

**Nuclear Strategy and Politics
PSCI / IS-3194**

**Department of Political Science
Virginia Tech
Fall 2024**

Paul Avey

Course Information

Course Time: T/Th 12:30 - 1:45pm
Course Room: McBride Hall 224

Contact Information

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Office Hours: T/Th 2:00pm – 3:15pm and by appointment.

Course Description

This course explores the role that nuclear weapons play in world politics. The course is divided into five major sections. Part One examines the basics of nuclear energy, weapons, delivery platforms, and nonproliferation regime. Part Two discusses theoretical models and historical cases to explain nuclear proliferation and nonproliferation. Part Three assesses claims that nuclear weapons constitute a revolution in international politics as well as examining nuclear strategy across nuclear armed states. Section four considers debates on the morality of nuclear deterrence and nuclear taboo. Finally, in the last section, students draw from cumulative course content to complete a nuclear crisis simulation and discuss the possibility and desirability of a world without nuclear weapons. Having completed the course, students will be more capable of assessing and contributing to discussions on nuclear strategy and politics as well as utilizing social science tools to evaluate complex phenomena.

Course Outline

Part 1: Basics

August 27 (T)	Class 1	Introduction
August 29 (Th)	Class 2	Nuclear Energy
September 3 (T)	Class 3	Nuclear Weapons
September 5 (Th)	No Class	No Class
September 10 (T)	Class 4	Nonproliferation Regime, I
September 12 (Th)	Class 5	Nonproliferation Regime, II

Part 2: Proliferation

September 17 (T)	Class 6	International Strategic and Domestic Politics Explanations
September 19 (Th)	Class 7	Cases: China, Japan, Soviet Union
September 24 (T)	Class 8	Cases: France, Israel, West Germany
September 26 (Th)	Class 9	Cases: India, Pakistan, Iran
October 1 (T)	Class 10	Cases: North Korea, South Korea
October 3 (Th)	Class 11	Nuclear Terrorism
October 8 (T)	Exam	Midterm Exam

Part 3: Strategy

October 10 (Th)	Class 12	A Nuclear Revolution?, I
October 15 (T)	Class 13	A Nuclear Revolution?, II
October 17 (Th)	Class 14	US-Soviet Union/Russia, I
October 22 (T)	Class 15	US-Soviet Union/Russia, II
October 24 (Th)	Class 16	Force Posture
October 29 (T)	Class 17	Cases: India, Pakistan
October 31 (Th)	Class 18	Cases: China, France
November 5 (T)	No Class	No Class (US Elections)
November 7 (Th)	Class 19	Cases: Israel, South Africa

Part 4: Taboo

November 12 (T)	Class 20	Morality
November 14 (Th)	Class 21	A Nuclear Taboo?
November 19 (T)	Class 22	Cases: Vietnam and Gulf War
November 21 (Th)	Class 23	Cases: Bombing Japan
November 26 – 28	No Class	No Class (Thanksgiving Break)

Part 5: Simulation

December 3 (T)	Class 24a	Simulation [Groups 1-4]
December 5 (Th)	Class 24b	Simulation [Groups 5-8]
December 10 (T)	Class 25	Nuclear Zero Discussion
December 13 (F)	Final Exam	Final Exam (10:05am – 12:05pm)

A detailed schedule with readings and assignment due dates is below.

Grading

There are 200 total points in the class. Grades are based on one homework, two group presentations, a group simulation memo, a midterm exam, a final exam, and attendance. Any late assignment will automatically lose 10% of the grade for each day it is late. After five days past the due date you can turn in an assignment for 50% credit up to the final class day. No late assignments will be accepted after the last class day (December 10). If you are not able to turn in

an assignment the day it is due for any reason that you know of in advance, including excused absences for athletics, religious holidays, military orders, etc., you must complete the assignment and turn it in prior to the due date. There are no extensions for any assignment except in the case of documented health or family emergencies. All such cases must be documented by a Class Absence Verification through the Dean of Students: https://dos.vt.edu/our_services.html. Information and a request form are available on their website.

For assignments that you need to upload to Canvas, submit the assignment as a Word document. If you do not have Word, contact the professor to make alternative arrangements. When uploading your assignment be certain to check that it has loaded properly and that you can access and read it. Files that do not appear or cannot be opened will be marked late even if you completed the assignment by the due date. If you have trouble uploading the file to Canvas you must notify the professor and email an electronic copy before the assignment is due.

