

**Science, Technology, and Society: Core Seminar**  
**HTS6743/LMC6743/PUBP6743**

***Preliminary Fall 2013 Syllabus - as of August 18, 2013***

Course Meets: Tuesdays 6-9pm

Location: Skiles Room 343

Convener: Anne Pollock, [apollock@gatech.edu](mailto:apollock@gatech.edu)

Office Hours: Skiles 360, Wednesdays 10am-noon or by appointment

**Course Description**

Science, Technology and Society (STS) - also called Science and Technology Studies - is an interdisciplinary field of study that seeks to understand how science and technology shape society and culture and how society and culture, in turn, shape the development of science and technology. This course explores key topics, debates, and theoretical perspectives in STS. Featuring guest lectures by faculty from across the Ivan Allen College of Liberal Arts, the seminar introduces students both to a wide range of STS topics and approaches and to faculty who do research in this area. It is also the core course required for the Graduate Certificate in Science, Technology & Society.

**Objectives**

- ❖ To deepen awareness of social, cultural, and epistemic dynamics of science and technology
- ❖ To communicate in sophisticated ways about these issues, especially orally and in writing
- ❖ To become familiar with select foundational texts in the field of STS
- ❖ To explore key themes in STS from diverse disciplinary and interdisciplinary perspectives
- ❖ To be exposed to faculty from across the Ivan Allen College who do STS-related work

**Assessment**

**3 components, equally weighted (each worth 1/3<sup>rd</sup> of final grade)**

**1. Class Participation**

This course is designed as a seminar in which active participation from all students is necessary; the benefits of this class come from talking as much as listening. Students are expected to come to class prepared to discuss the readings in depth, and to devote engaged attention to guest lecturers and to classmates' contributions.

**2. Weekly Reading Responses**

*Before* each class, each student writes an entry responding to the readings for that day on the blog section of T-Square. The weekly responses should be ~500 words each and should be posted 24 hours before class (by Monday at 6pm). They must: (1) demonstrate having done the reading, (2) reflect on how the reading relates to material earlier in the course and/or broader issues, and (3) note comments and questions that you would like to raise in class.

**3. Take Away Examination**

Two Questions: one overview, obligatory; one specialized, chosen from many. 1500 words each.

**Attendance Policy:** Attendance is required.

**ADAPTS accommodation is available for students with disabilities:** <http://www.adapts.gatech.edu/>

**Honor Code:** Students must do their own work on blogs and exams. Late work will not be accepted.

### **Important Notes on Readings:**

- ❖ Readings listed are preliminary and subject to change as per the direction of the guest lecturers. Be sure to check T-Square to get any updated reading assignments.
- ❖ Most readings will be available as PDFs on T-Square or at links provided in the syllabus. Exceptions are two plays and a novel, *Wit* by Margaret Edson, *Miss Evers Boys* by David Feldshuh, and *Neuromancer* by William Gibson. These are widely available from libraries and online.

### **Week 1: 8/20**

#### **Introduction to the Course**

In-class film, "Island of Flowers," directed by Jorge Furtado (1989)

### **Week 2: 8/27**

#### **The Social Construction of Truth - The Social Construction of Technology**

##### **Guest Lecturers: John Krige and Jenny Smith**

Bruno Latour, *Science in Action. How to Follow Scientists and Engineers Through Society* (Harvard), pp. 1-100.

Steven Shapin, *A Social Construction of Truth. Civility and Science in Seventeenth Century England* (Chicago), Epilogue.

Steven Shapin, "Rarely Pure and Never Simple: Talking About Truth," *Configurations* 7:1 (1999), 1-14.

Callon, Michel 1986. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay." Pp. 196-233 in *Power, Action and Belief: A New Sociology of Knowledge*, edited by John Law. London: Routledge & Kegan Paul.

Pinch and Bijker "The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other" *ibid*.

### **Week 3: 9/3**

#### **Actor-Network Theory**

##### **Guest Lecturer: Hugh Crawford**

Bruno Latour, *Reassembling the Social: An Introduction to Actor Network Theory* (Oxford University Press), Part 1, pp. 1-140, Conclusion, pp. 247-262.

