

PIA 2468: Choosing Nuclear Weapons

Spring 2024

Wednesdays, 9:00-11:55am

Posvar 3610

Professor: Ryan Grauer
Office: 3932 Posvar Hall
Office Hours: Wednesdays, 3-5pm
Email: grauer@pitt.edu
Phone: 412-624-7396

Course Description, Rationale, and Learning Outcomes:

Why do some states choose to develop nuclear weapons and others do not? Have the reasons for nuclear weapons acquisition changed over time? Are more states likely to acquire nuclear weapons in the future? Once they have nuclear weapons, how do states choose their strategies for using them to advance foreign and security policy objectives? Why do states agree to constraints on their nuclear arsenals? Is nuclear disarmament a feasible policy goal? The answers to these questions are crucial to ensuring stability, peace, and security in the international realm. Problematically, they are also fundamentally contested by academics, policymakers, military officers, and the general public.

One reason the answers to such questions are still debated eighty years after the first detonation of nuclear weapons in anger is that there is no universal nuclear experience. This course examines the acquisition, plans for use, and control of nuclear weapons from the perspective of policymakers as they make choices to bolster the security of the states they lead. While academics have identified some broad trends in how states behave with respect to nuclear weapons, the decisions made by individual policymakers that underpin those tendencies are inevitably driven by a constellation of idiosyncratic features, including structural pressures, domestic political incentives, economic considerations, personal relationships, emotions, cognitive biases, and personality traits. Understanding that constellation in any given case is key to developing appropriate policies regarding a state's own nuclear arsenal, the arsenals possessed by allies and adversaries, and the potential development of arsenals by currently non-nuclear states.

This course provides students with the tools necessary to gain such an understanding as well as to think seriously about and engage productively in contemporary debates on nuclear matters in several ways. First, students will learn what nuclear weapons are and how they work. Second, students will develop a framework for thinking about the drivers of policymaker decisions in high-pressure security environments. Third, students will become acquainted with key arguments and ideas in the academic literature regarding drivers of proliferation, factors conditioning nuclear strategy, and determinants of arms control. Fourth, students will explore the connection between academic theories about nuclear weapons choices and the actual record of policymakers, including in smaller nuclear powers, since 1945. Finally, through varied written and oral presentations as well as participation in structured exercises and simulations, students will develop their capacities to communicate in an effective, policy-relevant, and professional manner.

Course Expectations:

Of me, you can expect:

1. Punctuality in arriving to, beginning, and ending our meetings.
2. A prepared and thought-out lesson plan that will facilitate (with your cooperation and diligent work) both understanding of the material and success in the course.
3. Reasonably prompt responses to email inquiries (usually within a few hours, excepting the times at which normal people are asleep).
4. Accessibility in office hours or other scheduled meetings.

Of you, I expect:

1. Attendance. More than two absences will result in a zero for the class participation portion of your grade. Consistent tardiness will also negatively impact your participation grade.
2. Completion of all readings and arrival in class prepared to discuss the topic assigned for the week. I realize that not everyone is comfortable speaking in front of a group, but keep in mind that I value quality over quantity. That said, failure to participate on a regular basis will have a negative effect on your participation grade.
3. Timely completion of assignments. Without prior explicit permission for a delay, work turned in after the designated time will be docked one full letter grade for each day—or portion thereof—that it is late.
4. Cognitive focus. If you use your laptop to take notes, avoid visiting websites and using apps that are unrelated to classroom activities. Do not use your phone. Concentrate on what your colleagues say and engage with their thoughts.
5. Adherence to the University of Pittsburgh's Policy on Academic Integrity. Failure to cite external sources of ideas, concepts, and facts in written work will be penalized. Plagiarism will result in automatic failure of the assignment and particularly egregious instances of plagiarism may result in failure of the course. Further, any student suspected of violating the Policy on Academic Integrity for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. For Pitt's written guidelines on academic integrity, consult the [Policy on Academic Integrity](#). For SPIA's policies on academic integrity, consult the School's [Handbook of Academic Policies and Procedures](#).
6. Respect for your fellow classmates, the ideas and opinions discussed during meetings, and the works we are considering.

Assignments and Grading:

This course will feature a mixture of activities. During most meetings, we will do three things. The first part of class will often feature a brief lecture framing and outlining key points of the week's focus. The second part of class will be dedicated to a professor-led discussion of the reading material assigned for the week. During this discussion, students will be expected to engage with the general ideas conveyed in the material as well as, where appropriate, the "who's," "how's," and "why's" of the nuclear history being examined. The final portion of the class will typically feature an exercise that will provide the students with an opportunity to apply the ideas and insights covered to cases in which decisions about nuclear matters must be made. Several meetings will deviate from this pattern, however, and feature student presentations and extended simulations.

Grades in the course will be based on several assignments distributed throughout the semester.

