

# POL380HS LEC 0301: Global Nuclear Politics

## Course Description

The taming of the atom is one of the defining features of the modern era. The awesome creative and destructive potential of nuclear energy has had an enormous impact on great power politics, the environment, economic development, and international institutions. Limiting the risk of nuclear Armageddon is one of the dominant challenges in international security and global governance alike. In this course, we will study 1) why and how countries pursue nuclear weapons and what happens when they acquire them; 2) the national policies and international regimes that have been devised to curb their spread and use, while allowing for the diffusion of energy technology, 3) the national and transnational civil society movements that have fought to roll back the nuclear age or limit its harmful effects, and 4) the role of private actors such as scientists and corporations.

**Instructor:** Professor Dani K. Nedal

**Student Hours:** Virtual or in-person, by appointment

**Delivery:** Synchronous in-person unless otherwise noted.

**Prerequisite:** POL208H1/POL208Y1/POL209H5/POLB80H3

**BASICS:** Read the whole syllabus. Twice. Come ready for class. Participate. Be courteous. If taking notes on your computer, close all other browser windows and apps. Better yet, take notes by hand. (Science says it's better for you).

**Email policy:** *Before you contact me, consult the syllabus and Quercus course page.* Emailing me may seem faster and less work, but invariably it ends up being more work for everyone, including yourself. I try to be responsive over email. If you email me before 8 PM on a weekday, I am likely to respond on the same day. If not, I will try to get to it first thing in the morning (or the next working day). Requests for accommodation, notifications regarding absences, and other formal requests should come through email and/or official channels (see the last pages of this document).

**Student (Office) Hours:** Email is best for some matters and fine for others, but student hours are the best venue to talk about lingering questions, discuss assignments, review material, get academic and professional advice, and so on. I expect students to make use of this time to address their questions whenever possible. Appointments can be made using Calendly. If you want to discuss a draft of an assignment or something else you have written, please email it to me at least a day in advance. I am generally not able to meet outside of office hours.

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## Learning Objectives

The course requirements are designed to exercise and build the four R's of classroom skills: Reading, Reflecting, Researching, and 'Riting. Substantively, the overarching goal of this course is to produce informed consumers of academic and policy debates about nuclear issues. At the end of the semester students should be able to:

- *Identify* the underlying structure of arguments (assumptions, logical coherence, etc.) regarding different aspects of nuclear policy.
- *Recall* key concepts and arguments relating to major issues in nuclear proliferation, strategy, and energy.
- *Formulate* their own arguments based on evidence (qualitative or quantitative), logic, and theory.
- *Effectively* communicate this expert knowledge to policy-makers and the broader public.
- *Defend* and critique arguments in simulated debates.
- *Conduct* independent research and dig deeper into particular topics and questions of nuclear policy.

At the very least, when you are home for the holidays (or Zooming with your relatives) you should be able to explain to your family the importance and the challenges of a workable resolution to the confrontation over North Korea's nuclear program, the Iran deal, or the pros and cons of nuclear energy.

## Course Format

This course convenes in person unless extraneous circumstances force us to switch to a virtual or hybrid format. There's a non-zero chance that will happen. This course will often touch on subjects that are sensitive, politically divisive, and emotionally and normatively charged. My preferred approach is to deal with those head on and to keep it as light as possible, but we will inevitably confront some issues that require a more somber tone and may be upsetting to some. Learning how to deal with these challenges is part of the journey. If at any point you feel uncomfortable and/or need to recuse yourself, do not hesitate to reach out to me discreetly.

## Evaluations and Course Grade

General notes on grades:

- The final course grade reflects your level of demonstrated achievement of the course Learning Objectives listed above. Evaluations provide feedback on your progress toward the final course grade. I do not grade on a curve. Your grade should reflect the amount of effort you put into the class. Nothing would make me happier than to only hand out As.
- ***Ouriginal will be used in this course*** and can be done via Quercus. You do not need to sign in to Ouriginal separately.
- If you get a 75% or below on a given assignment, I expect you to come talk to me about how to improve going forward. If you get less than 60% on an assignment you *must* come talk to me.
- Grading errors are normally distributed. Or, in plain English: if you think I made a mistake in grading your assignment, I am open to reviewing it, but be aware that grades can be revised down just as easily as they can be revised up.

Evaluations	Weight	Deadline	Submit via	Ouriginal
Group Project 1	20%	Feb 25, 2024	Quercus	Yes
Group Project 2	20%	Mar 26, 2024	Quercus	Yes
Op-ed/Explainer	30%	April 10, 2024	Quercus	Yes

<b>Reading Quizzes</b>	20%	<b>Three throughout the semester</b>	Quercus	No
<b>Attendance &amp; Participation</b>	10%	N/A	N/A	N/A

## Evaluation Criteria

### Participation:

- *Active and substantive participation in classes* is a critical component of the learning experience for this class. By active I mean that you are expected not only to attend all sessions but also to do the readings ahead of time, bring questions, and be prepared to answer prompts, quizzes, polls, and all other in-class activities. By substantive I mean that quality is weighed more heavily than quantity. This means that just showing up and talking a lot will not earn you an A/A+, but also that you can get an A/A+ even if you're not the most outgoing student, as long as you approach class proceedings with the right attitude and make your contributions count.
- We will have a variety of directed in-class activities throughout the semester. For many of these activities, students will be clustered in groups of 2-3 or 4-5. Some of these activities will be more involved and will be treated as separate graded components (see below).
- All absences must be justified, preferably in advance. Students who must miss a session will make up for their absence by writing a 1-page (single-spaced) reaction paper addressing the day's readings. This reaction paper is due before the next session.
- Students get one freebie—one class they can miss with no questions asked and no reaction paper. Students who, for whatever reason, don't feel like their in-class participation reflects their level of engagement with the material and interest in class, are also free to submit reaction papers for sessions they attended, including their thoughts or questions they wish they had asked.
- Students are expected to read all pieces assigned before the class. There is a lot of reading. Reading effectively and efficiently in university is not about reading word for word, but instead about reading for arguments, evidence, context, and subtext. This means reading less than everything on the page, but also reading more than what's on the page, and taking good notes. Good notes will help you keep track of the different ideas during class and will prove an indispensable resource for other assignments. For resources on effective and efficient reading and note-taking, see Quercus.

## Individual Op-Ed/Explainer

Students will produce one op-ed/explainer (up to 1,000 words), due on April 10. See Quercus for additional details, as well as resources on writing and formatting.

