

Sociology of Information & Communication Technology

Mondays 8.30–10.00, Thursdays 10.00–11.30, Stirling A

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SOCY 284
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Office hours & TA info posted on onQ

Course description

Information and communication technologies pervade contemporary societies. Be it work or play, they form the infrastructures through which many of our daily interactions are mediated. This course introduces you to the field of science and technology studies (STS), focusing on how technology and society influence each other in a range of different contexts. By critically engaging with theoretical frameworks and empirical studies, we will look at how social norms and values shape technology design, how technologies are implicated in maintaining social order, and how people use, appropriate, and resist technologies. The course is organized in two parts. The first part will introduce you to some of the main theoretical approaches and concepts STS scholarship has developed to analyze various relationships between technology and society. The second part will focus on the politics of infrastructure, exploring how large-scale infrastructures stabilize and maintain social and economic inequalities. We will end the course with questions about resistance against technologically-mediated forms of oppression.

Learning objectives

Through this course, you should gain:

- *knowledge and understanding*: the ability to identify and describe key questions and concerns of technology in society; as well as a command of basic concepts in science and technology studies;
- *reading skills*: some of the text will be challenging for you. This is either because they are theoretically dense, or because they were written based on technologies with which you will not be familiar (or both). The concepts they develop are still central to understanding the roles of information and communication technologies in social processes. In this course, you will develop reading strategies with the aim of transferring concepts across different technologies and contexts.
- *writing skills*: academic writing doesn't come naturally and needs to be learned and practised. I have designed the assignments so they break down the process of writing an essay into smaller tasks. This will help you build up material throughout the course which you can draw on when the time comes to write the essay.

Expectations & assignments

I expect you to read the papers listed under “required readings” and to complete the assignments. There are 4 grade components. I will give more detailed instructions on each assignment two weeks before each relevant deadline.

- *weekly reading reflections* in class. At the end of each lecture, I will give you 2-3 questions about the readings and/or the lecture. Each response is worth 1 point, and you get 2 freebies. You are allowed to use your reading and lecture notes, but I will ask you to put away all electronic devices.
- A *theory paper* (4-5 pages, double-spaced, excl. references) which will critically engage with two theories of your choice. Compare and contrast them, (a) defining and explaining core concepts, and (b) discussing respective analytic strengths and weaknesses.
- *Essay outlines* (2-3 pages, double-spaced, excl. references) will briefly sketch the topic you intend to write about in your final essay, including a preliminary bibliography. Give headings to the different sections which form the structure of your paper, and summarize in bullet points what you want to write in each section. Try to articulate as concisely as possible your topic, the problems and questions it raises, and where and how you intend to look for answers.
- In your *final essay*, you will use concepts you learn in this course to analyze a real-world event or phenomenon related to ICTs (6-8 pages, double-spaced). Try to aim for a minimum of 5 academic sources.

Grading, submission & deadlines

All written assignments have to be submitted through onQ. I can only grant you extensions in exceptional cases and if you supply proof (i.e. a QSAS accommodation, doctor's note). Note that in all other cases I will take 5% off your grade per day. Grading and due dates are as follows:

Grade component	Due dates	Weight
Reading reflections	weeks 3-11	25%
Theory paper	week 6	25%
Essay outline	week 11	15%
Final essay	week 13	35%

For your final grade, your numerical course average then will be converted to a letter grade according to the Queen's Official Grade Conversion Scale.

Grade	Numerical Range
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

Organization

The course will be taught through two lectures per week. TA info will be available via onQ.

Readings and resources

All readings will be available via onQ. Note that this material is copyrighted and is for the sole use of students registered in the course. This material shall not be distributed or disseminated to anyone other than students registered in the course. Failure to abide by these conditions is a breach of copyright, and may also constitute a breach of academic integrity under the University Senate's Academic Integrity Policy Statement.