The grade you receive at the end of the semester is final and will not be rounded up or down. The only exceptions are if there is a calculation error in your point total. If you believe there are any errors or omissions with your grade immediately contact the professor.

Additional information on grading and university and course policies removed from public version.

Required Reading

The following four books are required and are available as eBooks through the Virginia Tech university library. Note that the link and access may not work if you are not on campus or logged in to Virginia Tech. If you are not able to access an eBook, first check that you're logged in properly. Physical copies are available for purchase through online distributors or the university press that published it (eg, Cambridge University Press). Other readings have a link or are available in the Files folder on Canvas. As with eBooks, some readings with a link require you to sign in with your Virginia Tech email or otherwise be logged into Virginia Tech for access. If you have difficulty accessing any reading contact the professor.

Alexandre Debs and Nuno P. Monteiro, *Nuclear Politics: The Strategic Causes of Proliferation* (New York: Cambridge University Press, 2017), <https://virginiatech.on.worldcat.org/oclc/970816208>

Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton: Princeton University Press, 2014), <https://virginiatech.on.worldcat.org/oclc/877983249>

Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007), <https://virginiatech.on.worldcat.org/oclc/437140514>

Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (Cambridge: Cambridge University Press, 2007), <https://virginiatech.on.worldcat.org/oclc/437197071>

A note on the readings. The amount of reading varies throughout this class, with some weeks having more than 100 assigned pages. Check the syllabus and plan ahead as necessary.

Course Reading and Assignment Schedule

PART 1: Basics

August 27 (T) Class 1. Introduction

- No Reading

August 29 (Th) Class 2. Nuclear Energy

- Charles D. Ferguson, *Nuclear Energy: What Everyone Needs to Know* (Oxford: Oxford University Press, 2011), pages 3-52 (chapter 1),
<https://ebookcentral.proquest.com/lib/vt/detail.action?docID=689292>

September 3 (M) Class 3. Nuclear Weapons

Skim each of the following, paying special attention to tables and figures:

- Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, “Chinese Nuclear Weapons, 2024,” *Bulletin of the Atomic Scientists*, Vol. 80, No. 1 (2024), pages 49-72, <https://doi.org/10.1080/00963402.2023.2295206>
- Hans M. Kristensen, Matt Korda and Eliana Johns “French Nuclear Weapons, 2023,” *Bulletin of the Atomic Scientists* Vol. 79, No. 4 (2023), pages 272-281, <https://doi.org/10.1080/00963402.2023.2223088>
- Hans M. Kristensen and Matt Korda, “Indian Nuclear Weapons, 2022,” *Bulletin of the Atomic Scientists* Vol. 78, No. 4 (2022), pages 224-236, <https://doi.org/10.1080/00963402.2022.2087385>
- Hans M. Kristensen and Matt Korda, “Israeli Nuclear Weapons, 2021,” *Bulletin of the Atomic Scientists* Vol. 78, No. 1 (2022), pages 38-50, <https://doi.org/10.1080/00963402.2021.2014239>
- Hans M. Kristensen and Matt Korda, “North Korean Nuclear Weapons, 2022,” *Bulletin of the Atomic Scientists* Vol. 78, No. 5 (2022), pages 273-294, <https://doi.org/10.1080/00963402.2022.2109341>
- Hans M. Kristensen, Matt Korda, and Eliana Johns “Pakistani Nuclear Weapons, 2023,” *Bulletin of the Atomic Scientists*, Vol. 79, No. 5 (2023), pages 329-345, <https://doi.org/10.1080/00963402.2023.2245260>
- Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, “Russian Nuclear Weapons, 2024,” *Bulletin of the Atomic Scientists*, Vol. 80, No. 2 (2024), pages 118-145, <https://doi.org/10.1080/00963402.2024.2314437>
- Hans M. Kristensen and Matt Korda, “United Kingdom Nuclear Weapons, 2021,” *Bulletin of the Atomic Scientists*, Vol. 77, No. 3 (2021), pages 153-158, <https://doi.org/10.1080/00963402.2021.1912309>
- Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight “United States Nuclear Weapons, 2024” *Bulletin of the Atomic Scientists*, Vol. 80, No. 3 (2024), pages 128-208, <https://doi.org/10.1080/00963402.2024.2339170>

Complete Group Preference Poll by 12:30pm

Homework available on Canvas at 1:45pm

September 5 (Th) No Class.

