DEPARTMENT Humanities and Social Sciences

COURSE OUTLINE – Fall 2024

SO3500(A2 & VC): 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:	Tuesdays and Thursdays 10-11 am		

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

REQUIRED TEXT/RESOURCE MATERIALS:

Readings available for free on myClass

DELIVERY MODE(S): On-Campus and Videoconference (VC).
Note: *Videoconference Student Requirements:* Technology (e.g. webcam, microphone, speakers), Class Participation (e.g. camera on during class, appropriate screen name)

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

- demonstrate an understanding of sociological theories and concepts related to science and technology
- critically analyze the social, ethical, and political implications of technological and scientific advancements
- explore and articulate the relationship between science, technology, and social change
- develop and apply skills in critical thinking, discussion, and research on topics related to the sociology of science and technology
- engage with and critically evaluate current debates and case studies in the field

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page https://transferalberta.alberta.ca/

** 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**
Attendance and Participation	5 %
Discussion Leads	10 %
Reflection Papers	20 %
Film Assignment	5 %
Tech & Society Case Study Portfolio	30 %
Take Home Final Exam	30 %
Total	100 %

Note: assignment instructions and rubrics will be made available on our myClass page.

Attendance and Participation

Attendance is crucial for your success in this course and will be recorded for each class. Active participation is equally important; your contributions are highly valued even in a large class. Engage in discussions by offering insights grounded in readings, personal experiences, and critical thinking. Remember, even occasional thoughtful participation can have a meaningful impact!

I will be looking for substantive contributions, so simply stating an opinion isn't enough. You are expected to back up your arguments with evidence from the required readings. Additionally, I encourage you to think creatively and present well-reasoned arguments that draw on your personal experiences and previous education. There will be plenty of opportunities and options for you to engage with the class material. If you have concerns about public speaking, please discuss this with me early in the course.

Note: If you miss a class, you are required to watch the recorded lecture and submit a 3-page, single-spaced reflection on what you found interesting and what you learned from the lecture.

Discussion Leads

Each student will lead a discussion on a selected topic related to the weekly readings. Responsibilities include summarizing the reading, preparing discussion questions, and facilitating conversation. This assignment fosters leadership and deepens understanding of the material. Furthermore, you will lead a discussion on a selected topic related to the weekly readings and assigned video clips. Your responsibilities will include:

- **Summarizing** the key points from the readings and videos for the week.
- **Preparing Discussion Questions** that encourage critical thinking and engagement with the material.
- **Facilitating Conversation** to deepen understanding and encourage participation from your peers.

Reflection Papers

You will submit three short reflection papers (2-3 double-spaced pages each) that connect the readings, videos, and class discussions to personal experiences or current events. In your papers, you must cite the articles and videos you reference using APA 7th edition format. The papers will be assessed based on clarity, insight, and connection to course material.

Film Assignment

You will watch "The Social Dilemma" and complete a short quiz that assesses your understanding of the film's themes. Additionally, you will participate in a discussion about the movie's connections to course concepts. Your participation and insights during the discussion will be credited.

Project Components (6 Stages)

Stage 1: Brainstorming

- **Objective**: Choose and refine your focus for the case study.
- **Task**: Select a technology of interest and consider its societal implications. Reflect on how this technology relates to course concepts.

- **Submission**: Write a brief (1-page) summary outlining your chosen technology and initial thoughts on its societal impact. Submit to myClass by the assigned due date.

Stage 2: Proposal

- **Objective**: Develop a detailed plan for your portfolio.
- **Task**: Write a 1-page proposal that includes:
    - **Chosen Technology**: Define the technology you will focus on.
    - **Research Questions**: Outline the main questions you plan to address.
    - **Project Scope**: Describe how you will approach each component of the portfolio.
- **Submission**: Submit your proposal to myClass by the assigned due date.

Stage 3: Annotated Visual Timeline

- **Objective**: Create a visual timeline of your chosen technology's history.
- **Content**: Develop a timeline including 5-7 key milestones, such as technological advancements and societal impacts. Use insights from course readings and videos.
- **Annotations**: Provide brief annotations (2-3 sentences) explaining each milestone's significance. Connect events to broader societal changes or technological progress using course concepts.
- **Format**: Prepare the timeline as a digital infographic, a series of slides, or a poster. Ensure it is clear and visually engaging.
- **Submission**: Upload to myClass by the assigned due date. This timeline will be used as a foundation for Stage 6.

Stage 4: Critical Media Analysis

- **Objective**: Analyze media representations of your technology.
- **Selection**: Choose 2-3 media sources (articles, documentaries, advertisements, etc.).
- **Analysis**: Examine how each source represents the technology and its societal impact. Discuss the portrayal's influence on public perception and understanding, using course concepts.
- **Format**: Present your analysis in a 3-4 page written report or as a multimedia/visual presentation. Include excerpts or screenshots from the media sources.
- **Integration**: Use insights from your timeline to provide context for media portrayals.

