

St. Francis Xavier University
Department of Sociology

**SELECTED TOPICS IN THE SOCIOLOGY OF SCIENCE AND TECHNOLOGY
(SOCI 498)**

Winter 2021

Lecture Room: MULH 3026

Time: Mondays 8:15am-9:30am; Thursdays 9:45am-11:00am

Instructor: Dr. Stephen Marmura

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Office Hours: Tuesdays 9:00am-1:00pm; Wednesdays 10:00am-11:00am;

Fridays 1:00pm-2:00pm

(or by appointment)

Required Texts:

All required readings for this course (as listed below) are provided on the SOCI 498 Moodle page

COURSE DESCRIPTION

This course is designed to engage students with key issues and debates pertaining to the sociology of science and technology. Some of these are directly linked to traditional lines of sociological enquiry, while others have arisen within the relatively new field of science and technology studies (STS). We begin by exploring the relationship between technology and social/cultural evolution. This includes attention to the industrial revolution and its legacy, and to related ideologies and problems concerning the nature and meaning of human progress. Attention is then directed to the contested status of science as a unique way of knowing, the social construction of scientific concepts and technological artifacts, the uncertain relationship between scientific knowledge and technological innovation, and questions of human versus non-human agency. The latter part of the course focuses more closely on questions of governance, identity, and culture in the so-called digital age and/or within post-industrial societies.

Please note: This course is designed as a fourth-year seminar and should only be taken by students prepared to attend all classes, actively participate in ongoing discussion, and engage critically with novel and challenging ideas.

COURSE OUTLINE

Jan. (14) Introduction: course structure and expectations; overview of key issues and debates

Part 1: The Sociology of Science and Technology: Key Concepts, Theories, and Controversies

Jan. (18, 21) Technology, social change, and the problem of determinism

Introductory essay: the social shaping of technology
Mackenzie & Wajcman

Do artifacts have politics?
Langdon Winner

Jan. (25, 28) Technology, Ideology, and the meaning of 'progress'

The Posthistorical Period and the Technological Environment
Jacques Ellul

The Essence of Marx's Theory of Crises
Julian Borchardt

Feb. (1, 4) Further questions of progress: Science under the microscope

Science and Religion (parts I, II, III)
Stanley Fish vs. Jerry Coyne

On Sociology and STS
John Law

Feb. (8, 11, 18) The (Radical) Social Construction of Technology, and Actor Network Theory

What's Social about Being Shot?
Grint & Woolgar

Actor Network Theory (a brief guide)

Some elements of a sociology of translation: domestication of the scallops and the fishermen of St. Brieuc Bay

Michel Callon

Part 2: Identity, Culture and Power in the Digital Age

Feb. (22, 25) The meaning of 'Post-Industrial Society'

Informationalism, Networks, and the Network Society: A Theoretical Blueprint

Manuel Castells

The Mediation of Identity: Key Issues in Historic Perspective

Stephen Marmura

Mar. (1*, 4) Technologies of Freedom and Social Control

Postscript on the Societies of Control

Gilles Deleuze

Film: The Social Dilemma

*Response papers due (in class)

Mar. (15, 18) Reflections on Digital culture

Datafication, dataism and dataveillance: Big Data between scientific paradigm and ideology

José van Dijck

Remembering me: big data, individual identity, and the psychological necessity of forgetting

Jacquelyn Ann Burkell

Mar. (22, 25) Science, public trust, and post-truth communication

Medical conspiracy theories: cognitive science and implications for ethics

Gabriel Andrade

Contesting epistemic authority: Conspiracy theories on the boundaries of science

Harambam & Aupers

(Mar. 29); (Apr. 5) Further Paradoxes of Information Abundance and Techno-scientific progress

Visible War: Surveillance, Speed and Information War
Kevin Haggerty

The Rise of the Food Risk Society and the Changing Nature of the Technological Treadmill
Chatalova, Muller, Valentinov, & Balmann

April (8) last day of class: summing up; take-home exams distributed

Evaluation:

Class Participation: 20%
Critical Response Papers: 30%*
Student Presentations: 20%
Take home exam: 30%

**See description below.*

COURSE REQUIREMENTS

Class Participation: 20%

Small, seminar-style classes provide students with a unique opportunity to engage in class discussion and reflect in depth upon the course material. To benefit fully from this opportunity, keeping up with course readings and attending classes regularly are essential. Before arriving in class each day students will be expected to have posted comments (a short paragraph or list of points will do) on the course Moodle page concerning their reflections, thoughts and/or questions with respect to the reading for that day. These are intended strictly for reference during class discussion and should not be viewed as independent assignments. Put another way they will not be graded independently of the overall participation grade and are **not a substitute for attending seminars**. In addition to assisting during class discussion, your posted comments will also aid you by providing a potential basis from which to develop more formal write-ups in the form of response papers for later submission (see *Critical Response Papers* below).

Please keep in mind that class participation provides the foundation on which all other course components rely, and irregular attendance will result in either the partial or complete loss of the participation grade.

Critical Response Papers: (3 X 10) = 30%

Due Date: Feb. 22

Students will select any three readings dealt with during the first six-week period of the course for critical evaluation. Responses for each reading should be no more than 1 page in length (single space, 12-point font). They should be bound together and handed in as a unit in class on the due date.

The point of this exercise is to identify a key line of argument or theme in a reading and then subject it to critical appraisal. For example, you may find a line of reasoning or path of investigation advocated by the author to be particularly strong, useful, or insightful, or conversely to be highly suspect, flawed, incomplete, or misleading. Either way, you need to make your case in a concise, well-reasoned and clearly articulated manner. While your responses should be written in paragraphs, they do not require formal introductions or conclusions. Simply begin with a brief statement identifying the issue(s) in question and then expand. No additional sources need be consulted, although you are free to draw upon insights or arguments raised in other readings and/or during seminar discussions.

For some good tips on writing concise response papers please consult “How to Write a Short, Critical Paper” (posted on Moodle page).

Student Presentations: 20%

Each student will give a presentation of roughly 20 minutes based on a reading from the course. Presentations will begin roughly halfway through the course (depending on the number of students enrolled) with one presentation per class. How the presentation is approached may depend in part upon the nature of the reading. In many cases the theoretical and/or substantive issues explored within the paper will require all the presenter’s attention. In other instances, students may wish to consider another case study not dealt with in the reading, but which relates to central ideas discussed within it. We will pursue these points further in class.

Students may present their material however they wish (e.g., through use of overheads, power-point, white board or simply by talking), but must create a

short (roughly 2 – 3-page handout) for distribution in class. The latter should include main summary points and highlights pertaining to the most important issues and concepts raised in the reading, and their relevance in relation to exiting trends and/or other issues raised in the course. Be as explicit as you can in this regard and organize your hand-out carefully as it will provide me with a key source of reference and recall when evaluating your presentation. You should also include at least one question designed to generate class discussion. The professor and students will also ask questions of presenters. The idea is that the presentation will provide a starting point and lead-in for more general group discussion on that day.

Take-home exam: 30%

A take home exam involving a choice of essay style questions will be handed out on the last day of class, namely Thursday, April 8. It must be returned by or before 12:00am on Monday April the 12th. Your written response should be 4-6 pages (double-spaced, 12-point font) in length.