

DEPARTMENT Humanities and Social Sciences

COURSE OUTLINE - Fall 2026

SO3500 (A2): Sociology of Science and Technology - 3 (3-0-0) 45 Hours for 15 Weeks

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR:	Dr. Michael Holland	PHONE:	780-539-2973
OFFICE:	C404	E-MAIL:	mholland@nwpolytech.ca
OFFICE HOURS:	Mondays, 10:00–11:00 a.m., or by appointment		

CALENDAR DESCRIPTION: The sociological study of science and technology integrating technical, social, economic and political empirics and theory. Examines the fundamental assumptions of science and technology and their role in addressing and impacting social and natural world issues. An overview of the ways social structures and processes shape, and are shaped by, scientific practice, technological innovation, and knowledge-building.

PREREQUISITE(S)/COREQUISITE: Completed the following:

SO1000 – Introductory Sociology, or permission of the instructor

REQUIRED TEXT/RESOURCE MATERIALS:

Readings are available for free on myClass



DELIVERY MODE(S): In-Person – Grande Prairie Campus, Room A208; Mondays 1:00–2:20 p.m. and Fridays 11:30 a.m.–12:50 p.m.

LEARNING OUTCOMES: On successful completion of this course, students will be able to:

- explain and apply key sociological theories and concepts related to science and technology
- analyze how social structures, institutions, and inequalities shape science and technology, and how science and technology shape society
- critically assess the social, ethical, and political implications of scientific and technological developments
- use sociological concepts and evidence to research, discuss, and present a contemporary science or technology case
- critically evaluate current debates concerning science, technology, knowledge, and social change

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. Verify the transferability of this course using the [Alberta Transfer Guide](#).

Note: A grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability.

Evaluations

Assessment	Weight
In-Class Activities (12; best 10)	15%
In-Class Quizzes (6; best 5)	10%
Seminar Discussion Lead	10%
Technology & Society Case Study	30%
Midterm Exam	15%
Final Exam	20%
Total	100%

Note: Instructions and rubrics will be provided on myClass.

In-Class Activities

Twelve brief individual and collaborative activities will apply course concepts to cases, media, data, and current issues. Activities are assessed for completion and reasonable

engagement; the best 10 count. Most feedback will be provided during class. Activities may include polls, claim audits, technology impact analyses, structured discussions, case analysis, and peer feedback.

In-Class Quizzes

Six short quizzes will assess assigned readings, lectures, class discussions, films, and activities. Quizzes may include multiple-choice, matching, and one brief application question. The best five quiz grades count.

Seminar Discussion Lead

Each student will lead part of one class discussion on the assigned reading and topic. The lead includes a concise explanation of key ideas, evidence-based questions, and facilitated conversation. Dates will be assigned by Sept. 11 and fall between Sept. 18 and Nov. 23.

Technology & Society Case Study

Students will examine one technology using sociological concepts and course evidence. The case study has three components: an in-class topic pitch and source check (5%) on Oct. 5; a case-study brief of no more than 750 words (15%) due Nov. 27; and an in-class poster or presentation with an individual Q&A (10%) on Nov. 30 or Dec. 4. **Students must sign up for a presentation date by Nov. 20 at 11:59 p.m.** Students who do not sign up by the deadline will be assigned a date. Class time, peer feedback, and instructor guidance will support the project.

Midterm Exam

The in-person midterm exam (15%) will use mostly multiple-choice questions plus one brief application response. Practice questions and an in-class review will be provided before the exam.

Final Exam

The comprehensive in-person final exam (20%) will use mostly multiple-choice questions plus a brief application component. It will be scheduled by the Registrar during the final exam period.