Copyright of Course Materials

Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

Academic Integrity

Queen's students, faculty, administrators and staff all have responsibilities for supporting and upholding the fundamental values of academic integrity. Academic integrity is constituted by the five core fundamental values of honesty, trust, fairness, respect and responsibility (see www.academicintegrity.org) and by the quality of courage. These values and qualities are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1), on the Arts and Science website, and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

Be especially mindful of unintended plagiarism. Regardless of how and where you retrieve information, the principles of academic integrity apply. Please visit these helpful websites to help you make sure that you are able to write things in your own words:

- Resources from Queen's University
- Resources from MIT
- Resources from The University of Wisconsin

Accommodation for disabilities

Queen's University is committed to achieving full accessibility for people with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, including important deadlines, please visit the QSAS website.

Academic considerations for students in extenuating circumstances

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances that are beyond their control and are interfering with their ability to complete academic requirements related to a course for a short period of time. The Senate Policy on Academic Consideration for Students in Extenuating Circumstances is available here.

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. Arts and Science undergraduate students can find the Faculty of Arts and Science protocol and the portal where a request can be submitted at: <http://www.queensu.ca/artsci/accommodations>. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

If you need to request academic consideration for this course, you will be required to provide the name and email address of the instructor/coordinator. Please use the contact information given at the beginning of this syllabus.

Course schedule & readings

Week	Dates	Topics
*	***	Part I: Theories of technology
1	Jan 6, Jan 9	Technological determinism
2	Jan 13, Jan 16	The mutual shaping of technology and society
3	Jan 20, Jan 23	Technology development: Social Construction of Technology
4	Jan 27, Jan 30	Technology as social force: Actor-Network Theory
5	Feb 3, Feb 6	Technology & power: Feminist Technology Studies
6	Feb 10, Feb 13	Technology & inequity: inscribing gender and race
*	***	Part II: Politics of infrastructure
7	Feb 17, Feb 20	Reading week (no class)
8	Feb 24, Feb 27	Technology & social order: Infrastructure Studies
9	Mar 2, Mar 5	AI, algorithms, big data
10	Mar 9, Mar 12	Technologies of the state: classification & control
11	Mar 16, Mar 19	Market technologies: commensuration & valuation
12	Mar 23, Mar 26	Towards a scored society?
13	Mar 30, Apr 2	Questions about justice & wrap-up

Week 1: Technological determinism

- Smith, Merritt Roe and Leo Marx (1994). "Introduction". In: Does technology drive history? Ed. by Merritt Roe Smith and Leo Marx. Cambridge, Mass.: MIT Press.
- Wyatt, Sally (2008). "Technological Determinism is Dead; Long Live Technological Determinism". In: The Handbook of Science and Technology Studies. Ed. by Edward J. Hackett, Olga Amsterdamska, Michael Lynch, and Judy Wajcman. Cambridge: MIT Press, pp. 165–180.

Week 2: The mutual shaping of technology and society

- MacKenzie, Donald A. and Judy Wajcman (1999). "Introductory Essay: The Social Shaping of Technology". In: *The Social Shaping of Technology*. Ed. by Donald A. MacKenzie and Judy Wajcman. Milton Keynes: Open University Press, pp. 3–27.
- Winner, Langdon (1980). "Do Artifacts Have Politics?" In: *Dædalus* 109.1, pp. 121–136.

Week 3: Technology development: Social Construction of Technology

- Pinch, Trevor J. and Wiebe E. Bijker (1984). "The Social Construction of Facts and Artefacts: or How the Sociology of Science and the Sociology of Technology might Benefit Each Other". In: *Social Studies of Science* 14.3, pp. 399–441.
- Kline, Ronald (2003). "Resisting Consumer Technology in Rural America: The Telephone and Electrification". In: *How Users Matter*. Ed. by Nelly Oudshoorn and Trevor J. Pinch. Cambridge: MIT Press, pp. 51–66.

Week 4: Technology as social force: Actor-Network Theory

- Latour, Bruno (1992). "Where are the missing masses? The sociology of a few mundane artefacts". In: *Shaping Technology/Building Society*. Ed. by Wiebe E. Bijker and John Law. Cambridge, Mass.: MIT Press, pp. 225–259.
- Sayes, Edwin (2014). "Actor-Network Theory and methodology: Just what does it mean to say that nonhumans have agency?" In: *Social Studies of Science* 44.1, pp. 134–149.