Stage 5: Policy Brief

- **Objective**: Address a current policy issue related to your technology.
- **Issue Identification**: Identify a relevant policy issue related to your technology.
- **Analysis**: Apply sociological theories and course evidence to analyze the issue. Propose solutions or improvements.
- **Format**: Write a 2-page policy brief with an executive summary, background, recommendations, and conclusion. Follow APA 7th edition citation style.
- **Integration**: Use findings from your media analysis and timeline to support your recommendations.

Stage 6: Peer Feedback and Presentation

- **Objective**: Present your portfolio and engage with peer feedback.
- **Presentation**: Choose a format such as a recorded video, a digital poster, or a PowerPoint presentation. Your presentation should be 5-7 minutes long and summarize your key findings.
- **Peer Feedback**: Review and provide feedback on at least two other students' portfolios, focusing on strengths and areas for improvement.
- **Format**: Submit your presentation along with a written summary of the feedback provided to peers.

Note: for each stage, please refer to the rubrics provided on myClass to ensure you meet the expected standards and understand the evaluation criteria. These rubrics will help you focus your efforts and achieve the best results for your portfolio.

Take-home final exam

For your final exam, you will expand upon your "Tech & Society Case Study Portfolio" through a focused and critical analysis. This take-home exam is designed to challenge you to integrate and apply the material you've studied throughout the semester.

Exam Instructions:

1. **Critical Synthesis Essay (40 points):**
   Write a 6-8 page essay (double-spaced, 12-point Times New Roman font) that synthesizes the key findings of your case study and critically analyzes the broader implications of the technology you researched. Your essay should address:
   - **Theoretical Integration:** Apply at least two sociological theories to your case study. Discuss their relevance and limitations in explaining the societal impact of your chosen technology.
   - **Comparative Analysis:** Compare your technology with one other technology covered in the course. Analyze the similarities and differences in their societal impacts and theoretical explanations.
   - **Long-Term Implications:** Discuss the potential long-term societal effects of your technology. Use current trends or projections to support your analysis.
   - **Critical Reflection:** Reflect on the ethical considerations of your technology. Propose well-supported policy recommendations or interventions to address potential risks or benefits.
2. **Case Study Extension (30 points):**
   Write a 4-6 page extension (double-spaced, 12-point Times New Roman font) that explores a specific social issue related to your technology, such as privacy, labour, inequality, or environmental impact. Incorporate new data or developments that have emerged since your initial research. Analyze how this issue connects to the broader themes of the course and propose potential solutions or future research directions.
3. **Peer Review and Self-Assessment (20 points):**
   Write a 2-3 page self-assessment (double-spaced, 12-point Times New Roman font) that includes:
   - **Feedback Integration:** Describe how you incorporated peer feedback into your final essay and case study extension. Provide examples of changes and their impact.

- **Self-Critique:** Assess the strengths and areas for improvement in your work. Reflect on your research process and how you might approach similar projects in the future.
- **Peer Contribution:** Discuss how engaging with peers' work and providing feedback enhanced your understanding of the course material.

Submission Details:

- Your final exam should be submitted as a single document, typed in double-spaced, 12-point Times New Roman font, and formatted according to APA 7th edition guidelines.
- Include a title page, abstract, and reference list (not included in the total page count).
- The total length of your submission should be between 12 and 17 pages, not including the title page, abstract, and references.
- Submit your final exam to the designated area on myClass by 11:59 PM on the due date scheduled by the registrar.

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:

Date	Topic	Reading	Assignments
Sept 4	Welcome, meet-and-greet	Course outline	
Sept 9, 11	Introduction to the course: *How do different sociological perspectives explain the role of users in*	Williams, R. (2005). Rethinking the social construction of technology: The role of the user. Canadian Journal of Sociology, 30(4), 483-502.	Discussion lead sign-up

	shaping technological development? Workshop: Discuss reflection paper	Video: "Introduction to the Sociology of Science and Technology" (YouTube Lecture)	
Sept 16, 18	The Social Construction of Technology *How do social, political, and economic factors shape the development and acceptance of new technologies?* Workshop: Discuss the research project	Orlikowski, W. J., & Barley, S. R. (2001). Technology and institutions: What can research on technology and institutions teach us about the role of technology in organizations? *Organization Science, 12*(2), 145-175. Video: "The Social Construction of Technology" (YouTube Lecture)	Reflection paper # 1 due Sept 16 (before class) Stage 1: Brainstorming Due Sept 18, 11:59 pm
Sept 23, 25	Science, Power, and Society *How does the relationship between science and power impact public perceptions of scientific research and technology?*	Jasanoff, S. (2008). The ethics of invention: Technology and the human future. Science and Engineering Ethics, 14(4), 663-673. - Video: "Michel Foucault: The Birth of Biopolitics" (YouTube Lecture)	
Sept 30	National Day for Truth and Reconciliation—No classes		
Oct 2	The Role of Experts and Laypeople in Science *How do the roles of experts and laypeople differ in the context of scientific and technological decision-making?*	Wynne, B. (2006). Public engagement as a means of restoring public trust in science – Hitting the notes, but missing the music? *Community Genetics*, 9(3), 211-220. - Video: "Public Understanding of Science" (YouTube Lecture)	Portfolio stage 2 due Oct 2