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GRADING CRITERIA

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Grading Chart for courses with Alpha Grading:

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	95-100	C+	2.3	67-69
A	4.0	85-94	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

Week/Dates	Topic	Readings / Resources	Assessments
Week 1 Sept. 4	Welcome and Course Introduction	Course outline	Welcome, introductions, and syllabus overview
Week 2 Sept. 11 (No class Sept. 7)	Course Foundations: The Social Shaping of Technology	Williams, R., & Edge, D. (1996). The social shaping of technology. <i>Research Policy</i> , 25(6), 865-899.	Activity 1: Sept. 11
Week 3 Sept. 14 & 18	The Social Construction of Technology and Institutions	Barley, S. R., & Orlikowski, W. J. (2023). Technologies change, the charge remains the same. <i>Administrative Science Quarterly & MIS Quarterly Research Curation</i> , https://www.misqresearchcurations.org/asq-misq-curations .	Activity 2: Sept. 14; Quiz 1: Sept. 18; seminar lead(s) as assigned
Week 4 Sept. 21 & 25	Technology, Ethics, and Responsibility	Mitcham, C. (2020). The ethics of technology: From thinking big to small-and big again. <i>Axiomathes</i> , 30(6), 589-596.	Activities 3-4: Sept. 21 & 25; seminar lead(s) as assigned
Week 5 Sept. 28 & Oct. 2	Experts, Lay Knowledge, and Public Trust	Wynne, B. (2006). Public engagement as a means of restoring public trust in science: Hitting the notes, but missing the music? <i>Community Genetics</i> , 9(3), 211-220.	Activity 5: Sept. 28; Quiz 2: Oct. 2; seminar lead(s) as assigned
Week 6 Oct. 5 & 9	Case Study Workshop and Midterm Review	No new reading; case-study source workshop and review	Case Study topic pitch and source check (5%): Oct. 5; Activity 6 and Midterm review: Oct. 9

Week 7 Oct. 16 (No class Oct. 12)	Midterm Exam	No new reading	Midterm Exam (15%): Oct. 16 (Williams & Edge; Orlikowski & Barley; Mitcham; Wynne; lectures, discussions, and activities)
Week 8 Oct. 19 & 23	Technology, Algorithms, and Social Inequality	Joyce, K., & Cruz, T. M. (2024). "A Sociology of Artificial Intelligence: Inequalities, Power, and Data Justice." <i>Socius</i> , 10. Open-access article.	Activities 7–8: Oct. 19 & 23; seminar lead(s) as assigned
Week 9 Oct. 26 & 30	The Digital Divide and Access to Technology	Ahmmed, T., et al. (2022). The digital divide in Canada and the role of LEO satellites in bridging the gap. <i>IEEE Communications Magazine</i> , 60(6), 24–30. Also: Barriers to accessibility related to Internet use: Findings from the 2022 Canadian Survey on Disability	Activity 9: Oct. 26; Quiz 3: Oct. 30; seminar lead(s) as assigned
Week 10 Nov. 2 & 6	Social Media, Platforms, and Power; In-Class Film: The Social Dilemma	Marwick, A. E. (2015). Instafame: Luxury selfies in the attention economy. <i>Public Culture</i> , 27(1), 137–160; Ignatow, G., & Robinson, L. (2017). Pierre Bourdieu: Theorizing the digital. <i>Information, Communication & Society</i> , 20(7), 950–966; The Social Dilemma (2020; viewed in class).	Full in-class viewing of The Social Dilemma: Part 1 Nov. 2; Part 2 + Activity 10 (claim audit) Nov. 6; seminar lead(s) as assigned
Week 11 Nov. 9–13	Fall Break - NO CLASSES	No reading	No classes
Week 12 Nov. 16 & 20	Science and Technology in the Context of Climate Change	Degroot, D., et al. (2021). Towards a rigorous understanding of societal responses to climate change. <i>Nature</i> , 591(7851), 539–550; Brulle, R. J., & Dunlap, R. E. (2015). Sociology and global climate change: Introduction. In R. E. Dunlap & R. J. Brulle (Eds.), <i>Climate Change and Society: Sociological Perspectives</i> (pp. 1–31).	Activity 11: Nov. 16; Quiz 4: Nov. 20; seminar lead(s) as assigned