Week 5: Technology & power: Feminist Technology Studies

- Akrich, Madeleine (1992). "The De-Description of Technical Objects". In: *Shaping Technology/Building Society*. Ed. by Wiebe E. Bijker and John Law. Cambridge, Mass.: MIT Press, pp. 205–224.
- Faulkner, Wendy (2001). "The technology question in feminism". In: *Women's Studies International Forum* 24.1, pp. 79–95.

Week 6: Technology & inequity: inscribing gender and race

- Oudshoorn, Nelly, Els Rommes, and Marcelle Stienstra (2004). "Configuring the User as Everybody: Gender and Design Cultures in Information and Communication Technologies". In: *Science, Technology, & Human Values* 29.1, pp. 30–63.
- Benjamin, Ruha (2019). *Race after technology: Abolitionist tools for the new Jim code*. Medford, MA: Polity, "Engineering Inequity."

- Noble, Safiya Umoja (2018). *Algorithms of oppression: How search engines reinforce racism*. New York: New York University Press, "Searching for Black Girls."

Week 7: Reading week (no class)

Week 8: Technology & social order: Infrastructure Studies

- Star, Susan Leigh (1999). "The Ethnography of Infrastructure". In: *American Behavioral Scientist* 43.3, pp. 377–391.
- Starosielski, Nicole (2015). *The undersea network*. Durham: Duke University Press, "Circuitous routes".
- Duarte, Marisa Elena (2017). *Network sovereignty: Building the internet across Indian Country*. Seattle: University of Washington Press, "Sociotechnical landscapes."

Week 9: AI, algorithms, big data

- Gillespie, Tarleton (2014). "The relevance of algorithms". In: *Media technologies*. Ed. by Tarleton Gillespie, Pablo J. Boczkowski, and Kirsten A. Foot. Cambridge Massachusetts: The MIT Press, pp. 167–193.
- Bechmann, Anja and Geoffrey C. Bowker (2019). "Unsupervised by any other name: Hidden layers of knowledge production in artificial intelligence on social media". In: *Big Data & Society* 6.1, pp. 1–11.

Week 10: Technologies of the state: classification & control

- Bowker, Geoffrey C. and Susan Leigh Star (2000). *Sorting Things Out: Classification and Its Consequences*. Cambridge, Mass.: MIT Press, "The case of race classification and reclassification under Apartheid."
- Genosko, Gary and Scott Thompson (2006). "Administrative Surveillance of Alcohol Consumption in Ontario, Canada: Pre-Electronic Technologies of Control". In: *Surveillance & Society* 4.1-2, pp. 1–28.

Week 11: Market technologies: commensuration & valuation

- Fourcade, Marion and Kieran Healy (2013). "Classification situations: Life-chances in the neoliberal era". In: *Accounting, Organizations and Society* 38.8, pp. 559–572.
- Nopper, Tamara K. (2019). "Digital Character in "The Scored Society": FICO, Social Networks, and Competing Measurements of Creditworthiness". In: *Captivating Technology*. Ed. by Ruha Benjamin. Duke University Press, pp. 170–187.
- Kear, Mark (2018). "Playing the credit score game: Algorithms, 'positive' data and the personification of financial objects". In: *Economy and Society* 114.2, pp. 1–23.

Week 12: Towards a scored society?

- Citron, Danielle and Frank Pasquale (2014). "The Scored Society: Due Process for Automated Predictions". In: *Washington Law Review* 89.1, pp. 1–33.
- Espeland, Wendy Nelson and Michael Sauder (2016). *Engines of anxiety: Academic rankings, reputation, and accountability*. New York, New York: Russell Sage Foundation, "The Transparency of Transparency Measures."
- Fourcade, Marion (2016). "Ordinalization". In: *Sociological Theory* 34.3, pp. 175–195.

Week 13: Questions about justice & wrap-up

- Costanza-Chock, Sasha (2018). "Design Justice, A.I., and Escape from the Matrix of Domination". In: *Journal of Design and Science*.