Oct 7, 9	Film: *The Social Dilemma (2020)* Discuss assignment		Film assignment due Oct 10, 11:59 pm
Oct 14	Thanksgiving—No classes		
Oct 16	Technology and Social Inequality *How do technological tools and systems contribute to or mitigate social inequality?*	Eubanks, V. (2017). The subtle violence of algorithms: Race, class, and data in the age of automation. *Race & Class, 59*(4), 3-18. Video: "How Technology Reinforces Inequality" (TED Talk)	Reflection paper # 2 due (oct 16 before class)
Oct 21, 23	The Digital Divide and Access to Technology *What factors contribute to the digital divide, and how has the COVID-19 pandemic highlighted these issues?*	Robinson, L., & Martin, K. (2020). Digital inequality in the era of COVID-19. *Canadian Journal of Communication*, 45(3), 359-376. Video: "Understanding the Digital Divide" (YouTube Lecture)	Stage 3: Annotated Visual Timeline due Oct 23 11:59 pm
Oct 28, 30	Social Media, Power, and Society *How does social media influence power dynamics and public discourse, and what role do high-profile figures play in these processes?*	Marwick, A. E. (2015). "Instafame: Luxury selfies in the age of social media." *Public Culture, 27*(1), 137-160 Ignatow, G., & Robinson, L. (2017). Pierre Bourdieu: theorizing the digital. *Information, Communication & Society*, 20(7), 950–966.	

		Video: “Elon Musk, Twitter, and the Politics of Social Media” (YouTube Lecture)	
Nov 4, 6	Science and Technology in the Context of Climate Change How do science and technology interact with societal responses to climate change, and what roles do different actors play in addressing environmental issues?	McKibben, B. (2016). The climate crisis: An introduction. *Journal of Environmental Studies and Sciences*, 6(3), 448-457. Gardner, G. T., & Stern, P. C. (2008). The short list: The most important actions to reduce global warming. *Environment*, 50(2), 26-36. - Video: “Climate Change and Society” (YouTube Lecture)	Stage 4 of Research portfolio due Nov 6, 11:59 pm
Nov 11-15	Remembrance Day, Fall Break—No classes		
Nov 18, 20	The Sociology of COVID-19 What sociological insights can we gain from the COVID-19 pandemic, and how can these insights inform our understanding of social issues related to health and technology?	Lupton, D. (2020). The COVID-19 crisis as a global social issue. *Health Sociology Review*, 29(3), 347-361. Mendenhall, E., & Kaba, M. (2021). COVID-19 as a social problem: Insights from a sociological perspective. *American Journal of Sociology*, 127(4), 1141-1156. - Video: “The Sociological Impact of COVID-19” (Panel Discussion)	Reflection paper # 3 due Nov 18 before class Stage 5: Policy Brief Due Nov 20, 11:59 pm

Nov 25, 27	Student Research Presentations	None	
Dec 2, 4	Student Research Presentations -continue	None	
Dec 9	Last day of class/Course up		
	Final Exam TBA		

OTHER IMPORTANT DATES:

Sept 12	Last day to add courses or drop courses for a full refund (in most programs) & last day to pay Fall semester fees (except for students on an approved payment plan). Last day to opt out of the Student Health/Dental Plan
Sept 30	National Day for Truth and Reconciliation—No Classes
Oct 14	Thanksgiving Day—No Classes
Nov 11	Remembrance Day—No Classes
Nov 12-15	Fall Break—No Classes
Nov 27	Last day to withdraw from classes (most programs) with a "W"
Nov 29	Deadline to apply for Winter courses
Dec 10	Last day of classes for the Fall semester
Dec 12 - 19	Final exam period

STUDENT RESPONSIBILITIES:

Please note: It is simply unfair to alter the course evaluation for any individual. Therefore, under any conditions, there will be no alternative tests or assignments if you miss or do poorly on a requirement.

Submission & Late Policies: It is very important to complete your assignments on time. Late assignments will be deducted 5% per day (including weekends). Incomplete assignments will receive a grade of 0% unless you have a valid reason supported with appropriate documentation (i.e., a medical note from an M.D.) and you discuss it with me.

STATEMENT ON ACADEMIC MISCONDUCT:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at https://www.nwpolytech.ca/about/administration/policies/index.html.

**Note: all Academic and Administrative policies are available on the same page.

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:

- Please be aware that I respect that everyone's time is valuable, please afford me the same courtesy.
- Instead of preoccupying your mind with questions such as, "How do I get an 'A'?", ask yourself "How can I work to expand my knowledge, perspective, and outlook on the real world?"
- Classroom etiquette:
    - Please do not be late for class.
    - Avoid the use of cell phones except for course-related activities.
    - **Do not disrupt the class,** especially when talking about things non-sociology related
    - You will be given a warning and subsequent action will be taken if disruptive behaviour continues, including being asked to leave the class.
- Always include "SO 3500" in the subject line (or I may never even receive your message).
- Finally, in our academic environment, please practice writing e-mails *formally*, as you will need to do regularly upon graduation. For example, use a simple greeting, do not use slang or abbreviations, and always sign off with your name!