### *Group exercises:*

Students will be divided into groups of 4-5 for these *graded* exercises. Each exercise will have an at-home and an in-class component. Detailed instructions for each task, along with the group breakdowns, will be posted on Quercus.

## Group Exercise 1: Cuban Missile Crisis: The Mother of All Nuclear Analogies

Students will be randomly assigned to groups of 4-5. Groups will produce a short presentation on the uses of the Cuban Missile Crisis as a historical analogy. Each student will submit a short (1-page) reflection on the report in their own words. Additional details on Quercus.

## Group Exercise 2: Nuclear Energy Policy Presentation

Students will be randomly assigned to groups of 4-5. Groups will produce a recorded presentation on a topic related to nuclear energy. Each group member will also produce a short (2-page) policy memo on the same topic. Additional details, including examples and a template, will be posted on Quercus.

## Critical Reading Quizzes

Throughout the semester, students will have three quizzes with a few questions relating to one of that day's readings. The highest two grades will be kept. The readings in question are marked with an **asterisk\*** on the syllabus and have a dedicated link to a Quiz on Quercus. Essay answers should be short; one or two short paragraphs at most. A rubric for the exercise is also available on Quercus.

## Late Penalty

Written assignments turned in up to 24 hours after the deadline will be eligible for 95% of the grade. Assignments turned in up to 48 hours after the deadline will be eligible for 85% of the grade. Assignments turned in up to 72 hours after the deadline will be eligible for 75% of the grade. Assignments turned in more than 72 hours after the deadline will not be graded. Extensions will be granted if requested **AHEAD OF TIME** with a properly documented reason. Extensions will only be granted *ex post facto* in extreme circumstances.

## Free-Rider Penalty

Group exercises will be awarded group grades. If a student is found to be free-riding (e.g. not responding to their colleagues' messages in a timely manner, not turning in their part of the work, not showing up for

meetings, etc.) that student will have their grade penalized at the TA's or instructor's discretion. Group members will fill out individual worksheets at the end of the assignment assessing each others' contributions and reporting free riding.

## Extra Credit

For up to an extra 2 points on their final grade, students can submit a book review of one of three books (see Quercus for details).

## Sources of general nuclear interest

Wilson Center Nuclear History Project | GW NSA NukeVault | Nuclear Threat Initiative | IAEA  
Arms Control Blog | Bulletin of Atomic Scientists | Nonproliferation Review | NukeMap | Arms Control Wonk

## Some people to follow on X (Twitter)

@atomic\_pickles | @cherylrofer | @rdavisgibbons | @malfrid\_bh  
@MiraRappHooper | @atomicanalyst | @wellerstein | @narangvipin | @armscontrolwonk @nucleardiner |  
@james\_acton32 | @nuclearanthro | @kroenig | @mcfuhrmann | @nktpnd @joshua\_pollack

## Class Schedule and Readings

All required readings are accessible digitally, either through the UofT library by clicking on the link in the syllabus or, in the case of certain book chapters and articles, by downloading them from Quercus. I also included a few suggestions of movies and TV shows that pair well with each week's theme. Students are encouraged to contribute their own suggestions. NOTE ON MOVIE LINKS: All movies linked in the syllabus are available using the Criterion-on-Demand service to which UofT subscribes. If the link doesn't work for you, try searching for the movie [on the UofT library website](#).

Session	Topic and Key Concepts	Readings
<b>Week 1 (Jan 11 2024)</b>	<p><b>Introduction and Definitions</b></p> <p>Introductions, course plan, planning for assignments, defining terms</p> <p><b>Some questions:</b>            What is nuclear energy?            What is a nuclear bomb?            What does it do? How do we know?            What is order? Is there a Global Nuclear Order?            How orderly is it? What are its core elements?</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• <b><u>READ THIS SYLLABUS!</u></b></li> <li>• Wellerstein, Alex. "<a href="#">The First Light of Trinity</a>" <i>The New Yorker</i> July 16, 2015</li> <li>• Fetter-Vorm, Jonathan. 2012. Trinity: A Graphic History of the First Atomic Bomb (at least 2 hours quicker than watching Oppenheimer!)</li> <li>• While reading, listen to: Rush "<a href="#">Manhattan Project</a>" and Iron Maiden "<a href="#">Brighter than a Thousand Suns</a>"</li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>• Rhodes, Richard. 2018. <i>Energy: A Human History</i>. Ch. 17. p.272-292</li> <li>• <a href="#">The Manhattan Project: An Interactive History</a>. OSTI</li> <li>• Eden, Lynn. Whole World on Fire. Ch 1 &amp; 215-60.</li> <li>• Brodie, Bernard. 1946. The Absolute Weapon, chapter 1. Skim ch 2.</li> <li>• Tucker, Kathleen and Robert Alvarez. <a href="#">Trinity: The most significant hazard of the entire Manhattan Project</a>. Bulletin of the Atomic Scientists. July 15, 2019.</li> <li>• Jervis, Robert. 1989. The Meaning of the Nuclear Revolution: Statecraft and the prospect of Armageddon.</li> <li>• Listen to Black Sabbath, "Children of the Grave" and "Electric Funeral"</li> </ul> <p><b>Movie Night Recommendations:</b>            Godzilla (1954)            Barefoot Gen (1983)            Akira (1988)</p>