John Law, "On Methods of Long Distance Control: Vessels, Navigation and the Portuguese Route to India" (2003) Available at <http://eden.dei.uc.pt/~lir/readings/Law1986.pdf>.

Jane Bennett, "The Agency of Assemblages," pp. 20-38 in *Vibrant Matter: A Political Ecology of Things* (Duke 2010).

### **Week 4: 9/10**

#### **Feminism, Inequality and Science**

##### **Guest Lecturer: Wenda Bauchspies**

Lowe, Marian, and Ruth Hubbard. 1983. *Woman's nature: rationalizations of inequality*. New York: Pergamon Press. Chapter 2: "Women's Nature and Scientific Objectivity" by Elizabeth Fee. pp. 9-28.

Tuana, Nancy. 1989. *Feminism and science*. Bloomington: Indiana University Press. Chapter 3: "The Gender/Science System: or Is Sex to Gender as Nature is to Science?" by Evelyn Fox Keller pp. 33-45. (Hypatia vol 2, no 3. 1987.) and Chapter 9: "Science, Facts, and Feminisms" by Ruth Hubbard pp. 120-131. (Hypatia vol 3 no 1 1988)

Donna Haraway "Situated Knowledges" *Feminist Studies* 14 3 1988 (pp. 575-599) Stable URL: <http://www.jstor.org/stable/3178066>

Harding, Sandra G. 1991. *Whose science? Whose knowledge?: thinking from women's lives*. Ithaca, N.Y.: Cornell University Press. Chapter 6: "'Strong Objectivity' and Socially Situated Knowledges" pp. 138-163

Rose, Hilary. 1994. *Love, power, and knowledge: towards a feminist transformation of the sciences*. Bloomington, Ind: Indiana University Press. Chapter 4: "Listening to Each Other: Feminist Voices in the Theory of Scientific Knowledge." pp. 71-96.

Schiebinger, Londa L. 1999. *Has feminism changed science?* Cambridge, Mass: Harvard University Press. Introduction (pp. 1-18) and Conclusion (pp. 181-196).

OPTIONAL: Harding, Sandra G. 2008. *Sciences from below: feminisms, postcolonialities, and modernities*. Durham: Duke University Press. Chapters 4-9.

## **Week 5: 9/17**

### **Philosophy of Technology**

#### **Guest Lecturer: Robert Rosenberger**

Ihde, Don. (1990). "Program One: A Phenomenology of Technics," Chapter 5 from: *Technology and the Lifeworld*. Bloomington: Indiana University Press. pp. 72-123.

Ihde, Don. (2009). "What Is Postphenomenology?" Chapter 1 from: *Postphenomenology and Technoscience: The Peking University Lectures*. Albany: SUNY Press. pp. 5-23.

Borgmann, Albert. (1992). "The Moral Significance of Material Culture." *Inquiry* 35(3/4): 291-300.

Borgmann, Albert. (2010). "Reality and Technology." *Cambridge Journal of Economics* 34(1): 27-35.

Michelfelder, Diane P. (2000). "Technological Ethics in a Different Voice." From: *Technology and the Good Life?*, E. Higgs, A. Light, and D. Strong (eds.). Chicago: Chicago University Press. pp. 219-233.

## **Week 6: 9/24**

### **Artifacts and Politics**

#### **Guest Lecturer: Kristie Macrakis**

L. Winner, "Do Artifacts Have Politics," in *The Whale and the Reactor* (Chicago: University of Chicago Press, 1986), pp. 19-39.

B. Joerges, "Do Politics Have Artefacts," *Social Studies of Science* 29 (1999), pp. 411- 431.

S. Woolgar and G. Cooper, "Do Artefacts Have Ambivalence," *Social Studies of Science* 29 (1999), pp. 433-447.

## **Week 7: 10/1**

### **Justice**

#### **Guest Lecturer: Susan Cozzens**

Sen, A. (1992). *Inequality Reexamined*. Cambridge, MA, Harvard University Press. Introduction and Chapter One.