Week 13 Nov. 23 & 27	The Sociology of COVID-19: Science, Health, and Crisis	Alizadeh, H., et al. (2023). Impacts of the COVID-19 pandemic on the social sphere and lessons for crisis management: A literature review. Natural Hazards, 117(3), 2139-2164; Ward, P. R. (2020). A sociology of the COVID-19 pandemic: A commentary and research agenda for sociologists. Journal of Sociology, 56(4), 726-735.	Quiz 5: Nov. 23; Case Study brief (15%) due Nov. 27 at 11:59 p.m.; seminar lead(s) as assigned
Week 14 Nov. 30 & Dec. 4	Technology & Society Case Study Presentations	No new reading; student case studies	Case Study presentation/Q&A (10%): Nov. 30 or Dec. 4; Activity 12 (peer feedback): Nov. 30 & Dec. 4
Week 15 Dec. 7	Course Synthesis and Final Review	No new reading	Quiz 6 (cumulative practice): Dec. 7; final exam review
Final Exam Period Dec. 12-19	Comprehensive Final Exam	All course material	In-person final exam scheduled by the Registrar

IMPORTANT DATES:

Sept. 2	First day of classes; SO3500 first meets Friday, Sept. 4
Sept. 7	Labour Day – no classes; Monday SO3500 meeting cancelled
Sept. 30	National Day for Truth and Reconciliation – no classes; SO3500 does not normally meet Wednesdays
Oct. 12	Thanksgiving – no classes; Monday SO3500 meeting cancelled
Nov. 9-13	Fall Break – no classes; both SO3500 meetings cancelled
Nov. 27	Last day to withdraw; SO3500 meets as scheduled
Dec. 9	Last day of classes; SO3500's last scheduled meeting is Monday, Dec. 7
Dec. 12-19	Final exam period; final exam scheduled by the Registrar

STUDENT RESPONSIBILITIES:

Ultimately, you are responsible for your learning and performance in this course. Because quizzes, the seminar discussion lead, the midterm, case-study presentations, and many activities take place during class, regular attendance is important. The lowest quiz and two lowest activity grades are excluded to provide flexibility for occasional absences. Missed in-class assessments ordinarily cannot be made up except in accordance with approved accommodations or documented exceptional circumstances.

In-class assessments must be completed at the scheduled time. The case-study brief must be submitted to myClass by the stated deadline. Late case-study briefs will be deducted **5% per day, including weekends, to a minimum grade of zero**, unless an approved accommodation or documented exceptional circumstance applies. Please contact the instructor as soon as possible if a serious situation affects your participation.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic misconduct will not be tolerated. For definitions, procedures, and consequences, consult the Student Rights and Responsibilities policy in Northwestern Polytechnic's [Policies Directory](#).

Note: All academic and administrative policies are available on the same page.

USE OF ARTIFICIAL INTELLIGENCE:

Unless an assessment explicitly states otherwise, generative artificial intelligence tools may not be used to produce work submitted for grading. When AI use is expressly permitted, students must follow the stated limits and acknowledge that use. Students may

be asked to explain their reasoning or discuss submitted work to confirm their understanding and authorship.

Additional Information:

This course will make extensive use of our course website (myClass) to support your learning. You are expected to keep current with the content of the site, and I advise you to log on often.

Professional Conduct:

- Respect everyone's time by arriving prepared and contributing constructively.
- Focus on learning and growth: ask how you can deepen your knowledge, perspective, and understanding of the world.

Classroom and Device Expectations:

To support attention and meaningful discussion, phones should remain put away during lectures and discussions unless they are required for a class activity or an emergency. Laptops and tablets may be used for course-related notes and materials but should be closed or set aside when requested. Devices may be used for myClass quizzes, polls, and other learning activities. Approved accommodations will always be respected.

E-mail Communication:

- Include "SO3500" and section A2 in the subject line.
- Use a greeting, write in a professional tone, avoid slang or abbreviations, and sign with your name.