1. **Proliferation Project (25%)** This project requires students to research and present the nuclear history of a country (other than the United States and the Soviet Union) that either acquired nuclear weapons or seriously considered doing so. It is comprised of two components. More information about this project, and student selection of countries, will be discussed in class on 3 September.
 - a. **Briefing (10%)** In Week 6, each student will work with at least one colleague to brief the class on the essential details of the proliferation efforts of a country that either acquired nuclear weapons or seriously considered doing so.
 - b. **Case Study (15%)** A 4-page case study of an assigned country's proliferation experience. The paper will rely at least in part on declassified primary documents to provide key historical details of the country's history with matters of nuclear weapons development and assess the extent to which the case of (non-)proliferation aligns with the expectations of the various theories considered in class. *Due via email before class on Wednesday, 8 October.*
2. **Decision Assessments (15%)** These assessments require students to reflect on classroom activities and write up analyses of their participation in, experience of, and reaction to the exercises in terms of the decision-making and theoretical frameworks considered in the class. Students must complete *three* of the five options (5% each).
 - a. **Targeting Exercise Write-up** A 2-page memo assessing the decision-making dynamics in evidence during the exercise conducted during class on 3 September. Information on specific issues to be addressed will be distributed at the conclusion of the exercise. *Due via email by 9am on Wednesday, 10 September* (even though we will not be meeting that day).
 - b. **Basing Exercise Write-up** A 2-page memo assessing the decision-making dynamics in evidence during the exercise conducted during class on 17 September. Information on specific issues to be addressed will be distributed at the conclusion of the exercise. *Due via email before class on Wednesday, 24 September.*

- c. **SAC: All Out Nuclear War Write-up** A 2-page memo assessing the decision-making dynamics in evidence during the exercise conducted during class on 15 October. Information on specific issues to be addressed will be distributed at the conclusion of the exercise. *Due via email before class on Wednesday, 22 October.*
 - d. **Fail-Safe Analysis** A 2-page analytical assessment of the film *Fail-Safe*, which will be viewed and discussed on 22 October. Information on specific issues to be addressed will be distributed after the viewing and discussion. *Due via email before class on Wednesday, 29 October.*
 - e. **Non-Proliferation Treaty Simulation Write-up** A 2-page memo assessing the decision-making dynamics in evidence during the exercise conducted during class on 5 November. Information on specific issues to be addressed will be distributed at the conclusion of the exercise. *Due via email before class on Wednesday, 12 November.*
3. **Nuclear Warfighting Simulation (20%)** During Week 13, students will participate in a simulation in which they assume the role of policymakers and confront the challenges of a new nuclear crisis. The associated assignment is comprised of two components. More information about the simulation and student roles will be discussed in class on 12 November.
- a. **Active Participation (5%)** Simulations only work if students are present, prepared, and participating. You must be in attendance for the simulation (unless your absence is explicitly excused), do the pre-reading, and actively engage with your colleagues as you work to make decisions within the confines of the exercise.
 - b. **Post-Simulation Write-up (15%)** A 3-page memo in which students' experience of the simulation is assessed in terms of the theoretical frameworks considered in the class. Specific guidance on the memo's contents will be distributed at the conclusion of the simulation. *Due via email by 9:00am on Wednesday, 3 December.*
4. **Final (25%)** A 7-page analytical assessment of Jeffrey Lewis's *The 2020 Commission Report on the North Korean Nuclear Attacks Against the United States*. The paper must apply the decision-making and theoretical frameworks considered in the class to the events depicted in the novel. More information on this assignment will be distributed on 29 October. *Due via email by 9:00pm on Wednesday, 10 December.*
5. **Class Participation (15%)** All students are expected to do the assigned reading and come to class prepared to engage with the ideas and arguments in multiple ways. Each class meeting will provide students with ample opportunity to do so. Participation in the professor-led discussion of the readings, active engagement in classroom exercises and simulations, and asking questions of colleagues during presentations will not only facilitate group learning, but also raise issues and points of view that can help uncover important lessons about the claims, theories, and history being considered.

Your final grade will be assigned on the following scale:

A	=	93-100	B+	=	87-89	C+	=	77-79	D+	=	67-69
A-	=	90-92	B	=	83-86	C	=	73-76	D	=	65-66
			B-	=	80-82	C-	=	70-72	F	=	Below 65

Required Reading (and Listening):

The literature on nuclear weapons—their creation, proliferation, use, control, and myriad other matters—would fill multiple libraries. While the readings and podcasts included on this syllabus are, by necessity, only a glimpse into what has been written and created, they provide a solid foundation on which interested students can build in their study of nuclear matters.

With the exception of one book, all assigned reading materials and podcasts are available online and accessible through the Canvas course website. The book that students need to purchase or otherwise acquire is:

Jeffrey Lewis, *The 2020 Commission Report on the North Korean Nuclear Attacks Against the United States: A Speculative Novel* (Boston: Mariner Books, 2018)

There is one copy at Hillman Library; it has been placed on reserve, but there are limits to how long you can have it checked out. It is also, or will soon be, available at The Book Center if you prefer to get course materials there. Alternatively, you can acquire it through any online book seller. If you are interested in supporting a local bookstore, I would recommend White Whale Bookstore in Bloomfield: <https://whitewhalebookstore.com>. Alternatively, you could use The Tiny Bookstore, a Black- and woman-owned bookstore in Ross Township: <https://tinybookspgh.com>.

Many of the assigned materials cover more technical or historical information than is typical in many courses in GSPIA. Crucially, I *do not* expect you to be expert on every single detail in the readings and podcasts when you come to class. Rather, I expect that you read (and listen) with sufficient attention that you can come to class prepared to discuss the material with a particular focus on a) what the crucial nuclear policy and decision-making issues discussed in the readings were, b) what decisions were made in response to those issues, c) who made the relevant decisions, and d) why those decisions were made. We will use that information as a basis to think about why policymakers make the nuclear weapons choices that they do, and what that means for thinking about the role nuclear weapons play in the international security environment.