Cozzens, S. E. (1993). "Whose Movement - STS and Social-Justice." *Science Technology & Human Values* 18(3): 275-277.

Cozzens, S. E. (2007). "Distributive Justice in Science and Technology Policies." *Science and Public Policy* 34(2): 85-94.

Susan Cozzens, "Gender Issues in U.S. Science and Technology Policy: Equality of What?," *Science and Engineering Ethics*, Online First, May 2008.

Susan Cozzens in *Yearbook of Nanotechnology in Society, Volume 2: The Challenges of Equity, Equality, and Development*, edited by Susan E. Cozzens and Jameson Wetmore, Springer, 2010. (Chapter title: "Building Equity and Equality into Nanotechnology")

Jasanoff, S. (2002). "Science and the statistical victim: Modernizing knowledge in breast implant litigation." *Social Studies of Science* 32(1): 37-69.

Halfon, S. (2010). "Confronting the WTO: Intervention Strategies in GMO Adjudication." *Science Technology & Human Values* 35(3): 307-329.

Allen, B. L. (2007). "Environmental justice and expert knowledge in the wake of a disaster." *Social Studies of Science* 37(1): 103-110.

Edward Woodhouse, David Hess, Steve Breyman and Brian Martin, 2002. Science Studies and Activism: Possibilities and Problems for Reconstructivist Agendas. *Social Studies of Science* 32: 297.

## **Week 8: 10/8**

### **Technology, Innovation and Political Economy**

#### **Guest Lecturer: Steve Usselman**

Donald MacKenzie, "Marx and the Machine," in his *Knowing Machines*. Essays on Technical Change, Chapter 2.

Nathan Rosenberg, "Problem's in the Economist's Conceptualization of Technological Change," in his *Perspectives on Technology*, Chapter 4.

Donald MacKenzie, "Economic and Sociological Explanations of Technological Change," in his *Knowing Machines*. *Essays on Technical Change*, Chapter 3.

Richard R. Nelson and Sidney G. Winter, "Evolutionary Theorizing in Economics," *J. of Economic Perspectives*, 16:2 (2002), 23-42.

Henk van der Belt and Arie Rip, "The Nelson-Winter-Dosi Model and Synthetic Dye Chemistry," in Bijker, Hughes and Pinch, the *Social Construction of Technological Systems*, pp. 135-158.

Geof Bowker, "What's in a Patent," in Bijker and Law, *Shaping Technology/Building Machines*, chapter 2.

**Week 9: 10/15 – Midterm Break – No Class**

**Week 10: 10/22**

**Paradigms**

**Guest Lecturer: Bob Wood**

Selections from Thomas Kuhn, *The Structure of Scientific Revolutions* (1962)  
Additional Readings TBD

**Week 11: 10/29**

**Design**

**Guest Lecturer: Carl DiSalvo**

Bleeker, J. (2009) "Design Fiction: A Short Essay on Design, Science, Fact and Fiction." Available online at [http://drbfw5wflxon.cloudfront.net/writing/DesignFiction\\_WebEdition.pdf](http://drbfw5wflxon.cloudfront.net/writing/DesignFiction_WebEdition.pdf)

Ehn, P. (2008). Participation in Design Things. In *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008* (PDC '08). Indiana University, Indianapolis, IN, USA, 92-101.

Callon, M. (2004). The role of hybrid communities and socio-technical arrangements in the participatory design. *Journal of the Center for Information Studies*, 5(3) Available online at [www.yc.tcu.ac.jp/~cisj/05/5\\_01.pdf](http://www.yc.tcu.ac.jp/~cisj/05/5_01.pdf)

Latour, B. (2009). From Realpolitik to Dingpolitik or How To Make Things Public. In F. Candline and R. Guinds (Eds), *The Object Reader* (pp. 153-164). London: Routledge.

Marres, N. and Rogers, R. (2000). Landscaping Climate Change: A mapping technique for understanding science & technology debates on the World Wide Web. *Public Understanding of Science* 9, no. 2: 141-163.

**Week 12: 11/5**

**Biomedicine**

**Guest Lecturer: Jennifer Singh**

Michel Foucault, Excerpts from *The History of Sexuality, Vol. 1: An Introduction*.