		Oppenheimer (2023)
<b>Week 2 (Jan 18 2024)</b>	<p><b>Deterrence and its critics</b></p> <p><b>Some questions:</b></p> <p>Is there a Nuclear Long Peace? Are nuclear weapons a force for stability or a harbinger of doom?</p> <p>What is deterrence?</p> <p>What are the requirements for deterrence?</p> <p>What are some of the underlying assumptions for deterrence?</p> <p>What is nuclear strategy?</p> <p>What is it for?</p> <p>Is there a stability-instability paradox?</p> <p>Can nuclear war be won?</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>● Brodie, Bernard. "War in the Atomic Age." In: The absolute weapon: Atomic power and world order (1946): 14-56. <b>READ ONLY PAGES 14-25.</b></li> <li>● Glad, Betty. 1990. "Dilemmas of Deterrence: Rational and Nonrational Perspectives". In: Glad, Betty (ed). Psychological Dimensions of War. ch 14 pp. 277-295.</li> <li>● Watch: <a href="#">Dr. Strangelove (1964)</a></li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>● Waltz, Kenneth. 2003. "More May be Better". In: <i>The Spread of Nuclear Weapons: A Debate Renewed</i>.</li> <li>● Narang, Vipin. 2013. What Does It Take to Deter? Regional Power Nuclear Postures and International Conflict. <i>Journal of Conflict Resolution</i> 57: 478-508.</li> <li>● Brodie, Bernard. 1959. <i>Strategy in the Missile Age</i>. Ch. 8. pp.264-304.</li> <li>● Schelling, Thomas C. 1966. <i>Arms and Influence</i>. Ch 1 (pp. 1-34). Skim ch 2 (pp. 35-91.)</li> <li>● Lebow, Richard Ned, and Janice Gross Stein. 1990. "Deterrence: The elusive dependent variable." <i>World Politics: A Quarterly Journal of International Relations</i> 42(3): 336-369.</li> <li>● Larson, Deborah Welch. 1995. "Deterrence Theory and the Cold War." <i>Radical History Review</i> 1995, 63: 87-109.</li> <li>● Stein, Janice Gross, 1988. "Building politics into psychology: The misperception of threat". <i>Political Psychology</i>, 9(2): 245-271.</li> <li>● Jervis, Robert. 1989. "Rational Deterrence: Theory and Evidence". <i>World Politics</i>. 41(2): 183-207.</li> <li>● Bell, Mark and Nicholas Miller. 2013. "Questioning the effects of nuclear weapons on conflict". <i>Journal of Conflict Resolution</i>.</li> <li>● Wheeler, Nicholas J. 2009. "Beyond Waltz's Nuclear World". <i>International Relations</i>. 23(3): 428-445.</li> <li>● Narang, Neil, and Rupal N. Mehta. 2019. "The unforeseen consequences of extended deterrence: Moral hazard in a nuclear client state." <i>Journal of Conflict Resolution</i> 63(1): 218-250.</li> <li>● Sagan, Scott. 2003. "More Will be Worse". <i>Ibid</i>.</li> </ul>



		<ul style="list-style-type: none"> <li>• Joshi, Yogesh, and Frank O'Donnell. India and nuclear Asia: forces, doctrine, and dangers. Georgetown University Press, 2018.</li> <li>• Cunningham, Fiona S., and M. Taylor Fravel. "Dangerous confidence? Chinese views on nuclear escalation." <i>International Security</i> 44, no. 2 (2019): 61-109.</li> <li>• Listen to: Ozzy Osbourne, 1986, "Thank God for the Bomb", <i>The Ultimate Sin</i></li> <li>• Mueller, John. 1988. "The Essential Irrelevance of Nuclear Weapons: Stability in the Postwar World." <i>International Security</i>. Vol. 13, No. 2, pp. 55-79</li> <li>• Lewis, Patricia M., Heather Williams, Benoît Pelopidas, and Sasan Aghlani. <i>Too close for comfort: Cases of near nuclear use and options for policy</i>. Chatham House, The Royal Institute of International Affairs, 2014.</li> </ul> <p><b>Movie Night Recommendations:</b></p> <ul style="list-style-type: none"> <li>- <i>WarGames</i>, 1983.</li> </ul> <p><a href="#">The Mouse That Roared 1959 Peter Sellers Comedy</a></p> <ul style="list-style-type: none"> <li>- <i>Battlestar Galactica</i> (Miniseries), 2003.</li> </ul>
<b>Week 3 (Jan 25 2024)</b>	<p><b>Managing Nuclear Crises</b></p> <p><b>Some questions:</b> What are nuclear crises? How are they? How is escalation limited? Can countries <i>cooperate</i> their way out of a crisis?</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• Watch: <a href="#">Thirteen Days (2000)</a></li> <li>• Munton, Don and David Welch. 2012. The Cuban Missile Crisis: A Concise History. WHOLE BOOK. It's short and a quick read!</li> <li>• Browse the National Security Archive's <a href="#">declassified archival documents on the Cuban Missile Crisis</a>.</li> <li>• Primary Source: Measuring the Nuclear Balance.</li> <li>• Watch: Interview with <a href="#">Benoît Pelopidas</a>.</li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>• Listen to: Conversation between LBJ and Eisenhower. Link on Quercus.</li> <li>• Lebow, Richard Ned and Janice Gross-Stein. 1994. We All Lost the Cold War. Chapters 13 and 14.</li> <li>• Kroenig, Matthew. 2013. "Nuclear Superiority and the Balance of Resolve". <i>International Organization</i>. 67(1).</li> </ul>

		<ul style="list-style-type: none"> <li>● Ghent, Jocelyn Maynard. 1979. "Canada, the United States, and the Cuban Missile Crisis". <i>Pacific Historical Review</i>, 48(2): 159-184</li> <li>● Gerson, Michael. The Sino-Soviet Border Conflict Deterrence, Escalation, and the Threat of Nuclear War in 1969 3-50.</li> <li>● Evan B. 2006. "Breaking out of the Security Dilemma". <i>International Security</i>. 31(2): 151-185.</li> <li>● Akhtar, Rabia. 2017. "Managing Nuclear Risk in South Asia". <i>Bulletin of the Atomic Scientists</i> 73(1): 62-83</li> <li>● Holmes, Marcus and Keren Yarhi-Milo. June 11 2018. <a href="#">So Trump's Meeting Kim Jong Un After All</a> <i>The Monkey Cage</i>, <i>Washington Post</i>.</li> <li>● Pelopidas, Benoit. 2020. The unbearable lightness of luck: Three sources of overconfidence in the manageability of nuclear crises. <i>European Journal of International Security</i>, Vol. 2, part 2, pp. 240–262.</li> <li>● Garthoff, Raymond L. <a href="#">"US Intelligence in the Cuban Missile Crisis."</a> <i>Intelligence and National Security</i> 13, no. 3 (September 1, 1998): 18–63.</li> <li>● <a href="#">The Fog of War: Eleven Lessons from the Life of Robert S. McNamara (2003)</a></li> <li>● Aldrich, Richard J. <i>Spying on the world: The declassified documents of the joint intelligence committee, 1936-2013</i>. Edinburgh University Press, 2014. Chapter 12, "The Cuban Missile Crisis" pp. 251-266.</li> <li>● Munton, Don. "Our men in Havana: Canadian foreign intelligence operations in Castro's Cuba." <i>International Journal</i> 70, no. 1 (2015): 23-39.</li> </ul>
Week 4 (Feb 1 2024)	<p><b>Nuclear Armageddon: What would happen if nuclear war broke out?</b></p> <p><b>Some questions:</b> What are the likely physical consequences of a major nuclear exchange? What about a minor nuclear</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>● Sagan, Carl. "Nuclear War and Climate Catastrophe: Some Policy Implications," <i>Foreign Affairs</i> 62:2 (Winter 1983–84)</li> <li>● <a href="#">Nowhere to Hide: How a nuclear war would kill you —and almost everyone else. <i>The Bulletin of the Atomic Scientists</i>, 2022.</a></li> <li>● <a href="#">Watch "The Day After" (1983)</a></li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>● Horowitz, Dan, and Robert J. Lieber. "Nuclear winter and the future of deterrence." <i>Washington Quarterly</i> 8, no. 3 (1985): 59-70.</li> </ul>