Finally, because a central aspect of the course is learning how to apply the lessons of history to contemporary nuclear policy issues, problems, and crises, you should keep up with current events. For this purpose, you should peruse a daily newspaper like *The New York Times*, the *Washington Post*, the *Wall Street Journal*, or the *Financial Times*. The weekly magazine *The Economist* is also an excellent source of news and analysis. Additionally, there are a number of excellent podcasts that cover nuclear and other defense/national security topics. Especially useful podcasts include: *Arms Control Wonk*, *War on the Rocks*, *The Diplomat | Asia Geopolitics*, and *Net Assessment*.

Disability Services:

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and [Disability Resources and Services](#) (DRS), 140 William Pitt Union, (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodation for this course.

Classroom Recording:

To ensure the free and open discussion of ideas, students may not personally record and/or share classroom lectures, discussion, and/or activities without the advance written permission of the instructor.

COVID/Health Considerations:

Happily, we seem to be on the other side of the global coronavirus pandemic. However, the virus is still in circulation and infection will prevent class attendance for at least a week. To that end, if you are not feeling well (whether you believe it is COVID or not), please stay home. Contact me via email before class to alert me to the situation and get class notes from a colleague. It is better to be safe than sorry.

Religious Observances:

The observance of religious holidays (activities observed by a religious group of which a student is a member) and cultural practices are an important reflection of diversity. I am committed to providing equivalent educational opportunities to students of all belief systems. At the beginning of the semester, you should review the course requirements to identify foreseeable conflicts with assignments, exams, or other required attendance. If at all possible, please contact me within the first two weeks of the first class meeting to allow time for us to discuss and make fair and reasonable adjustments to the schedule and/or tasks.

Pitt Concern Connection:

The University of Pittsburgh strives to build and maintain a positive and healthy working, learning, and living environment. Reporting concerns and asking questions can minimize the potential negative impact of inappropriate conduct on the University and our employees, faculty, and students. Reporting can help improve our culture and operations by identifying issues that require attention. The [Pitt Concern Connection](#) is a dedicated reporting system where University members can elevate irregular or troublesome workplace, campus, and other issues so that they can be reviewed, addressed, and resolved. Report an issue or ask a question online, by telephone, or via text message. The Pitt Concern Connection is not an emergency service. Immediate, life-threatening safety concerns should be reported to 911 or by contacting your local University police or security department.

On AI Use and Plagiarism in This Course:

Artificial intelligence tools are rapidly improving and becoming more ubiquitous throughout society. The rate of change is such that any specific prohibitions on use laid out here would likely be out of date before the end of the semester. The assignments for this course have been designed to minimize the utility of such software, but ultimately the choice to rely on artificial intelligence rests with the student. One factor students should consider when contemplating whether and how to use artificial intelligence when composing essays is that, in this course, turning in AI-generated material as original work product will be treated as plagiarism; it is not work that is original to the student. From a broader perspective, the use of such software to complete assignments for this course is antithetical to its educational objectives. The ultimate goal of this course is to help students learn a) about the history of nuclear weapons, and b) why and how policymakers have made the decisions they have about them. Reliance on AI software, by providing algorithm-driven predictive language on topics, undermines both goals and, in that regard, performs a disservice for students. It is disrespectful to both others in the course and the professor, who invest their time and energy into their work as part of the collaborative learning effort. Also, in many instances, the software simply [makes things up](#) (especially about historical matters). For all of these reasons, while I would ask that you refrain from relying on such tools in composing your assignments for this course.

Course Schedule

Setting the Stage

Week 1 (August 27): The Rational Irrationality of Nuclear Weapons

- Podcast: Dan Carlin, *Hardcore History*, “Logical Insanity,” 31 March 2012.
- John Hersey, “Hiroshima,” *The New Yorker*, 31 August 1946.
- Carol Cohn, “Sex and Death in the Rational World of Defense Intellectuals,” *Signs* 12, no. 4 (Summer, 1987): 687-718.

Week 2 (September 3): Governmental Decision Making

- Graham Allison, “Conceptual Models and the Cuban Missile Crisis,” *American Political Science Review* 63, no. 3 (September, 1969): 689-718.
- Jonathan Mercer, “Emotion and Strategy in the Korean War,” *International Organization* 67, no. 2 (April, 2013): 221-252.
- Yaacov Y.I. Vertzberger, “Foreign Policy Decisionmakers as Practical-Intuitive Historians: Applied History and its Shortcomings,” *International Studies Quarterly* 30, no. 2 (June, 1986): 223-247.
- Michael C. Horowitz and Allan C. Stam, “How Prior Military Experience Influences the Future Militarized Behavior of Leaders,” *International Organization* 68, no. 3 (Summer, 2014): 527-559.
- Elizabeth Saunders, “No Substitute for Experience: Presidents, Advisers, and Information in Group Decision Making,” *International Organization* 71 (Supplement, 2017): S219-S247.

Exercise: *Choosing Targets*

Week 3 (September 10): No Meeting; Prof. Grauer at APSA Annual Meeting, Vancouver, CA

Week 4 (September 17): Learning about the Bomb in the Early Cold War

- Podcast: Usha Sahay, *A Most Terrible Weapon*, “Planning Armageddon,” 21 October 2020.
- Podcast: Usha Sahay, *A Most Terrible Weapon*, “The Dilemmas of Deterrence,” 4 November 2020.
- Podcast: Usha Sahay, *A Most Terrible Weapon*, “The Perverse Sensibility of Nuclear War,” 18 November 2020.
- Podcast: Usha Sahay, *A Most Terrible Weapon*, “Building Stalin’s Nukes,” 2 December 2020.
- Podcast: Usha Sahay, *A Most Terrible Weapon*, “The Soviets’ Dark Nuclear Romance,” 16 December 2020.
- Marc Trachtenberg, “A ‘Wasting Asset’: American Strategy and the Shifting Nuclear Balance, 1949-1954,” *International Security* 13, no. 3 (Winter, 1988/1989): 5-49.
- Henry Sokolski, *Best of Intentions* (Westport, CT: Praeger, 2001): Chapters 2 and 3 (pp. 13-37)

