poster file (if applicable) will be turned in to your T-square drop box. Late assignments will be deducted 5% each day it is late. If you have a personal or family emergency and are unable to complete an assignment, you must speak with me as soon as possible so we can discuss how and when you will complete the assignment. **Do not assume that you may hand in all of your assignments at the end of the course, or that you will be granted an extension.**

Research/Writing Resources at Georgia Tech: <http://libguides.gatech.edu/research>: This guide will help you learn how to conduct research, how to write well, and how to avoid plagiarism by citing your sources.

The Communication Center at Clough Commons also provides tutoring in communication-related assignments or projects regardless of discipline. The **CommLab** is located on the 4th floor of the Clough Commons:

<http://www.communicationcenter.gatech.edu/>

For international students, there is a writing center that will help you with your written reports. Please see the Language Institute about writing services:

<http://www.esl.gatech.edu/esl/communication-center>

ACADEMIC HONOR CODE

Academic Integrity Statement: Students are expected to act according to the highest ethical standards. The immediate objective of an Academic Honor Code is to prevent any Students from gaining an unfair advantage over other Students through academic misconduct. The following clarification of academic misconduct is taken from Section XIX Student Code of Conduct, of the Rules and Regulations section of the Georgia Institute of Technology General Catalog:

Academic misconduct is any act that does or could improperly distort Student grades or other Student academic records. Such acts include but need not be limited to the following:

Plagiarism: Plagiarizing is defined by Webster's as "to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source." I will check all papers for plagiarism and your papers will be considered as "plagiarized" in part or entirely if

you do any of the following:

- Submit a paper that was written by someone other than you.
- Submit a paper in which you use the ideas, metaphors or reasoning style of another, but do not cite that source and/or place that source in your list of references.
- Submit a paper in which you "cut and paste" or use the exact words of a source and you do not put the words within quotation marks, use footnotes or in-text citations, and place the source in your list of references.

If caught plagiarizing, you will not receive credit for the assignment and you will be dealt with according to the GT Academic Honor Code.

Working with other students: Unless specifically identified as group work, all assignments are to be completed alone.

Cheating: Cheating off of another person's test or quiz is unethical and unacceptable. Cheating off of anyone else's work is a direct violation of the GT Academic Honor Code, and will be dealt with accordingly.

Unauthorized use of any previous semester course materials, such as tests, quizzes, homework, projects, and any other coursework, is prohibited in this course. Using these materials will be considered a direct violation of academic policy and will be dealt with according to the GT Academic Honor Code.

For any questions involving these or any other Academic Honor Code issues, please consult me, my teaching assistants, or visit www.honor.gatech.edu

CLASSROOM CONDUCT

- Do not talk during lecture, while other students are asking questions, or during movie/video presentations.
- Please **silence** cell phones, and **turn off** iPods, or other electronics during class.
- Computers are allowed in class to take notes only. Please refrain from using e-mail, Facebook, You-Tube, or any other non-related electronic material. It disrupts not only your learning but also the learning of those around you. If it becomes apparent that you are using your computer in class to surf the web and are disengaged in class, I will ask you to close your computer and you will no longer be able to bring it to class.
- Late arrivals & early departures disrupt not only me, but also other students; therefore, if you know you will be late or need to leave early—please talk to me *before* class (or email me).
- Since this course discusses controversial issues, I expect you to respect and listen to everybody's opinions and perspectives. I value and respect your contributions. Please do the same for others in the class. Our class is a space free of sexist, racist or other offensive comments.

ADDITIONAL RESOURCES

Professional Associations and STS Wiki

- <http://www.4sonline.org> - The Society for Social Studies of Science, the primary professional association for sociologists of science. Lots of great information online.
- <http://www2.asanet.org/sectionskat/> - The Science, Knowledge and Technology Section of the American Sociological Association.
- The STS Wiki (www.stswiki.org) is a consolidated, community based resource for STSers, including lists of readings and previews of Science Studies programs worldwide.