	exchange? What are the political implications?	<ul style="list-style-type: none"> <li>• Nye Jr, Joseph S. 1986. Nuclear winter and policy choices, <i>Survival</i>, 28:2, 119-127</li> <li>• Robinson, Paul. 2014. "The global effects of nuclear winter: science and antinuclear protest in the United States and the Soviet Union during the 1980s". <i>Cold War History</i>.</li> </ul> <p><b><u>Movie Night Recommendations:</u></b>  On the Beach (1959)  Terminator (1984)</p>
<b>Week 5 (Feb 8 2024)</b>	<p><b>Nuclear Proliferation: Demand and Supply</b></p> <p><b>Some questions:</b></p> <p>Who Wants Nuclear Weapons?  Why? What for?  Who Gets Nuclear Weapons?  What are the paths to the bomb?  What makes for an effective nuclear-weapons program?</p>	<p><b><u>Required:</u></b></p> <ul style="list-style-type: none"> <li>• *Sagan, Scott. 1996. "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb". <i>International Security</i>, 21, No. 3, pp. 54-86.</li> <li>• Braut-Hegghammer, Malfrid. 2018. "Why North Korea succeeded at getting nuclear weapons — when Iraq and Libya failed." <i>Monkey Cage</i>.</li> <li>• Watch interviews with <a href="#">Matias Spektor</a> and <a href="#">Rupal Mehta</a></li> </ul> <p><b><u>Recommended:</u></b></p> <ul style="list-style-type: none"> <li>• Tabatabai, Ariane and Annie Tracy Samuels. 2017. "What the Iran-Iraq War Tells Us about the Future of the Iran Nuclear Deal". <i>International Security</i> 42 (1): 152-185.</li> <li>• Mehta, Rupal and Rachel Elizabeth Whitlark. 2017. "The Benefits and Burdens of Nuclear Latency". <i>International Studies Quarterly</i>, 61(3): 517–528.</li> <li>• Ahmed, Samina. 1999. "Pakistan's Nuclear Weapons Program". <i>International Security</i> 23(4): 178-204.</li> <li>• Narang, Vipin. "Strategies of nuclear proliferation: How states pursue the bomb." <i>International Security</i> 41, no. 3 (2016): 110-150.</li> <li>• Braut-Hegghammer, Målfrid. "Cheater's Dilemma: Iraq, Weapons of Mass Destruction, and the Path to War." <i>International Security</i> 45, no. 1 (2020): 51-89.</li> <li>• Bell, Mark S. 2016. "Examining Explanations for Nuclear Proliferation". <i>International Studies Quarterly</i>. 60: 520-529</li> <li>• Kroenig, Matthew. 2009. "Importing the Bomb". <i>Journal of Conflict Resolution</i>. 53(2) 161-180.</li> <li>• Hymans, Jacques. Psychology of Nuclear Proliferation</li> <li>• Hymans, Jacques. 2012. Achieving Nuclear Ambitions.</li> <li>• Lanoszka, Alexander. "Nuclear proliferation and nonproliferation among Soviet allies." <i>Journal of Global Security Studies</i> 3, no. 2 (2018): 217-233.</li> </ul>

<b>Week 6 (Feb 15 2024)</b>	<p><b>Civilian Nuclear Programs</b></p> <p>Why do countries pursue nuclear power? Who supplies it? Is nuclear energy a weapons-proliferation risk? Is nuclear energy <i>safe</i>? Is it <i>secure</i>? What are the risks? Can it be made safer and more secure?</p>	<p><b><u>Required:</u></b></p> <ul style="list-style-type: none"> <li>Fuhrmann, Matthew. 2012 “Splitting Atoms: Why Do Countries Build Nuclear Power Plants? <i>International Interactions</i>, 38(1): 29-57.</li> <li>Jewell, Jessica, Vetier, Marta, &amp; Garcia-Cabrera, Daniel. “The International Technological Nuclear Cooperation Landscape: A new dataset and network analysis”. <i>Energy policy</i>, 128: 838-852.</li> <li>Watch: Video Interviews with Alexander Montgomery and Warren Stern.</li> </ul> <p><b><u>Recommended:</u></b></p> <ul style="list-style-type: none"> <li>Yim, Man-Sung, and Jun Li. "Examining relationship between nuclear proliferation and civilian nuclear power development." <i>Progress in Nuclear Energy</i> 66 (2013): 108-114.</li> <li>Roehrlich, Elisabeth. "Negotiating verification: International diplomacy and the evolution of nuclear safeguards, 1945–1972." <i>Diplomacy &amp; Statecraft</i> 29, no. 1 (2018): 29-50.</li> <li>Lester, Richard K. and Robert Rosner. 2009. “The growth of nuclear power: drivers &amp; constraints”. Fall 2009, 138(4) pp. 19–30</li> <li>Goldemberg, José. 2009. “Nuclear energy in developing countries” <i>Daedalus</i>, 138(4) pp. 71–80</li> <li>Meserve, Richard A. 2009. “The global nuclear safety regime.” <i>Daedalus</i> 138(4) pp. 100–111</li> <li>Lauvergeon, Anne. 2009. “The nuclear renaissance: an opportunity to enhance the culture of nonproliferation” <i>Daedalus</i>, 138(4) pp. 91–99</li> <li>Nuclear Threat Initiative Index on Theft and Sabotage, link on <i>Canvas</i>.</li> <li>Sagan, Scott. 1995. <i>The Limits of Safety</i>, Intro &amp; ch. 1, pp. 3-53</li> </ul> <p><b>Movie night recommendations:</b>  The China Syndrome (1979)  Red Alert (1977)  Chernobyl (2019)</p>
<b>Week 7 (Feb 29 2024)</b>	<p><b>Individuals, Corporations, Bureaucracies and</b></p>	<p><b><u>Required:</u></b></p> <ul style="list-style-type: none"> <li>Hymans, Jacques. 2012. <i>Achieving Nuclear Ambitions</i>. Ch. 6</li> <li>Kutchesfahani, Sara. <i>Politics and the Bomb</i>. pp. 23-49</li> </ul>