- Work on homework and/or get head start on group presentations.

September 10 (T) Class 4. Nonproliferation Regime, I

- Treaty on the Non-Proliferation of Nuclear Weapons, United Nations, Office of Disarmament Affairs: Treaties Database, <https://treaties.unoda.org/t/npt>
- Letter from the Under Secretary of State (Katzenbach) to Secretary of Defense Clifford, April 10, 1968, *Foreign Relations of the United States, 1964-1968*, Vol. 11, Doc. 232, <https://history.state.gov/historicaldocuments/frus1964-68v11/d232>

September 12 (Th) Class 5. Nonproliferation Regime, II

- Kelsey Davenport, “Nuclear-Weapon-Free Zones (NWFZ) At a Glance,” *Arms Control Association*, March 2022, <https://www.armscontrol.org/factsheets/nuclear-weapon-free-zones-nwfz-glance>
- Treaty on the Prohibition of Nuclear Weapons, United Nations, Office of Disarmament Affairs: Treaties Database, <https://treaties.unoda.org/t/tpnw>

Homework due via Canvas by 12:30pm.

PART 2: Proliferation

September 17 (T) Class 6. International Strategic and Domestic Politics Explanations

- Debs and Monteiro, *Nuclear Politics*, pages 33-60 (chapter 2)
- Solingen, *Nuclear Logics*, pages 23-54 (chapter 2)

September 19 (Th) Class 7. Proliferation Cases: China, Japan, Soviet Union

- Debs and Monteiro, *Nuclear Politics*, pages 116-130, 196-219, 359-377 (excerpts from chapters 4, 5, & 6)
- Solingen, *Nuclear Logics*, pages 57-81, (chapter 3)

Presentations by Group 1 (Soviet Union, China) and Group 2 (Japan)

September 24 (T) Class 8. Proliferation Cases: France, Israel, West Germany

- Debs and Monteiro, *Nuclear Politics*, 219-238, 394-436 (excerpts from chapters 5 & 6)
- Solingen, *Nuclear Logics*, 187-212 (chapter 9)

Presentations by Group 3 (France, West Germany) and Group 4 (Israel)

September 26 (Th) Class 9. Proliferation Cases: India, Pakistan, Iran

- Debs and Monteiro, *Nuclear Politics*, 151-176, 238-258, 326-354 (excerpts from chapters 4 & 5)
- Solingen, *Nuclear Politics*, pages 164-186 (chapter 8)

Presentations by Group 5 (India, Pakistan) and Group 6 (Iran)

October 1 (T) Class 10. Proliferation Cases: North Korea, South Korea

- Debs and Monteiro, *Nuclear Politics*, 277-297, 377-394 (excerpts from chapters 5 & 6)
- Solingen, *Nuclear Logics*, 82-99, 118-140 (chapters 4 & 6)

Presentations by Group 7 (North Korea) and Group 8 (South Korea)

October 3 (Th) Class 11. Nuclear Terrorism

- John Mueller, “The Risk of Nuclear Terrorism,” in *The Oxford Handbook of Nuclear Security*, eds. Christopher Hobbs, Sarah Tzinieris, and Sukesh K. Aghara (Oxford: Oxford University Press, 2023), pages 1-12,
<https://doi.org/10.1093/oxfordhb/9780192847935.013.5>

October 8 (T) Midterm Exam

- No reading.

Midterm exam in-class. Bring a pen (blue or black ink) or pencil and 1-2 blue books.

PART 3: Strategy

October 10 (Th) Class 12. A Nuclear Revolution?, I

- Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca: Cornell University Press, 1989), pages 1-45 (chapter 1). Reading available on Canvas in Files -> Readings

October 15 (T) Class 13. A Nuclear Revolution?, II

- Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution: Power Politics in the Atomic Age* (Ithaca: Cornell University Press, 2021), pages 10-30, (chapter 1, NOT the introduction chapter) <https://virginiatech.on.worldcat.org/oclc/1237457271>

October 17 (Th) Class 14. US-Soviet Union/Russia, I

- United States Department of Defense, “2022 Nuclear Posture Review,” pages 1-25 (note these are pages 37-61 in the pdf), <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>
- The Ministry of Foreign Affairs of the Russian Federation, “Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence,” June 8, 2020, pages 1-6 (be sure to download the full report, these are pages 5-11 in the pdf) <https://www.cna.org/reports/2020/06/state-policy-of-russia-toward-nuclear-deterrence>
- “Russian Meeting of the Security Council Standing Conference on Nuclear Deterrence.” Reading available on Canvas in Files -> Readings