Journals

Sociologists of science publish in a variety of journals. Look for the top articles in these publications:

- Social Studies of Science (sagepub.com/sss)
- Science, Technology, and Human Values (sagepub.com/sth)
- Science Studies
- Science as Culture (cultural studies of science)
- Science Communication (public understanding of science)
- Science and Public Policy (policy issues)
- Minerva (gender and science)
- Configurations (science, art, and literature)
- Signs
- Social Epistemology
- Bulletin of Science, Technology and Society
- Studies in History and Philosophy of Science
- Isis
- Studies in Sociology of Science

Sociology of Science Programs

- Cornell University Science & Technology Studies: <http://sts.cornell.edu/>
- MIT Program in Science, Technology, and Society: <http://web.mit.edu/sts/>
- Rensselaer Polytechnic Science and Technology Studies: <http://www.sts.rpi.edu/>
- University of California, San Diego's Science Studies: <http://sciencestudies.ucsd.edu/>
- University College London Science and Technology Studies: <http://www.ucl.ac.uk/sts/>
- University of Edinburgh Science Studies Unit: <http://www.stis.ed.ac.uk/>
- University of Oxford, Said Business School: <http://www.sbs.ox.ac.uk/research/sts>

Georgia Tech Library Resources

- Medical Journal Searches: PubMed
- Media searches: Lexis-Nexus Academic Database – Good place to find articles for class
- Social Science Databases: JSTOR and/or Web of Science
- Endnote referencing software free download - <http://www.library.gatech.edu/search/endnote.php>

COURSE SCHEDULE AND READING ASSIGNMENTS

The instructor reserves the right to make changes to the reading schedule as needed.

All assignment dates will remain the same.

WEEK 1-3: INTRODUCTION TO SOCIOLOGY OF SCIENCE

What is science?

Why take a sociological approach to science?

Tuesday, August 23

Introduction to course and logistics.

Class Video – Island of Flowers <http://vimeo.com/53862971>

Homework: Read Syllabus and write a blog about yourself and your response to the following NYT article:

<http://www.nytimes.com/2016/07/27/upshot/building-a-better-human-with-science-the-public-says-no-thanks.html>

Thursday, August 25

Homework: Read Conley Ch.17: Science, the Environment, and Society (available on T-square).

*****AUG. 26 – LAST DAY TO REGISTER/SCHEDULE CHANGE DEADLINE ****

Tuesday, August 30

Reading Assignment (to be read before class): Conley, Ch. 17: Science, the Environment, and Society (Available on T-square).

Thursday, September 1

NO CLASS – PROFESSOR SINGH AT CONFERENCE

Assignment due Sept. 8th T-square: Pick a topic for research paper and poster – select a scientific discovery or a technological innovation to research. It can be major (like the automobile) or minor (like the pencil sharpener). Key questions to think about: What are the impacts it has on human societies? How has it shaped patterns of family/community? Has it affected stratification in society? Has it shaped patterns of social control or deviance?

Provide a short paragraph on your topic. What is the scientific discovery or technology and what impacts do you think it has on society or social interactions? This will be the starting point of your research paper.

WEEK 1-3: INTRODUCTION TO SOCIOLOGY OF SCIENCE Cont.

What is science?

Why take a sociological approach to science?

Tuesday, Sept. 6

Reading Assignment (to be read before class):

Bauchspies et al. 2006. *Science, Technology and Society: A Sociological Approach*. Introduction (Available on T-square)

Sismondo, Sergio. 2010. *An Introduction to Science and Technology Studies*. Preface and pp. 1-12 (Available on T-square)

Thursday, Sept 8

Reading Assignment (to be read before class):

Erickson, Mark. 2005. *Science, Culture and Society: Understanding science in the 21st century*. Introduction and Chapter 1 (Available on T-square).