	<p><b>nuclear (non-)proliferation</b></p> <p><b>Some questions:</b></p> <p>What role do individuals and organizations play in promoting and preventing nuclear proliferation? What are the roles of scientists, corporations, and NGOs?</p>	<ul style="list-style-type: none"> <li>● Watch “The Origins of Nuclear Cooperation: A Critical Oral History Between Argentina and Brazil”.</li> </ul> <p><b><u>Recommended:</u></b></p> <ul style="list-style-type: none"> <li>● Harrington, Anne I., Eliza Gheorghe, and Anya Loukianova Fink. "What arguments motivate citizens to demand nuclear disarmament?." <i>Bulletin of the Atomic Scientists</i> 73, no. 4 (2017): 255-263.</li> <li>● Intondi, Vincent. "The Dream of Bandung and the UN Treaty on the Prohibition of Nuclear Weapons." <i>Critical Studies on Security</i> 7, no. 1 (2019): 83-86.</li> <li>● Dalton, Toby, Karl Friedhoff, and Lami Kim. "<a href="#">Thinking Nuclear: South Korean Attitudes on Nuclear Weapons</a>." Chicago Council on Global Affairs(2022).</li> <li>● Knopf, Jeffrey. 2012. NGOs, “Social Movements, and Arms Control” In: Williams, Robert E., and Paul R. Viotti. <i>Arms Control: History, Theory, and Policy</i>.</li> <li>● Evangelista, Matthew. “Transnational organizations and the Cold War.” In: Westad, Arne (ed). <i>CHCW vol III</i>.</li> <li>● Carpenter, R. Charli. 2011. “Vetting the advocacy agenda: network centrality and the paradox of weapons norms.” <i>International Organization</i> 65(1): 69-102.</li> <li>● Intondi, Vincent J. <i>African Americans against the bomb: Nuclear weapons, colonialism, and the black freedom movement</i>. Stanford University Press, 2015.</li> <li>● Foertsch, Jacqueline, 2009. Against the "Starless Midnight of Racism and War": African American Intellectuals and the Antinuclear Agenda. <i>Philological Quarterly</i>, 88(4), p.407.</li> <li>● Eschle, Catherine. "Gender and the subject of (anti) nuclear politics: revisiting women's campaigning against the bomb." <i>International Studies Quarterly</i> 57, no. 4 (2013): 713-724.</li> </ul> <p><b><u>Movie night recommendations:</u></b></p> <p>The Sum of All Fears (2002)</p>
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<p><b>Week 8 (Mar 7 2024)</b></p>	<p><b>Norms, Non-Proliferation, and Non-Use</b></p> <p>Some Questions: Is there a nuclear taboo? What is a taboo? Do states follow nuclear norms?</p>	<p><b><u>Required:</u></b></p> <ul style="list-style-type: none"> <li>• *Tannenwald, Nina. 1999. "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use". International Organization.</li> <li>• Erickson, Jennifer. "Social Reputation and the Nuclear Taboo." Working Paper.</li> <li>• Listen to: Randy Newman, "Political Science"</li> </ul> <p><b><u>Recommended:</u></b></p> <ul style="list-style-type: none"> <li>• Watch Eisenhower's UNGA "Atoms for Peace" speech. Link on Canvas.</li> <li>• Primary source: <a href="#">Conference of The Eighteen-Nation Committee on Disarmament, 5/18/67.</a></li> <li>• Horsburgh, Nicola. 2015. China &amp; The Global Nuclear Order. p.5-28.</li> <li>• Rost Rublee, Maria. 2009. Nonproliferation norms: Why States Choose Nuclear Restraint. 2 pp.34-52.</li> <li>• Ruzicka, Jan, and Nicholas J. Wheeler. 2010. "The puzzle of trusting relationships in the Nuclear Non-Proliferation Treaty." International Affairs 86(1): 69-85.</li> <li>• Bukovansky, Mlada, Ian Clark, Robyn Eckersley, Richard Price, Christian Reus-Smit, and Nicholas J. Wheeler. 2012. "Nuclear Proliferation", In: Special responsibilities: global problems and American power. Cambridge University Press.</li> <li>• Weichselbraun, Anna Maria. 2018. "Producing Credible Nuclear Knowledge: Bureaucratic Objectivity at the IAEA"</li> <li>• Sukin, Lauren. "Credible Nuclear Security Commitments Can Backfire: Explaining Domestic Support for Nuclear Weapons Acquisition in South Korea." Journal of Conflict Resolution (2020)</li> <li>• Jones, Matthew. After Hiroshima: The United States, Race and Nuclear Weapons in Asia, 1945–1965. Cambridge University Press, 2010.</li> <li>• Fey, Marco, Annika E. Poppe, and Carsten Rauch. 2016. "The nuclear taboo, Battlestar Galactica, and the real world: Illustrations from a science-fiction universe." Security Dialogue. 47(4): 348-365.</li> </ul>
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		<ul style="list-style-type: none"> <li>● Pauly, Reid. 2018. "Would US Leaders Push the Button? Wargames and the Sources of Nuclear Restraint." <i>International Security</i> 43(2):151-192.</li> <li>● McKinney, Katherine E., Scott D. Sagan, and Allen S. Weiner. "Why the atomic bombing of Hiroshima would be illegal today. (Links to an external site.)" <i>Bulletin of the Atomic Scientists</i> 76, no. 4 (2020): 157-165.</li> </ul>
<b>Week 9</b> <b>(Mar 14 2024)</b>	<p><b>Preventing Proliferation: Institutions, Diplomacy, and Sanctions.</b></p> <p><b>Some questions:</b></p> <p>How do nuclear powers maintain their nuclear oligopoly? What are the different means at their disposal? What are non-proliferation sanctions? How are they used?</p>	<p><b>Required:</b></p> <p><u>Everyone reads:</u></p> <p>Reynolds, Celia and William Tan. 2012. "Empirical Trends in Sanctions and positive inducements in nonproliferation." In: Solingen, Etel (ed). <i>Sanctions, Statecraft, and Nuclear Proliferation</i>. Chapter 3.</p> <p>Solingen, Etel. "Ten Dilemmas in Nonproliferation Statecraft" In: Solingen, Etel (ed). <i>Sanctions, Statecraft, and Nuclear Proliferation</i>. Chapter 10.</p> <p><u>Additional readings for in-class exercise. See Quercus.</u></p> <ul style="list-style-type: none"> <li>● Rabinowitz, Or. 2014. Bargaining on Nuclear Tests. Ch 2 (p. 16-23)</li> <li>● Gibbons, Rebecca Davis. "The Hegemon's Tool Kit." In <i>The Hegemon's Tool Kit</i>. Cornell University Press, 2022. ch 1.</li> <li>● Gheorghe, Eliza. "Proliferation and the Logic of the Nuclear Market." <i>International Security</i> 43, no. 4 (2019): 88-127.</li> <li>● Fuhrmann, Matthew and Yonatan Lupu. 2016. "Do Arms Control Treaties Work?" <i>International Studies Quarterly</i>.</li> <li>● Miller, Nicholas. 2014. The Secret Success of Nonproliferation Sanctions. <i>International Organization</i>. 68:913-944.</li> <li>● Mehta, Rupal N. <i>Delaying Doomsday: The Politics of Nuclear Reversal</i>. Oxford University Press, USA, 2020. Chapter 4.</li> <li>● Krige, John and Jayita Sarkar. 2018. "US Technological Collaboration for Nonproliferation: key evidence from the Cold War". <i>The Nonproliferation Review</i>, 25:3-4 249-262.</li> <li>● Tabatabai, Ariane and Camille Pease. 2019. "The Iranian Nuclear Negotiations" In: Zartman, William (ed.) <i>How Negotiations End: Negotiating Behavior in the Endgame</i>. Cambridge University Press. pp. 27-45</li> </ul>