Exercise: *Atomic Basing*

Going Nuclear

Week 5 (September 24): The Why and How of Proliferation, in Theory

- Nuno P. Monteiro and Alexandre Debs, “The Strategic Logic of Nuclear Proliferation,” *International Security* 39, no. 2 (Fall, 2014): 7-51.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 2 (pp. 23-53).
- Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press, 2006): Chapter 2 (pp. 16-46).
- Matthew Fuhrmann and Michael C. Horowitz, “When Leaders Matter: Rebel Experience and Nuclear Proliferation,” *The Journal of Politics* 77, no. 1 (January, 2015): 72-87.
- Vipin Narang, *Seeking the Bomb: Strategies of Nuclear Proliferation* (Princeton: Princeton University Press, 2022): Chapter 2 (pp. 15-52)

Exercise: *Proliferation Presentation Preparation*

Week 6 (October 1): Proliferation, in Practice

Note: The materials below are recommended resources to be used in student presentations and case studies

Primary Source Collections:

- National Security Archive: <https://nsarchive.gwu.edu/project/nuclear-vault>
 - Useful overview: “National Intelligence Estimates of the Nuclear Proliferation Problem” <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB155/index.htm>
- Wilson Center Digital Archive: <https://digitalarchive.wilsoncenter.org/theme/nuclear-history>
- *Foreign Relations of the United States* Series: <https://history.state.gov/historicaldocuments>

Proliferators

1. The United Kingdom

- Avery Goldstein, *Deterrence and Security in the 21st Century* (Stanford: Stanford University Press, 2002): Chapter 5 (pp. 139-180).
- Graham Spinardi, “Aldermaston and British Nuclear Weapons Development: Testing the ‘Zuckerman Thesis,’” *Social Studies of Science* 27, no. 4 (August, 1997): 547-82.
- Primary Source Documents:
 - National Security Archive: “The British Bomb and the United States – Part I” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2021-05-13/british-bomb-united-states-part-one>
 - National Security Archive: “Concern about Future U.S. Reliability Influenced British Quest for Trident Missiles” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2021-07-16/british-bomb-and-united-states-part-two>

- British National Archives: “The Cabinet Papers – Atomic Weapons”
<https://www.nationalarchives.gov.uk/cabinetpapers/themes/atomic-weapons.htm>
- British National Archives: “Nuclear Weapons Policy, 1967-1998”
<https://cdn.nationalarchives.gov.uk/documents/information-management/osp11.pdf>

2. France

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 418-436.
- Avery Goldstein, *Deterrence and Security in the 21st Century* (Stanford: Stanford University Press, 2002): Chapter 6 (pp. 181-216).
- Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press, 2006): Chapter 4 (pp. 85-113).
- Primary Source Documents:
 - National Security Archive: “U.S. Intelligence and the French Nuclear Weapons Program”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB184/index.htm>
 - National Security Archive: “The French Bomb, with Secret U.S. Help”
<https://nsarchive2.gwu.edu/nukevault/ebb346/>
 - National Security Archive Electronic Briefing Book No. 423, Document 2
<https://nsarchive2.gwu.edu/nukevault/ebb423/>
 - Wilson Center: “French Nuclear History”
<https://digitalarchive.wilsoncenter.org/collection/83/french-nuclear-history>

3. China

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 196-219.
- Avery Goldstein, *Deterrence and Security in the 21st Century* (Stanford: Stanford University Press, 2002): Chapters 3, 4 (pp. 62-138).
- Hui Zhang, “The Short March to China’s Hydrogen Bomb,” *Bulletin of the Atomic Scientists*, 11 April 2024
<https://thebulletin.org/2024/04/the-short-march-to-chinas-hydrogen-bomb/>
- Primary Source Documents:
 - National Security Archive: “The United States and the Chinese Nuclear Weapons Program, 1960-1964”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB38/>
 - National Security Archive: “China’s First Nuclear Test 1964—50th Anniversary”
<https://nsarchive2.gwu.edu/nukevault/ebb488/>
 - National Security Archive: “The Chinese Nuclear Weapons Program: Problems of Intelligence Collection and Analysis, 1964-1972”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB26/index.html>
 - Wilson Center: “Chinese Nuclear History”
<https://digitalarchive.wilsoncenter.org/collection/105/chinese-nuclear-history>

- Wilson Center: “Chinese Nuclear Testing”
<https://digitalarchive.wilsoncenter.org/collection/273/chinese-nuclear-testing>

4. Israel

- Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998)
https://pitt.primo.exlibrisgroup.com/permalink/01PITT_INST/e8h8hp/alma9918930573406236
- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 219-238.
- Binyamin Pinkus, “Atomic Power to Israel’s Rescue: French-Israeli Nuclear Cooperation, 1949-57,” *Israel Studies*, Vol. 7, no. 1 (2002): 104-138.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 9 (pp. 187-212).
- Primary Source Documents:
 - National Security Archive: “JFK Pushed For Inspection of Israeli Nuclear Facilities” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2016-04-21/concerned-about-nuclear-weapons-potential-john-f-kennedy>
 - National Security Archive: “The Israel-Argentina Yellowcake Connection” <https://nsarchive2.gwu.edu/nukevault/ebb432/>
 - National Security Archive: “The U.S. Discovery of Israel’s Secret Nuclear Project” <https://nsarchive2.gwu.edu/nukevault/ebb510/>
 - National Security Archive: “Israel Crosses the Threshold” <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB189/index.htm>
 - National Security Archive: “Israel Crosses the Threshold II” <https://nsarchive2.gwu.edu/nukevault/ebb485/>
 - Wilson Center: “Israeli Nuclear History” <https://digitalarchive.wilsoncenter.org/collection/153/israeli-nuclear-history>
 - Wilson Center: “Interviews by Avner Cohen” <https://digitalarchive.wilsoncenter.org/collection/98/interviews-by-avner-cohen>

