DESCRIPTION

Overview

This is a comprehensive, advanced graduate course in the interdisciplinary field of science and technology studies, with an emphasis on the field’s relevance to and applications in the environmental social sciences and sustainability studies. Students will become familiar with foundational works, schools, and exemplary case studies within social studies of science and technology. The course is designed especially to assist doctoral students preparing for PhD Candidacy Examinations and planning advanced research in this or closely related areas. Advanced graduate students from across the social and biophysical sciences, and engineering are welcome. The course is structured as an intensive reading seminar. Each week, students will write short, critical commentaries on required readings; these essays will serve as the starting point for class discussion. At the end of semester, students will submit a comprehensive paper or proposal related to this area of study. Prior graduate social science coursework, including in social theory, is recommended.

Objectives

By the completion of this course, students should be able to:

- Demonstrate familiarity with foundational concepts, theories, perspectives, and debates within contemporary science and technology studies;
- Explain the relevance and application of science and technology studies to understanding the institutions, processes, and challenges for achieving greater socio-environmental sustainability; and
- Identify key methodological issues and approaches utilized in science and technology studies, both in general and in relation to socio-environmental sustainability, in particular.
Procedures
The course meets each Thursday morning during the semester. It is organized, in the first instance, as a reading seminar, with weekly readings and related short, formal essays. Commentaries are due to the instructor and all course participants via the course Blackboard site, no later than 8:00 am, Wednesday, the day before the class. (Guidelines for these commentaries will be handed out separately.) Students are expected to read all commentaries as well as the required texts prior to class. Each Thursday morning, we will begin our discussion of the assigned text(s) with the commentaries.

Requirements
- Attend all class sessions;
- Read all required texts and everyone's weekly commentaries;
- Submit weekly commentaries (@ 2 pp. max.) on the required readings;
- Submit a final paper or proposal (~20 pp.) related to this area of study.

Grading
Weekly commentaries (13), 55%
Final paper or proposal, 35%
Attendance and participation, 10%

Communication
Office: 211B Marshall
Hrs.: M 12:30-1:50pm, Tu 4:00-5:20pm, & by appointment
Tel. 315.470.4931/ 6636, fax 315.470.6915
E-mail: <dsonn@esf.edu>, and <DASonnenfeld@gmail.com>
Web: http://www.esf.edu/es/sonnenfeld

FINAL PAPER
By the end of the course, students will submit a final paper related to this area of study. The paper may take the form of any of the following: a comprehensive field statement in preparation for the PhD Candidacy Examination; a PhD dissertation research or funding proposal; a draft journal ms. or review essay; or, with instructor’s consent, another product.

Proposal. By Week 2, submit a proposal describing your proposed final paper for this course; typed, double-spaced, 1-2pp.

Abstract, Outline & Bibliography. By Week 3, submit an (abstract, if applicable,) outline, and preliminary bibliography for your final paper or proposal

Final Paper or Proposal. ~20 pp. typed, double-spaced, plus cover page and table of contents. Printed copy due by the beginning of the regularly scheduled Final Exam period for this course.

ACKNOWLEDGEMENTS
Participants in the State University of New York Faculty Development Seminar on "Teaching Sustainability," SUNY College of Environmental Science and Forestry, June 2014, provided helpful feedback and suggestions on an earlier version of portions of this outline. Thanks also to Drs. Laura Rickard, Paul Hirsch, and Cliff Davidson for their suggestions for this course.
TEXTS

Required


Plus additional selected readings

Recommended


Bookstore

*ESF Virtual Bookstore*, available via *myESF*. For further information see: [http://www.esf.edu/students/books.htm](http://www.esf.edu/students/books.htm)

COURSE OUTLINE

I. STS foundations

*Week 1 – Introduction/course overview*

REQUIRED:

Kuhn, *Structure of Scientific Revolutions*

*Week 2 – Science in action/methodology*

REQUIRED:

Latour, *Science in Action*
**Week 3 – Science and society/ Weberian perspectives**

**REQUIRED:**


**Week 4 – Technics and civilization/ critical theory**

**REQUIRED:**
Mumford, Lewis. 1934. Selection from Technics and civilization

**RECOMMENDED:**

**ADDITIONAL:**

**II. Social studies of science**

**Week 5 – Science and culture**

**REQUIRED:**
Selections from: Yearley, Making Sense of Science

**RECOMMENDED:**

**ADDITIONAL:**

**Week 6 – Laboratory studies**

**REQUIRED:**
Haraway, Primate Visions

**RECOMMENDED:**

**Week 7 – Science and politics/ citizen science**

**REQUIRED:**
Frickel, Chemical Consequences
RECOMMENDED:


ADDITIONAL:

**III. Social studies of technology**

**Week 8 – History of technology**

REQUIRED:
Hughes, *Networks of Power*

RECOMMENDED:

ADDITIONAL:

**SPRING BREAK**

**Week 9 – Social construction of technology**

REQUIRED:
Bijker, *Of Bicycles, Bakelites, and Bulbs*

RECOMMENDED:

ADDITIONAL:

**Week 10 – Technological systems, complexity, risk**

REQUIRED:
Perrow, *Normal Accidents*
IV. Science, technology, and sustainability

Week 11 – Technological environmental innovation

REQUIRED:
Selections from: Huber, New Technologies and Environmental Innovation

RECOMMENDED:

ADDITIONAL:

Week 12 – Technology, environment & social movements

REQUIRED:
Hess, *Alternative Pathways in Science and Industry*

RECOMMENDED:

ADDITIONAL:

Week 13 – Technology, development, and sustainability

REQUIRED:
Grin, et al. *Transitions to Sustainable Development*

RECOMMENDED:

ADDITIONAL:

V. Conclusion and next steps

Week 14 – Open session (TBD)

Final Exam Period – Final Paper Due