		<ul style="list-style-type: none"> <li>Bleek, Philipp C. and Eric B. Lorber 2014. "Security Guarantees and Allied Nuclear Proliferation". <i>Journal of Conflict Resolution</i>. 58: 429-454.</li> <li>Hiim, Henrik Stålhane, 2017. "Counterproliferation Bargaining with the United States: China and the Spread of Nuclear Weapons". <i>Asian Security</i>. 14(3): 303-317.</li> </ul>
<b>Week 10</b> <b>(Mar 21 2024)</b>	<p><b>Bungling Non-Proliferation. Intelligence Failures, Policy Backfires</b></p> <p><b>Some questions:</b></p> <p>When is an intelligence failure not a failure of intelligence? What explains the overconfident estimates about Iraq's weapons of mass destruction program in 2002?</p> <p>Case Study: Assessing Iraqi Weapons of Mass Destruction (2002-3)</p> <p>"There's an old saying that victory has a hundred fathers and defeat is an orphan."</p> <p>- John F. Kennedy</p> <p>"The problem here is that there will always be some uncertainty about how quickly he can acquire nuclear weapons. But we don't want the smoking gun to be a mushroom cloud."</p> <p>- Condoleezza Rice "CNN Interview"</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>Jervis, Robert. "<a href="#">The Iraq WMD Intelligence Failure: What Everyone Knows Is Wrong</a>." In <i>Why Intelligence Fails</i>, 123–55. Lessons from the Iranian Revolution and the Iraq War. Cornell University Press, 2010.</li> <li>*Nutt, Cullen. 2019. "Proof of the Bomb: The Influence of Previous Failure on Intelligence Judgments of Nuclear Programs", <i>Security Studies</i>, 28:2, 321-359.</li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>Braut-Hegghammer, Målfrid. 2011. "Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks" <i>International Security</i>.</li> <li>Hymans, Jacques EC. <i>Achieving nuclear ambitions: scientists, politicians, and proliferation</i>. Cambridge University Press, 2012. Chapter 3.</li> <li>Joshua Rovner, "<a href="#">Fixing the Facts or Missing the Mark? Intelligence, Policy, and the War in Iraq</a>," Foreign Policy Research Institute (October 2011)</li> <li>Fitzgerald, Michael, and Richard Ned Lebow. "Iraq: The Mother of all intelligence failures." <i>Intelligence and National Security</i> 21, no. 5 (2006): 884-909.</li> <li>Braut-Hegghammer, Målfrid. "Cheater's Dilemma: Iraq, Weapons of Mass Destruction, and the Path to War." <i>International Security</i> 45, no. 1 (2020): 51-89.</li> <li>Bollfrass, Alexander K. "The Half-Lives of Others: The Democratic Advantage in Nuclear Intelligence Assessment." PhD diss., Princeton University, 2017.</li> <li>Miller, Nicholas L. "Learning to Predict Proliferation." <i>International Organization</i> 76, no. 2 (2022): 487-507.</li> <li>Carnegie, Allison, and Austin Carson. "The disclosure dilemma: nuclear intelligence and international organizations." <i>American Journal of Political Science</i> 63, no. 2 (2019): 269-285.</li> </ul>

		<ul style="list-style-type: none"> <li>• Nedal, Dani. 2012. "US Diplomatic Efforts Stalled Brazil's Nuclear Program in 1970s" <i>Wilson Center Nuclear Proliferation International History Project</i>.</li> <li>• Bolfrass, Alexander K. 2017. "Did the U.S. underestimate North Korea's weapons program? It's not that simple." Jan. 16, 2018. <i>The Monkey Cage</i></li> <li>• Mintz, Alex, and Carly Wayne. The polythink syndrome: US foreign policy decisions on 9/11, Afghanistan, Iraq, Iran, Syria, and ISIS. Stanford University Press, 2016. Chapter 5 p. 91-111.</li> <li>• Morrison, John NL. "British intelligence failures in Iraq." <i>Intelligence and National Security</i> 26, no. 4 (2011): 509-520.</li> <li>• Whitlark, Rachel. 2017. "Nuclear Beliefs: A Leader-Focused Theory of Counter-Proliferation" <i>Security Studies</i>. (4)545-574.</li> </ul> <p><b><u>Movie Night Recommendations:</u></b> Team America (2004)</p>
<b>Week 11 (Mar 28 2024)</b>	<p><b>Disarmament and Denuclearization</b></p> <p>Some questions: Why do countries abandon nuclear programs or give up their weapons? Is there a single model for denuclearization? Can states be coaxed into denuclearization?</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• Solingen, Etel. 2007. <i>Nuclear Logics</i>. Ch 2 p.23-53</li> <li>• Saunders, Elizabeth. 2018. <a href="#">This is why North Korea reacted so strongly to Bolton's mention of the 'Libya model'</a>. <i>The Monkey Cage</i></li> <li>• Baron, Jonathon, Rebecca Davis Gibbons, and Stephen Herzog. "Japanese public opinion, political persuasion, and the treaty on the prohibition of nuclear weapons." <i>Journal for Peace and Nuclear Disarmament</i> 3, no. 2 (2020): 299-309.</li> <li>• Watch <a href="#">"Inheriting the Bomb" with Mariana Budjeryn</a></li> </ul> <p><b>Recommended:</b></p> <ul style="list-style-type: none"> <li>• Budjeryn, Mariana. 2015. "The Power of the NPT: International Norms and Ukraine's Nuclear Disarmament". <i>The Nonproliferation Review</i>. 22(2): 203-237.</li> <li>• Vaynman, Jane and Vipin Narang. June 2018. There are signs North Korea is still working on its nuclear program. Here's why 'denuclearization' is so problematic. <i>The Monkey Cage</i>.</li> <li>• Budjeryn, Mariana. 2018. "Security for Disarmament: Negotiating Ukraine's Budapest Memorandum". <i>Wilson Center: Sources and Methods</i>.</li> </ul>