5. India

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 238-258.
- Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press, 2006): Chapter 7 (pp. 171-203).
- Jayita Sarkar, *Ploughshares and Swords: India’s Nuclear Program in the Global Cold War* (Ithaca, NY: Cornell University Press, 2022).
- Primary Source Documents:
 - National Security Archive: “U.S. Intelligence and the Indian Bomb” <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB187/index.htm>
 - National Security Archive: “The Nixon Administration and the Indian Nuclear Program, 1972-1974” <https://nsarchive2.gwu.edu/nukevault/ebb367/index.htm>

- National Security Archive: “India and Pakistan – On the Nuclear Threshold”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB6/index.html>
- National Security Archive: “The U.S., Canada, and the Indian Nuclear Program, 1968-1974”
<https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2022-12-09/us-canada-and-indian-nuclear-program-1968-1974>
- National Security Archive Electronic Briefing Book No. 423, Documents 7a and 7b <https://nsarchive2.gwu.edu/nukevault/ebb423/>
- Wilson Center: “Indian Nuclear History”
<https://digitalarchive.wilsoncenter.org/collection/44/indian-nuclear-history>

6. Pakistan

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 326-354.
- Feroz Hassan Khan, *Eating Grass* (Stanford: Stanford University Press, 2012).
- Jeffrey T. Richelson, *Spying on the Bomb* (New York: Norton, 2007): 338-346, 427-446.
- Mansoor Ahmed, *Pakistan’s Pathway to the Bomb* (Washington, DC: Georgetown University Press, 2022).
- Primary Source Documents:
 - National Security Archive: “China, Pakistan, and the Bomb”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB114/index.htm>
 - National Security Archive: “India and Pakistan – On the Nuclear Threshold”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB6/index.html>
 - National Security Archive Electronic Briefing Book No. 423, Documents 3a, 3b, and 8 <https://nsarchive2.gwu.edu/nukevault/ebb423/>
 - National Security Archive: “The United States and Pakistan’s Quest for the Bomb” <https://nsarchive2.gwu.edu/nukevault/ebb333/index.htm>
 - National Security Archive: “Non-Papers and Demarches”
<https://nsarchive2.gwu.edu/nukevault/ebb352/index.htm>
 - National Security Archive: “The United States and the Pakistani Bomb, 1984-1985” <https://nsarchive2.gwu.edu/nukevault/ebb531-U.S.-Pakistan-Nuclear-Relations,-1984-1985/>
 - National Security Archive: “Pakistan’s Illegal Nuclear Procurement Exposed in 1987” <https://nsarchive2.gwu.edu/nukevault/ebb446/>
 - Wilson Center: “Pakistani Nuclear History”
<https://digitalarchive.wilsoncenter.org/collection/64/pakistani-nuclear-history>

7. South Africa

- David Albright and Andrea Stricker, *Revisiting South Africa’s Nuclear Weapons Program* (Washington, DC: Institute for Science and International Security, 2016).

Available at: <https://isis-online.org/uploads/isis-reports/documents/RevisitingSouthAfricasNuclearWeaponsProgram.pdf>

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 258-277.
- Zondi Masiza, “A Chronology of South Africa’s Nuclear Program,” *The Nonproliferation Review* 1, no. 1 (Fall, 1993): 34-53. Available at: <https://www.nonproliferation.org/wp-content/uploads/npr/masiza11.pdf>
- Primary Source Documents:
 - National Security Archive: “The Discovery of South Africa’s Secret Nuclear Test Site, August 1977” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2023-10-26/discovery-south-africas-secret-nuclear-test-site-august-1977>
 - National Security Archive: “U.S. Intelligence and the South African Bomb” <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB181/index.htm>
 - National Security Archive Electronic Briefing Book No. 423, Documents 9a and 9b <https://nsarchive2.gwu.edu/nukevault/ebb423/>
 - Wilson Center: “South African Nuclear History” <https://digitalarchive.wilsoncenter.org/collection/95/south-african-nuclear-history>

8. North Korea

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 277-297.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 6 (pp. 118-140)
- Primary Source Documents:
 - National Security Archive: “North Korea and Nuclear Weapons” <https://nsarchive2.gwu.edu/NSAEBB/NSAEBB87/>
 - National Security Archive: “Engaging North Korea” <https://nsarchive.gwu.edu/briefing-book/korea-nuclear-vault/2017-11-08/bush-43-chose-diplomacy-over-military-force-north-korea>
 - National Security Archive: “Engaging North Korea II” <https://nsarchive.gwu.edu/briefing-book/korea/2017-12-08/engaging-north-korea-ii-evidence-clinton-administration>
 - National Security Archive: “New Evidence on Clinton Administration Negotiations with North Korea” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/korea/2020-06-16/new-evidence-clinton-negotiations-north-korea>
 - National Security Archive: “The United States and the North Korea Nuclear Threat” <https://nsarchive.gwu.edu/briefing-book/korea-nuclear-vault/2019-02-26/united-states-north-korea-nuclear-threat>
 - Wilson Center: “North Korean Nuclear History” <https://digitalarchive.wilsoncenter.org/collection/113/north-korean-nuclear-history>