Science is Everywhere: Bring to class an image, object, or artistic piece that pertains to science in some way to class and be prepared to talk about it – Why did you pick it and how is it related to science? Electronic versions are fine. Send them to me, too.

Assignment Due – Paper topic

WEEK 4: SCIENCE AS A SOCIAL PROCESS: THOUGHT COLLECTIVES AND PARADIGMS

*In what ways is the production of scientific knowledge a social process?
How are scientific changes of revolutionary order rooted in the characteristics of the scientific
community?*

*How did Fleck and Kuhn's theories challenge the rationality and progress of science?
How are "thought collectives" and "paradigms" similar and/or different?*

Tuesday, September 13

Reading Assignment (to be read before class):

White, Kevin. 2002. "The Sociology Of Medical Knowledge." Pp. 23-31 in his *An Introduction to the Sociology of Health and Illness*. London: Sage. (T-square)

*Lowy, Ilana. 1988. Ludwik Fleck on the Social Construction of Medical Knowledge. *Sociology of Health and Illness* 10(2):133-155. (T-square)

Thursday, September 15

Reading Assignment (to be read before class):

Sismondo, Sergio. 2010. *An Introduction to Science and Technology Studies*. Malden, MA: Blackwell. Chapter 2: The Kuhnian Revolution.

*Kuhn, Thomas S. "Scientific Paradigms." In *Sociology of Science* edited by Barry Barnes, 80-104. Middlesex: Penguin Books, 1972. (T-square)

News Article(s) posted by student(s)

WEEK 5: SCIENCE AS COMMUNITY: NORMS AND BOUNDARIES IN SCIENCE

*What are the norms (or ethos) of science?
Are norms of science constant through history and across science?
What did Merton's norms imply about the institution of science?
How do scientists police and transgress their borders?
In what ways is "boundary work" connected to authority?*

Tuesday, Sept. 20

Reading Assignment (to be read before class):

Sismondo Ch. 3: Questioning Functionalism in the Sociology of Science.

*Merton, Robert K. 1973. Robert K. Merton--*The Sociology of Science: Theoretical and Empirical Investigations*. Norman W. Storer (ed.) Chicago: U. of Chicago Press. Chapter 13, "The Normative Structure of Science" (pp. 267-278) (T-square)

Thursday, September 22

Reading Assignment (to be read before class):

*Gieryn, T. F. 1983. Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists. *American Sociological Review* 48 (6): 781-795. (Web of Science)

*Fishman, J.R., Binstock, R.H. and Lambrix, M. A. Anti-aging science: The emergence, maintenance, and enhancement of a discipline. *Journal of Aging Studies*. 22:295-303. (T-square)

News Article(s) posted by student(s)

WEEK 6: SOCIAL CONSTRUCTION OF SCIENTIFIC REALITIES

*Who usually shapes what kinds of knowledges are produced?
What key assumptions are embedded in “social constructivism?”
How do various knowledges about medicine and health come into being?*

September 27

Reading Assignment (to be read before class):

Sismondo - Ch. 6 – The Social Construction of Scientific and Technological Realities

*Casper, Monica J. and Marc Berg. 1995. "Introduction to Special Issue on Constructivist Perspectives on Medical Work: Medical Practices in Science and Technology Studies." *Science, Technology and Human Values* 20(4): 395-407.

September 29

Reading Assignment (to be read before class):

*Figert, Anne E. 1995. “The three faces of PMS: the professional, gendered and scientific structuring of a psychiatric disorder.” *Social Problems* 42(1): 56-73. (Web of science?)