		<ul style="list-style-type: none"> <li>• Solingen, Etel. 2001. "Middle East denuclearization? Lessons from Latin America's Southern Cone" <i>Review of International Studies</i>. 27: 375-394.</li> <li>• Purkitt, Helen and Stephen Burgess. 2005. South Africa's Weapons of Mass Destruction.</li> <li>• Paul, Thazha Varkey. Power versus prudence: Why nations forgo nuclear weapons. McGill-Queen's Press-MQUP, 2000.</li> </ul>
<b>Week 12</b> <b>(April 4 2024)</b>	<b>The Future of the Global Nuclear Order</b>  <b>Some questions:</b> Is the Nuclear Order unraveling? Are norms weakening? Are institutions fraying? Is nuclear war imminent?	<b>Required:</b> <ul style="list-style-type: none"> <li>• Haworth, Alita, Scott Sagan, and Benjamin Valentino. 2019. "What do Americans really think about conflict with nuclear North Korea? The answer is both reassuring and disturbing". <i>Bulletin of the Atomic Scientists</i>, 75(4): 179-186.</li> <li>• Tannenwald, Nina. <a href="#">The Vanishing Nuclear Taboo?</a> <i>Foreign Affairs</i>. Nov/Dec 2018</li> <li>• Montgomery, Alexander and Charli Carpenter. 2019. <a href="#">Americans to Trump: If war comes, follow the Geneva Conventions</a>. Open Global Rights.</li> <li>• Bollfrass, Alexander K., and Stephen Herzog. "The War in Ukraine and Global Nuclear Order." <i>Survival</i> 64, no. 4 (2022): 7-32.</li> </ul> <b>Recommended:</b> <ul style="list-style-type: none"> <li>• Cameron, James. Feb 2019. "<a href="#">What the INF Treaty means for the U.S. and Europe</a>". <i>The Monkey Cage</i>.</li> <li>• Seligman, Lara and Robbie Graemer. Aug 2019. "What Does the Demise of the INF Treaty Mean for Nuclear Arms Control?" . <i>Foreign Policy</i></li> <li>• Thakur, Ramesh, Jane Boulden and Thomas G. Weiss. 2008. "Can the NPT Regime be fixed or should it be abandoned?" <i>FES Dialogues on Globalization</i></li> <li>• Duarte, Sérgio. 2018. "<a href="#">Unmet Promise: The Challenges Awaiting the 2020 NPT Review Conference (Links to an external site.)</a>" Arms Control Today.</li> <li>• Gibbons, Rebecca Davis. "The future of the nuclear order." <i>Arms Control Today</i> 49, no. 3 (2019): 12-16.</li> <li>• Spilman, Alice, Nicholas J. Wheeler, and Sebastian Brixey-Williams. "Common Security Through Nuclear Responsibilities." (2019).</li> </ul>

		<ul style="list-style-type: none"> <li>Futter, Andrew, and Benjamin Zala. "Strategic non-nuclear weapons and the onset of a Third Nuclear Age." <i>European Journal of International Security</i> 6, no. 3 (2021): 257-277.</li> </ul>
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## Schoolhouse Rules and Resources

### Grading and Assessment

Final Grades in the course are given as letter grades. They reflect your overall performance in achieving the stated course learning objectives. Assessment on interim evaluations can take many forms and are intended to give you an indication of where you stand relative to others. This will allow you to make adjustments to your approach, your expectations, and your performance.

### Original and AI Detection

Normally, students will be required to submit their course essays to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation website (<https://uoft.me/pdt-faq>). Essays and reports may also be subjected to AI detection software (see the section below on AI and academic integrity).

### Class Attendance

Students are expected to attend every class. Those who miss more than one-sixth of a course due to illness or personal circumstances should inform their instructor immediately. Students who are regularly absent from class will be referred to their registrar.

### Accessibility Services

Academic accommodations and resources are available should you experience disability-related barriers that prohibit the demonstration of the knowledge and skills required to complete your academic program. These accommodations and resources are designed to provide equitable opportunities for students with disabilities to achieve their academic goals.

Disability-related accommodations are available through registration with the [University of Toronto's Accessibility Services](#). This helps maintain privacy and confidentiality and provides students with support when requesting and accessing accommodations. Students who register with Accessibility Services may also be eligible for disability-related services/equipment.

Instructors will direct students who make disability-related accommodation requests to register with [Accessibility Services](#). Once you complete the registration process, you will work with an Advisor who can set you up with reasonable, disability-related accommodations and/or resources.

Students with accommodations have access to Letters of Accommodation that should be provided to course instructors outlining specific accommodations they can request within that course. For example, if a student is given more time to work on an assignment this would be outlined in their Letter of Accommodation. Any accommodations not outlined in the letter from Accessibility Services are up to the instructor's discretion. Students can connect with their Accessibility Advisor to discuss their accommodations throughout the year.

Information about registering with [Accessibility Services](#) is available on the website and in the office's Program Handbook: <https://studentlife.utoronto.ca/task/read-the-handbook/>. There's also a short video: <https://www.youtube.com/watch?v=hAq62lF4IPg&t=2s>. If you're unsure whether you have a disability, please don't hesitate to connect with the office to discuss: [accessibility.services@utoronto.ca](mailto:accessibility.services@utoronto.ca)

## Other Academic Accommodations

Students may need to apply for academic accommodations due to a disability, illness, religious observance, or personal emergency.