Nikolas Rose, *The Politics of Life Itself* (Princeton, NJ: Princeton University Press, 2007), Introduction and Ch. 1 (pg. 1-40)

Adele E. Clarke, Janet K. Shim, Laura Mamo, Jennifer Ruth Fosket, Jennifer R. Fishman. "Biomedicalization: Technoscientific Transformations of Health, Illness and U.S. Biomedicine," *American Sociological Review*, Vol. 68, No. 2 (Apr., 2003), pp. 161-194.

Biomedical applications of new genetic technologies

Adele E. Clarke, Janet Shim, Sara Shostak and Alondra Nelson, "Biomedicalising genetic health, disease, and identities," from *Handbook of Genetics and Society: Mapping the New Genomic Era* edited by Paul Atkinson, Peter Glasner and Margaret Lock. (pp. 21 – 33)

Carlos Novas and Nikolas Rose. "Genetic risk and the birth of the somatic individual." *Economy and Society*, 29:4 (November 2000), pp. 485 – 513.

Deborah Heath, Rayna Rapp and Karen-Sue Taussig, "Genetic Citizenship," from *A Companion to the Anthropology of Politics* edited by David Nugent and Joan Vincent (pp. 152 – 167)

Shobita Parthasarathy, "Architectures of Genetic Medicine: Comparing Genetic Testing for breast Cancer in the USA and the UK," *Social Studies of Science*, 35:5 (Feb. 2005), pp.7-33.

Alondra Nelson, "Bio Science: Genetic Genealogy Testing and the Pursuit of African Ancestry," *Social Studies of Science*, 38:5 (October, 2008), pp. 759-783.

### **Week 13: 11/12**

#### **Values, Interests, and the Commercialization of Academic Research**

**Guest Lecturer: Justin Biddle**

Biddle, Justin (2007), "Lessons from the Vioxx Debacle: What the Privatization of Science Can Teach Us about Social Epistemology", *Social Epistemology* 21: 21-39.

Douglas, Heather (2000), "Inductive Risk and Values in Science", *Philosophy of Science* 67: 559-579.

*Additional readings TBD*

### **Week 14: 11/19**

#### **Cultural Perspectives on Medical Practice and Research**

**Guest Lecturer: Carol Colatrella**

Sue Wells, "Out of the Dead House," chapter 1 of *Out of the Dead House*. University of Wisconsin Press, 2001: 3-15. (pdf )

James Jones, "The Tuskegee Syphilis Experiment: A Moral Astigmatism," *The Racial Economy of Science*. Ed. Sandra Harding. Indiana UP, 1993: 275-286. GT Library e-book:  
<http://www.netlibrary.com.www.library.gatech.edu:2048/Reader/>

Margaret Edson, *W;t* [or *Wit*]. Faber and Faber, 1993, 1999. ISBN-10: 0571198775 ISBN-13: 978-0571198771 (\$10.93 from Amazon) OR Margaret Edson, *Wit*. Dramatists Play Service, Inc.; Acting ed. edition (May 1, 1999). ISBN-10: 082221704X ISBN-13: 978-0822217046 (\$8 from Amazon)

David Feldshuh, *Miss Evers' Boys*. Dramatists Play Service, 1989, 1995. ISBN-10: 0822214644 ISBN-13: 978-0822214649 (\$8 from Amazon)

Susan M. Reverby, "The Best Care: Eunice Verdell Rivers Laurie" and "Bioethics, History, and the Study as Gospel," chapters 9 and 10 of *Examining Tuskegee: The Infamous Tuskegee Syphilis Study and Its Legacy*. University of North Carolina Press, 2009. (pdf)

### **Week 15: 11/26**

#### **Science Fiction as STS**

**Guest Lecturer: Lisa Yaszek**

Darko Suvin, "Introduction," *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*.

Istvan Csicsery-Ronay, Jr. "Imaginary Science." *The Seven Beauties of Science Fiction*.

Donna Haraway, "Cyborg Manifesto."

William Gibson, *Neuromancer*.

### **Week 16: 12/3: Final Exam Due 2pm**