News Article(s) posted by student(s)

WEEK 7: PUBLIC UNDERSTANDING OF AND CONTROVERSIES IN SCIENCE

*How do social processes shape popular science?
How is evidence in scientific controversies tied to local culture and context?
How is legitimacy of science used to promote one side of a controversy?*

Tuesday, October 4

Sismondo Ch. 15: The Public Understanding of Science

Second reading: TBD

Thursday, October 6

Reading Assignment (to be read before class):

Sismondo Ch. 11: Controversies

Article: <http://www.pbs.org/wgbh/frontline/article/can-pope-francis-bridge-the-political-divide-over-climate-change/>

Article: <http://www.pbs.org/wgbh/frontline/article/the-time-was-right-to-revisit-this-issue-behind-the-scenes-of-the-vaccine-war/>

Article: <http://www.pbs.org/wgbh/frontline/article/nfl-acknowledges-a-link-between-football-cte/>

TAKE HOME EXAM – DUE WEDNESDAY, OCT. 12 AT 11:55PM ON T-SQUARE

You will be responsible for viewing either:

- “Climate of Doubt” <http://www.pbs.org/wgbh/pages/frontline/climate-of-doubt/>
- “The Vaccine War” <http://www.pbs.org/wgbh/pages/frontline/vaccines/view/>
- “League of Denial” <http://www.pbs.org/wgbh/frontline/article/concussion-watch/>

Write a 5-page (double space/12 font) analysis (Details in syllabus above)

WEEK 8: TAKE HOME EXAM DISCUSSION

Tuesday, Oct. 11 – NO CLASS – FALL BREAK

Thursday, Oct. 13

Class will have group discussions of analysis on scientific controversies. Students must participate in the group discussion to receive full credit for exam (10% of Take Home Exam Grade).

WEEK 9: GENDER AND FEMINIST STS

How does our cultural understanding of gender affect our scientific knowledge?

How is science used to shape gender?

In what ways would science and technology be qualitatively different if women were better represented?

Tuesday, Oct. 18

Sismondo Ch. 7: Feminist Epistemologies of Science

Loughlin, Julia “The Feminist Challenge to Social Studies of Science” In *Controversial Science: From Content to Contention*. Brante, T. Fuller, S., and Lynch, W. (Eds.) p. 3-20. Albany: State University of New York Press. 1993. (T-Square).

Thursday, Oct. 20

*Emily Martin, “The Egg and the Sperm: How Science Constructed a Romance Based on Stereotypical Male-Female Roles,” *Signs* 16 (1991), 485–501. (Web of Science)

*Almeling, Renee. 2007. Selling genes, selling gender: Egg agency, sperm banks, and the medical market in genetic material,” *American Sociological Review* Volume 72 (3) 319-340.

News Article(s) posted by student(s).

WEEK 10: RACE AND SCIENCE

October 25

Fujimura, J.H., Duster, T., and Rajagopalan, R. 2008. Race, Genetics, and Disease: Questions of Evidence, Matters of Consequence. *Social Studies of Science*, Vol. 38, No. 5, pp. 643-656.

Nelson, Alondra. 2008. "Bio science: Genetic Genealogy Testing and the Pursuit of African Ancestry." *Social Studies of science*, 38 (5): 759-78.

October 27

Shim, Janet K. 2005. "Constructing 'race' across the Science-Lay Divide: Racial Formation in the Epidemiology and Experience of Cardiovascular Disease." *Social Studies of Science* 35(3): 405-36.

News Article(s) posted by student(s).

*******October 28 – Turn in annotated bibliography (5 outside references)*******

*******October 29 – Deadline to Withdrawal*******

WEEK 11: STUDIES OF LABORATORIES

*Where does science take place and what happens there?
How are scientific facts constructed?
How might scientific practices be studied like any other cultural practice?*

Tuesday, November 1

Sismondo – Ch. 10: Studying Laboratories

*Latour, Bruno and Steve Woolgar. [1979] 1987. *Laboratory Life: The Social Construction of Scientific Facts*. Princeton U. Press. Pp. 15-51 and 167. (T-square)

Thursday, November 3

*Latour, Bruno. “Give me a laboratory and I will raise the world,” (1983) in Knorr-Cetina, K. D. and Mulkay, M. *Science Observed: Perspectives on the Social Study of Science*. London: Sage Publications. (T-square)

News Article(s) posted by student(s).