Note class will end early at approximately 1:15pm [to accommodate the football game.](#)

October 22 (T) Class 15. U.S.-Soviet Union / Russia, II

- Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca: Cornell University Press, 2012), pages 57-74 (chapter 3), <https://virginiatech.on.worldcat.org/oclc/961676879>
- Jeffrey Lewis and Aaron Stein, "Who is Deterring Whom? The Place of Nuclear Weapons in Modern War," *War on the Rocks*, June 16, 2022, <https://warontherocks.com/2022/06/who-is-deterring-whom-the-place-of-nuclear-weapons-in-modern-war/>

October 24 (Th) Class 16. Force Posture

- Narang, *Nuclear Strategy in the Modern Era*, pages 13-55 (chapter 2)

October 29 (T) Class 17. Force Posture Cases: India, Pakistan

- Narang, *Nuclear Strategy in the Modern Era*, pages 55-120 (chapters 3-4)

Presentations by Group 1 (India) and Group 2 (Pakistan)

October 31 (Th) Class 18. Force Posture Cases: China, France

- Narang, *Nuclear Strategy in the Modern Era*, pages 121-178 (chapters 5-6)

Presentations by Group 3 (China) and Group 4 (France)

November 5 (T) No Class. US Elections.

- If you are eligible – Vote!

November 7 (Th) Class 19. Force Posture Cases: Israel, South Africa

- Narang, *Nuclear Strategy in the Modern Era*, pages 179-221 (chapters 7-8)

Presentations by Group 5 (Israel) and Group 6 (South Africa)

Part 4: Taboo

November 12 (T) Class 20. Morality

- Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations*, 3rd ed. (New York: Basic Books, 2007[1977]), pages 223-233 (chapter 17), <https://ebookcentral.proquest.com/lib/vt/reader.action?docID=1022977&ppg=223>

November 14 (Th) Class 21. A Nuclear Taboo?

- Tannenwald, *The Nuclear Taboo*, pages 29-72 (chapter 2)

November 19 (T) Class 22. Taboo Cases: Vietnam and Gulf War

- Tannenwald, *The Nuclear Taboo*, pages 190-240, 294-327 (chapters 6, 8)

Presentation by Group 7 (Vietnam) and Group 8 (Gulf War)

November 21 (Th) Class 23. Taboo Cases: Bombing Japan

- Tannenwald, *The Nuclear Taboo*, pages 73-88 [excerpts from chapter 3]
- Ward Wilson, “The Winning Weapon? Rethinking Nuclear Weapons in Light of Hiroshima,” *International Security*, Vol. 31, No. 4 (Spring 2007), pages 167-179
<https://muse-jhu-edu.ezproxy.lib.vt.edu/article/213651>

Part 5: Simulation

December 3 (T) Class 24a. Simulation [Groups 1 – 4]

- “On the Nuclear Brink: A Taiwan Strait Escalation Management Exercise” Center for Strategic and International Studies, Project on Nuclear Issues. Be sure to read BEFORE coming to class. Reading available on Canvas in Files -> Readings.
- Groups 1 – 4 come to class. Groups 5 – 8 do not come to class.

Simulation memo outline distributed in class and available to groups 1-4 on Canvas at 12:30pm.

December 5 (Th) Class 24b. Simulation [Groups 5 – 8]

- “On the Nuclear Brink: A Taiwan Strait Escalation Management Exercise.” Center for Strategic and International Studies, Project on Nuclear Issues Be sure to read BEFORE coming to class. Reading available on Canvas in Files -> Readings.
- Groups 5 – 8 come to class. Groups 1 – 4 do not come to class.

Simulation memo outline distributed in class and available to groups 5-8 on Canvas at 12:30pm.

Simulation memo for groups 1-4 due via Canvas by 5:00pm

December 10 (T) Class 25. Nuclear Zero Discussion

- Scott D. Sagan and Kenneth N. Waltz, “Is Nuclear Zero the Best Option?” *The National Interest*, No. 109 (September/October 2010), 88-96,
<https://www.jstor.org/stable/42896338>

Simulation memo for groups 5-8 due via Canvas by 12:30pm

December 13 (F). Final Exam: 10:05am – 12:05pm

- *Bring a pen (blue or black ink) or pencil and 2-3 blue books.*