Non-Proliferators

1. Brazil

- Julio Carasales, "The Argentine-Brazilian Nuclear Rapprochement," *The Nonproliferation Review* 2, no. 3 (Spring/Summer, 1995): 39-48. Available at: <https://www.nonproliferation.org/wp-content/uploads/npr/carasa23.pdf>
- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 88-116.
- John R. Redick, *Nuclear Illusions: Argentina and Brazil* (Washington, DC: Stimson Center, 1995). Available at <http://www.stimson.org/pub.cfm?id=152>
- Etel Solingen, "Middle East Denuclearization? Lessons from Latin America's Southern Cone," *Review of International Studies* 27, no. 3 (July, 2001): 375-294. Available at: <https://www.jstor.org/stable/20097741>
- Primary Source Documents:
 - National Security Archive Electronic Briefing Book No. 423, Documents 6a, 6b, and 6c <https://nsarchive2.gwu.edu/nukevault/ebb423/>
 - Wilson Center: "Brazilian Nuclear History" <https://digitalarchive.wilsoncenter.org/collection/167/brazilian-nuclear-history>
 - Wilson Center: "Origins and Evolution of the Brazilian Nuclear Program, 1947-2011" <https://www.wilsoncenter.org/publication/origins-and-evolution-the-brazilian-nuclear-program-1947-2011>
 - Wilson Center: "Origins of Brazil-Argentina Nuclear Cooperation" <https://digitalarchive.wilsoncenter.org/collection/256/origins-of-brazil-argentina-nuclear-cooperation>

2. Argentina

- Julio Carasales, "The Argentine-Brazilian Nuclear Rapprochement," *The Nonproliferation Review* 2, no. 3 (Spring/Summer, 1995): 39-48. Available at: <https://www.nonproliferation.org/wp-content/uploads/npr/carasa23.pdf>
- Jacques E.C. Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press, 2006): Chapter 6 (pp. 141-170).
- John R. Redick, *Nuclear Illusions: Argentina and Brazil* (Washington, DC: Stimson Center, 1995). Available at <http://www.stimson.org/pub.cfm?id=152>
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- Primary Source Documents:
 - National Security Archive Electronic Briefing Book No. 423, Documents 5a, 5b, and 5c <https://nsarchive2.gwu.edu/nukevault/ebb423/>
 - Wilson Center: "Origins of Brazil-Argentina Nuclear Cooperation" <https://digitalarchive.wilsoncenter.org/collection/256/origins-of-brazil-argentina-nuclear-cooperation>

3. Japan

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 359-377.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 3 (pp. 57-81).
- Fintan Hoey, “The ‘Conceit of Controllability’: Nuclear Diplomacy, Japan’s Plutonium Reprocessing Ambitions and US Proliferation Fears, 1974-1978,” *History and Technology* 37, no. 1 (March, 2021): 44-66.
- Primary Source Documents:
 - National Security Archive: “Japan Plutonium Overhang” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2017-06-08/japan-plutonium-overhang-origins-dangers-debated-us-officials>
 - National Security Archive: “U.S.-Japan Negotiations over Reprocessing and Plutonium Use” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2019-02-12/us-japan-negotiations-over-reprocessing-plutonium-use-opening-moves-1981-1982>
 - National Security Archive: “Nuclear Noh Drama” <https://nsarchive2.gwu.edu/nukevault/ebb291/index.htm>
 - Wilson Center: “Japanese Nuclear History” <https://digitalarchive.wilsoncenter.org/collection/280/japanese-nuclear-history>
 - Digital National Security Archive: “Japan and the United States, 1960-1976” <http://proquest.libguides.com/dnsa/japan1960> (must be logged in through Pitt)
 - Digital National Security Archive: “Japan and the United States, 1977-1992” <http://proquest.libguides.com/dnsa/japan1977> (must be logged in through Pitt)

4. South Korea

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 377-394.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 4 (pp. 82-99).
- Primary Source Documents:
 - National Security Archive: “Stopping Korea from Going Nuclear, Part I” <https://nsarchive.gwu.edu/briefing-book/henry-kissinger-nuclear-vault/2017-03-22/stopping-korea-going-nuclear-part-i>
 - National Security Archive: “Stopping Korea from Going Nuclear, Part II” <https://nsarchive.gwu.edu/briefing-book/henry-kissinger-nuclear-vault/2017-04-12/stopping-korea-going-nuclear-part-ii>
 - National Security Archive: “ROK Nuclear Fuel Reprocessing Plans and Purchase of French Pilot Facility, 13 May 1975” <https://nsarchive.gwu.edu/document/30849-document-12-united-states-embassy-south-korea-telegram-3374-department-state-rok>
 - National Security Archive: “ROK Nuclear Fuel Reprocessing Plans, 4 September 1975” <https://nsarchive.gwu.edu/document/30851->

[document-14-united-states-embassy-south-korea-telegram-6900-department-state-rok](#)

- Wilson Center: “South Korean Nuclear History”
<https://digitalarchive.wilsoncenter.org/collection/128/south-korean-nuclear-history>
- Central Intelligence Agency: “South Korea: Nuclear Developments and Strategic Decisionmaking” http://nautilus.org/wp-content/uploads/2011/09/CIA_ROK_Nuclear_DecisionMaking.pdf