WEEK 12: ACTOR NETWORK THEORY

What is technoscience?

What is meant by heterogeneous actors?

How can objects be part of social networks?

In what capacity can nonhumans act or participate in systems and/or networks?

How are material tools used for disciplining and maintaining nature?

What is “ready made science” and “science in the making”?

November 8

Sismondo Ch. 8: Actor-Network Theory

*Callon, Michel (1999 [1985]). Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay. Pp. 67-83 in *The Science Studies Reader*. M. Biagioli (Ed). New York: Routledge.

Movie Clip - Witness

November 10

*Latour, Bruno. 1987. *Science in Action: How to Follow Scientists and Engineers Through Society*. Cambridge: Harvard University Press. Introduction – “Opening Pandora’s Black Box” (pg. 1-17).

*Hall, Edward. 2005. “The ‘Geneticization’ of Heart Disease: A Network Analysis of the Production of New Genetic Knowledge.” *Social Science and Medicine* 60: 2673-2683.

News article(s) posted by student(s).

WEEK 13: SYMBOLIC INTERACTIONIST STUDIES OF SCIENCE & TECHNOLOGY

What are social worlds and arenas?

What are “sensitizing concepts” and how can they be used as a theory-methods toolkit for studying science and technology?

How are Social Worlds/Arenas and Actor Network Theory similar and different?

Tuesday, November 15

Clarke, Adele and Susan Leigh Star. 2007. The Social Worlds Framework: A Theory/Methods Package. Pp. 113-138 in *The Handbook of Science and Technology Studies*, Third Edition, Edward J. Hackett, Olga Amsterdamska, Michael Lynch and Judy Wajcman (Eds). Cambridge, MA: MIT Press.

*Casper, Monica J. and Adele E. Clarke. 1998. “Making the Pap Smear into the ‘Right Tool’ for the Job: Cervical Cancer Screening, 1940-1995.” *Social Studies of Science* 28(2): 255-290.

Thursday, November 17

*Garrety, Karin. 1997. “Social Worlds, Actor-Networks and Controversy: The Case of Cholesterol, Dietary Fat and Heart Disease.” *Social Studies of Science* 27: 727-73. (Web of Science).

News Article(s) posted by student(s).

WEEK 14 – EXPERTISE AND PUBLIC PARTICIPATION

What is the nature of expertise?

Whose expertise counts as legitimate in scope and authority?

In what ways does lay expertise or local knowledges interact with the different stages of the production and application of knowledge?

How is science altered by public participation of citizens?

Tuesday, November 19

Sismondo Ch. 16: Expertise and Public Participation

*Epstein, Steven. 1995 “The Construction of Lay Expertise: AIDS Activism and the Forging of Credibility in the Reform of Clinical Trials.” *Science, Technology & Human Values*, Vol. 20, No. 4, pp. 408-437. (T-square)

Thursday, November 21

*Singh, Jennifer. “Parent Advocacy and the Rise of Autism Genetics Research.” In *Multiple Autisms: Spectrums of Advocacy and Genomic Science*. Pp. 37-82. Minneapolis and London: University of Minnesota Press, 2016. (T-square).

News Article(s) posted by student(s).

WEEK 15 – CLASS POSTER PRESENTATIONS AND THANKSGIVING

November 22

Class Poster Presentations

November 24 - THANKSGIVING HOLIDAY

WEEK 16 – CLASS POSTER PRESENTATIONS

Tuesday, November 29

Class Poster Presentations

Thursday, December 1

Class Poster Presentations

WEEK 17 – THE FUTURE OF SOCIOLOGY OF SCIENCE

Tuesday, December 6

Frickle, S. and Moore, K. (Eds.)(2005) *The New Political Sociology of Science: Institutions, Networks, and Power*. Madison: The University of Wisconsin Press.
Introduction (pg. 3-31).

Thursday, December 8 – Final Paper Due