Students who require consideration for missed academic work for **any non-disability related reason** (e.g., COVID, cold, flu and other illness or injury, family situation) should report their absence through the online absence declaration tool via [ACORN](#) – **until otherwise indicated by the University. A Verification of Illness form is not currently required, but may become required should the public health situation change.**

If a non-disability-related accommodation request is made along with an absence declaration on ACORN, a resolution will be determined by the instructor. This may take the form of any alternate deliverable, deadline extension, re-weighted course grade calculation, make-up exam, or another solution deemed appropriate by the instructor. If an accommodation request is not made along with an absence declaration, the missed or late deliverable will be subject to an academic penalty. The extent of the penalty is at the discretion of the instructor.

**Note: Students are expected to request accommodations in advance of assignments or tests. Failure to do so may result in a late penalty being applied.**

## Mental Health and Wellness

The University of Toronto's [Student Mental Health Resource Guide](#) is an online tool where students can access various on-campus and off-campus mental health resources, including those listed below. Appointments may be booked with them by contacting the Health and Wellness Centre at 416-978-8030 or [info.hwc@utoronto.ca](mailto:info.hwc@utoronto.ca)

## Other Mental Health Resources

Feeling distressed? Are you in crisis? There's help. Call Good2Talk: 1-866-925-5454 (Ontario); text GOOD2TALK to 686868. Free, confidential helpline with professional counselling, information and referrals

for mental health, addictions and well-being, 24/7/365. You can also contact [My Student Support Program \(MySSP\)](#) 1-844-451-9700 (North America); 001-416-380-6575 (Outside of North America) or the [U of T Employee & Family Assistance Program \(EFAP\)](#) 1-800-663-1142 (toll-free); 1-866-398-9505 (TTY); 604-689-1717 (collect). Visit “[Feeling Distressed?](#)” for more resources.

Are you in immediate danger? For Personal Safety – Call 911, then Campus Community Police\*  
 UTSG Police: 416-978-2222 | U of T Mississauga Police: 905-569-4333 | U of T Scarborough Police 416-978-2222 |  
 Centre for International Experience Safety Abroad 416-946-3929.  
 \*24/7/365; Campus Community Police can direct your call to the right service.

## Code of Behaviour on Academic Matters

Please read the University’s [Code of Behaviour on Academic Matters](#). It applies to all your academic activities and courses. The Code prohibits all forms of academic dishonesty including, but not limited to, cheating, plagiarism, and the use of unauthorized aids. Violating the Code may lead to penalties up to and including suspension or expulsion from the University. You are expected to know the Code and inform yourself of acceptable academic practices – ignorance of the Code or the acceptable academic practices is not a valid defense if you are accused of a violation.

## Academic Integrity

Case write-ups, papers, assignments, and all other deliverables must be original work, giving credit to the work of others where appropriate. Using work done by others without due credit—this includes the use of AI (Large Language Models etc.)—will be considered a violation of academic integrity. This applies to individual and group deliverables. All members of a group are accountable for the academic integrity of their submissions. You are encouraged to consult the following websites to ensure that you follow the appropriate rules. Ignorance of these rules is not a defense in cases of violations, which can result in very serious academic sanctions. Please visit the [University of Toronto Academic Integrity](#) and the [UofT Writing Centre Resources](#) websites for further details and help on the proper use of citations.

## Group Work and Behaviour

You are expected to treat teamwork the same way as you would in any professional organization. This includes but is not limited to:

- Contributing substantially and proportionally to each project
- Committing to a standard of work and level of participation agreed upon by the group
- Ensuring familiarity with the entire content of a group deliverable so that you can sign off on it with your name in its entirety as original work
- Accepting and acknowledging that assignments that are found to be plagiarized in any way will be subject to sanctions for all group members under the University’s [Code of Behaviour on Academic Matters](#)



- Ensuring that all team members voice their opinions, thoughts, and concerns openly and in an inclusive and considerate environment
- Taking personal responsibility for voicing your own thoughts to enhance and contribute to team learning

If you encounter difficulties with any group member that cannot be resolved within the group, please contact your instructor for guidance.

## Use of Technology

Like any professional setting, the University of Toronto expects all of its members to behave responsibly and with courtesy and respect for others when using technology. UofT is committed to equity, human rights, and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another's differences. Please read the University's [Student Code of Conduct](#) and policy on the [Appropriate Use of Information and Communication Technology](#).

## A note on Generative AI

In this course, we embrace the integration of AI-enabled tools, like ChatGPT, as valuable components of your professional toolkit. Instead of forswearing them, we will work together to develop the skills to use them responsibly and effectively. Just like you would utilize statistical software like Stata or R in a statistics course, a calculator in a physics class, or spell-check when writing a paper, AI-powered tools can serve as valuable aids for specific tasks. **HOWEVER**, while they can enhance efficiency and assist with lower-order tasks, they are not substitutes for the essential higher-order thinking and creative skills that are at the heart of your university journey.

Just as you would seek guidance from academic writing labs or collaborate with peers to bounce ideas and refine your work, AI-enabled tools can offer insights, help brainstorm, or assist in proofreading, but you **should not rely on them to do your work for you**. Not only is that considered a violation of academic integrity norms (see above) it is also a terrible idea, since AI can't yet reliably produce quality content at the level that is expected of someone in your position as a student or a professional. Particularly in the realms of summarizing and analyzing existing work or historical data or discussing policy and current events, AI tools exhibit **serious** shortcomings. Their algorithms, though powerful, can sometimes "hallucinate," extrapolating from the data to generate content that may not accurately represent the original context or intention of written work and manufacture facts about people, places, and things. These tools are also limited by the data on which they are trained, which can be constrained by geography and time (content produced in certain languages and certain places are overrepresented, some training data may not include data before or after a certain cut-off point) or be otherwise biased. Language Models will reproduce existing biases and possibly accentuate them. Think of the [Microsoft Twitter bot, Tay](#), which was quickly shut down after it became a misogynistic, violent, racist, holocaust denier. Or take a look at [how hard it is for Dall-E and Midjourney to draw human hands](#). This highlights the importance of your role as a discerning thinker who understands when and how to leverage AI effectively, while also recognizing when human judgment and expertise are still irreplaceable.