5. Iraq

- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 131-151.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 7 (pp. 143-193).
- Primary Source Documents:
 - National Security Archive: “Shaking Hands with Saddam Hussein” (especially documents 16, 57, and 58)
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB82/index.htm>
 - National Security Archive: “Israeli Attack on Iraq’s Osirak 1981”
<https://nsarchive.gwu.edu/briefing-book/iraq-nuclear-vault/2021-06-07/osirak-israels-strike-iraqs-nuclear-reactor-40-years-later>
 - National Security Archive: “Iraq and Weapons of Mass Destruction”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB80/index.htm>
 - Wilson Center: “Nuclear Energy—Iraq”
<https://digitalarchive.wilsoncenter.org/search-results/1/%7B%22subject%22%3A%222188%22%7D>

6. Taiwan

- David Albright and Andrea Stricker, *Taiwan’s Former Nuclear Weapons Program* (Washington, DC: Institute for Science and International Security, 2018). Available at: https://isis-online.org/uploads/isis-reports/documents/TaiwansFormerNuclearWeaponsProgram_POD_color_with_Cover.pdf
- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 297-326.
- Etel Solingen, *Nuclear Logics* (Princeton, NJ: Princeton University Press, 2007): Chapter 5 (pp. 100-117).
- Primary Source Documents:
 - National Security Archive: “New Evidence on Taiwanese Nuclear Intentions, 1966-1976”
<https://nsarchive2.gwu.edu/NSAEBB/NSAEBB20/>
 - National Security Archive: “U.S. Opposed Taiwanese Bomb in the 1970s” <https://nsarchive2.gwu.edu/nukevault/ebb221/index.htm>
 - National Security Archive: “Taiwan’s Nuclear Weapons Research and Development, 1966-1988” <https://nsarchive.gwu.edu/briefing-book/nuclear-vault/2019-01-10/taiwans-bomb>

- National Security Archive: “ROC Nuclear Development Program, 6 May 1975” <https://nsarchive.gwu.edu/document/30850-document-13-department-state-telegram-105611-us-embassy-taiwan-roc-nuclear>
- National Security Archive: “Briefing on Taiwanese Reprocessing, 30 August 1976” <https://nsarchive.gwu.edu/document/30852-document-15-james-malone-general-counsel-us-arms-control-and-disarmament-agency>

Planning for Armageddon

Week 7 (October 8): The Nuclear Revolution and Deterrence

- Avery Goldstein, *Deterrence and Security in the 21st Century* (Stanford: Stanford University Press, 2002): 26-33.
- Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 2008 [1966]): Chapters 2, 3 (pp. 35-125).
- Robert Jervis, “Perceiving and Coping with Threat,” in Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, eds., *Psychology & Deterrence* (Baltimore, MD: The Johns Hopkins University Press, 1985): 13-33.
- Sameul Seitz and Caitlin Talmadge, “The Predictable Hazards of Unpredictability: Why Madman Behavior Doesn’t Work,” *The Washington Quarterly* 43, no. 3 (Fall, 2020): 31-46.
- Vipin Narang, “What Does It Take to Deter? Regional Power Nuclear Postures and International Conflict,” *Journal of Conflict Resolution* 57, no. 3 (June, 2013): 478-508.
- Caitlin Talmadge, “Multipolar Deterrence in the Emerging Nuclear Era,” in *The Fragile Balance of Terror*, eds., Vipin Narang and Scott D. Sagan (Ithaca, NY: Cornell University Press, 2022)

Exercise: *Extended Discussion of Reading Material*

Week 8 (October 15): Nuclear Warfighting

- Francis J. Gavin, *Nuclear Statecraft* (Ithaca, NY: Cornell University Press, 2012): Chapter 2 (pp. 30-56).
- Jimmy Carter, P.D.-59 “Nuclear Weapons Employment Policy,” 25 July 1980.
- John Hines, et al., *Soviet Intentions 1965-1985, Volume I: An Analytical Comparison of U.S.-Soviet Assessments During the Cold War* (McLean, VA: BDM, Inc., 1995): Chapter 3 (pp. 22-47).
- William Langewiesche, “The Secret Pentagon War Game that Offers a Stark Warning for Our Times,” *New York Times Magazine*, 2 December 2024.
- Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution* (Ithaca, NY: Cornell University Press, 2020): Chapter 3 (pp. 66-93).
- Robert Jervis, *The Meaning of the Nuclear Revolution* (Ithaca, NY: Cornell University Press, 1989): Chapter 4 (pp. 107-135)
- Nina Tannenwald, “The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use,” *International Organization* 53, no. 3 (Summer, 1999): 433-468.

Exercise: *SAC: All Out Nuclear War Against the Soviet Union, 1962*

- Read preparatory material on Canvas

Week 9 (October 22): Nuclear Crises

- Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 2008 [1966]): Chapter 6 (pp. 221-259).
- Mark S. Bell and Julia Macdonald, “How to Think about Nuclear Crises,” *Texas National Security Review* 2, no. 2 (February, 2019): 41-64.
- Reid B.C. Pauly and Rose McDermott, “The Psychology of Nuclear Brinkmanship,” *International Security* 47, no. 3 (Winter, 2022/2023): 9-51.
- Caitlin Talmadge, “Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States,” *International Security* 41, no. 4 (Spring, 2017): 50-92.

Exercise: *Fail-Safe*

Week 10 (October 29): Emerging Technology and Nuclear Weapons

- Caitlin Talmadge, “Emerging Technology and Intra-war Escalation Risks: Evidence from the Cold War, Implications for Today,” *Journal of Strategic Studies* 42, no. 6 (September, 2019): 864-887.
- Tristan A. Volpe, “Dual-Use Distinguishability: How 3-D Printing Shapes the Security Dilemma for Nuclear Programs,” *Journal of Strategic Studies* 42, no. 6 (September, 2019): 814-840.
- Jon R. Lindsay, “Cyber Operations and Nuclear Escalation,” in *Nuclear Command, Control, and Communications*, ed. James J. Wirtz and Jeffrey A. Larsen (Washington, DC: Georgetown University Press, 2022): 121-144.
- Rupal N. Mehta, “Extended Deterrence and Assurance in an Emerging Technology Environment,” *Journal of Strategic Studies* 44, no. 7 (December, 2021): 958-982.
- Vipin Narang and Heather Williams, “Thermonuclear Twitter?” in *The Fragile Balance of Terror: Deterrence in the New Nuclear Age*, ed. Vipin Narang and Scott D. Sagan (Ithaca, NY: Cornell University Press, 2022): 63-89.
- Ross Andersen, “Never Give Artificial Intelligence the Nuclear Codes,” *The Atlantic*, 5 May 2023.
- Stacie E. Goddard and Colleen Larkin, “Nuclear Shibboleths: The Logics and Future of Nuclear Nonuse,” *International Organization* 79, no. 1 (Winter, 2025): 117-145.

Exercise: *On the Brink: Taiwan Strait*

- Read preparatory material on Canvas

Containing the Bomb

Week 11 (November 5): Arms Control

- Lawrence Freedman and Jeffrey Michaels, *The Evolution of Nuclear Strategy*, 4th ed. (London: Palgrave Macmillan, 2019): Chapter 16 (pp. 243-257).
- Francis J. Gavin, *Nuclear Statecraft* (Ithaca, NY: Cornell University Press, 2012): Chapters 4 and 5 (pp. 75-119)
- Andrew J. Coe and Jane Vaynman, “Collusion and the Nuclear Non-Proliferation Regime,” *The Journal of Politics* 77, no. 4 (October, 2015): 983-997.
- Målfrid Braut-Hegghammer, “Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks,” *International Security* 36, no. 1 (Summer, 2011): 101-132.
- Nicholas L. Miller, “The Secret Success of Nonproliferation Sanctions,” *International Organization* 68, no. 4 (Fall, 2014): 913-944.
- Rose Gottemoeller, “Arms Control Is Not Dead Yet,” *Foreign Affairs*, 15 April 2025.

Exercise: *Negotiating the Nuclear Non-Proliferation Treaty*

- Read preparatory material on Canvas and sent via email

Week 12 (November 12): Nuclear Latency

- John P. Holdren, “Nuclear Power and Nuclear Weapons: The Connection is Dangerous,” *Bulletin of the Atomic Scientists* 39, no. 1 (January, 1983): 40-45.
- Bernard I. Spinrad, “Nuclear Power and Nuclear Weapons: The Connection is Tenuous,” *Bulletin of the Atomic Scientists* 39, no. 2 (February, 1983): 42-47.
- Nicholas L. Miller, “Why Nuclear Energy Rarely Leads to Proliferation,” *International Security* 42, no. 2 (Fall, 2017): 40-77.
- Jacques E.C. Hymans, “Veto Players, Nuclear Energy, and Nonproliferation: Domestic Institutional Barriers to a Japanese Bomb,” *International Security* 36, no. 2 (Fall, 2011): 154-189.
- Rupal N. Mehta and Rachel Elizabeth Whitlark, “The Benefits and Burdens of Nuclear Latency,” *International Studies Quarterly* 61, no. 3 (September, 2017): 517-528.
- Tristan Volpe, “Atomic Leverage: Compellence with Nuclear Latency,” *Security Studies* 26, no. 3 (2017): 517-544.
- Ankit Panda and Tristain Volpe, “Limited Leverage: Nuclear Latency in South Korea’s Alliance Bargaining,” *The Washington Quarterly* 47, no. 1 (March, 2024): 147-166.

Exercise: *Latency Assessments*

Week 13 (November 19): Nuclear Warfighting Simulation

Pre-readings to be determined

No Meeting November 26: Happy Thanksgiving!

Week 14 (December 3): The Iran Problem

Readings will be Changed/Supplemented as International Circumstances Warrant

- Etel Solingen, *Nuclear Logics* (Princeton: Princeton University Press, 2007): Chapter 8 (pp. 164-186).
- Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics* (Cambridge: Cambridge University Press, 2017): 151-175.
- Kali Robinson, “Backgrounder: What Is the Iran Nuclear Deal?” Council on Foreign Relations. Available at: <https://www.cfr.org/backgrounder/what-iran-nuclear-deal>
- David Albright, “Going for the Bomb: Part I, Pathways and Timelines,” Report, *Institute for Science and International Security*, 7 November 2024.
- David Albright and Andrea Stricker, “Going for the Bomb: Part II, Tasks to Make a Crude Nuclear Weapon,” Report, *Institute for Science and International Security*, 7 November 2024.
- Hui Zhang, “Lessons from China: How Soon Could Iran Get the Bomb?” Occasional Paper 2404, *Nonproliferation Policy Education Center*, December 2024.
- David Albright and Sarah Burkhard, “Response to *Bulletin of the Atomic Scientists* Article on Iran’s Short Timeline to a Bomb,” Report, *Institute for Science and International Security*, 24 January 2025.

Exercise: *Choosing Targets, Revisited*

Week 15 (December 10): No Class – Finish *The 2020 Commission Report* and your final!

- Final Due at 9pm!