Nuclear Strategy and Politics
PSCI / IS-3194

Department of Political Science
Virginia Tech
Spring 2016

Paul Avey

Course Information
Course Time: T, Th 12:30-1:45
Course Room: MCB 224

Contact Information
Office: 513 Major Williams Hall
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Office Hours: T, Th 2:00 – 3:15 (I am also available by appointment)

Teaching Assistant

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Course Description

This course explores the role that nuclear weapons play in world politics. The course is divided into two major sections. Part One focuses on proliferation of nuclear weapons by examining the basics of nuclear energy, weapons, delivery platforms, and targeting. It also discusses theoretical models and historical cases to explain past nuclear proliferation and nonproliferation. Part Two turns to critical debates on nuclear strategy and the effects of nuclear weapons on strategy. We begin by examining the claim that nuclear weapons created a revolution in international politics. We then assess that claim against evolving nuclear strategy and historical cases. Topics include coercion, foreign policy behavior, nuclear force postures, the role of morality and norms, and command and control challenges.

Grading

There are 200 total points in the class. Grades are based on class attendance, blog posts and comments, one homework assignment, simulation participation, a midterm, and a final exam. Any late assignments will automatically lose 10% of the grade for each day that it is late. There are no extensions for any assignments except in the case of documented health or family emergencies. If you are not able to come to class the day an assignment is due for any other

reason that you knew of in advance, including excused absences for athletics, religious holidays, etc., you must turn that assignment in *prior* to that class period.

Class Attendance (10 points)

I will take attendance each class. Students earn one-half point for each class they attend throughout the semester, up to a total of 10 points. Not counting the Introduction and Midterm classes, there are 26 classes in the semester. You may therefore miss up to 6 classes for student activities, family, health, or any other personal reason without penalty and without needing to get prior approval from me. This is not an opportunity to miss six classes early in the semester and then ask for an excused absence later during that part of the course. I will not grant any additional excused absences beyond the 'free' ones for the course.

Event Attendance (5 points)

There is one guest lecture outside of class currently scheduled on September 26 at 7pm in 2150 Torgersen Hall. I have cancelled class on September 1 to offset this time commitment. You get five points for attending and writing a one-page reaction memo that discusses one point made during the talk that you found particularly important or compelling. The event will be recorded so that if you are unable to make the event live you will be able to watch the event.

Targeting Homework (20 points)

There is one homework assignment to better familiarize yourselves with the implications of nuclear modernization and the challenges of facing a nuclear adversary. Students will work in groups of three and hand in one homework assignment for the group. Each group member will receive the same grade. I will hand out the assignment in Class 5 and it will be due in Class 7.

Midterm Exam (50 points)

The midterm is a closed book and closed note exam that contains fill in the blank questions, short ID questions in which students identify a term and explain its significance, and one essay question. It will cover material in Part 1 of the course.

Simulation (10 points)

There is a nuclear crisis simulation during Classes 26-28. Grades will be based on engagement and participation during the simulation.

Blogs (30 points)

Students are required to contribute two blog posts throughout the semester and comment on others' posts. Each blog post will be worth 10 points for a total of 20 points. Each student will also need to comment on at least two posts in Part 1 and three posts in Part 2 (you are free to comment on as many as you like but will not receive additional credit). Each comment is worth two points for up to 10 total points.

The blog post should present and comment on a current nuclear issue. Blog posts should be short and concise, anywhere from 400-600 words but not more. To stay atop of current nuclear issues

students should set up a Google Alert for "Nuclear Weapons" and have the results delivered to your inbox as well as scan news sites. Choose a story or stories from reputable news or blog sites, briefly present the key issues, and discuss how the issue relates to one (or all) of the following: course material, U.S. national security, or international peace and security. If you are uncertain if a story is from a reputable site or otherwise appropriate please don't hesitate to ask me. You should feel free to agree or disagree with the contents of your classmates' blog posts in your comments. In doing so focus on the argument and evidence, do not engage in personal attacks. Debates are good, incivility is not.

I will assign due dates for each student to post. You are welcome to post during additional weeks but will only receive credit for your assigned deadlines.

Posts and comments should be made to the Discussions tab on the course Canvas page. Each class will have a Class Blog link that will contain posts and responses for that class. For example, class 5 will have a Class 5 Blog link that will contain posts and responses for Class 5.

Blog posts are due by 5pm by the day before the class to which you are assigned. Comments on posts for grades can be made up to the beginning of the class for which the blog post is assigned.

For example, Blog posts for Class 5 are due by 5pm on September 7, the day before class. Students wishing to comment on Class 5 Blog posts must do so by 12:30pm on September 8, the start of Class 5.

The following examples will give you a sense of political science blog posts. You don't need to go into as much depth or provide as many links as in the examples, but they provide a rough template of how to use research to inform an issue in the news or use a news item to launch a policy discussion:

Gene Gerzhoy and Nick Miller, https://www.washingtonpost.com/news/monkey-cage/wp/2016/04/06/should-more-countries-have-nuclear-weapons-donald-trump-thinks-so/

Paul Avey, http://warontherocks.com/2016/04/whats-new-about-trumps-finger-on-the-nuclear-button/

Rebecca Davis-Gibbons, https://www.washingtonpost.com/blogs/monkey-cage/wp/2015/02/14/the-2015-national-security-strategy-and-the-future-of-nuclear-nonproliferation/

Stephen M. Walt, http://foreignpolicy.com/2012/06/26/should-we-give-iran-the-bomb/

Final Exam (75 points)

The final exam is a closed book and closed note exam that contains fill in the blank questions, short ID questions in which students identify a term and explain its significance, and two essay questions. The final exam is cumulative but will be weighted towards material covered in the second half of the course. Approximately two-thirds of the exam will address material in Part 2, with one-third addressing material from Part 1.

Required Reading

All readings are available through the Canvas course webpage. You can access Canvas at https://vt.instructure.com/ or via the Quick Links tab on the Virginia Tech homepage. To access the readings click on the files tab and open the Class Readings folder.

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

Academic Integrity

All students must abide by the Virginia Tech Honor Code.

The Undergraduate Honor Code pledge that each member of the university community agrees to abide by states: "As a Hokie, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do." Students enrolled in this course are responsible for abiding by the Honor Code. A student who has doubts about how the Honor Code applies to any assignment is responsible for obtaining specific guidance from the course instructor before submitting the assignment for evaluation. Ignorance of the rules does not exclude any member of the University community from the requirements and expectations of the Honor Code.

For additional information about the Honor Code, please visit: https://www.honorsystem.vt.edu/ Please note that I take academic integrity very seriously and pursue all avenues if I detect violations.

Computer Policy

I do not allow the use of laptops, tablets, phones, or other electronic devices during class. There is growing evidence that electronic devices hinder learning for yourself and for those around you. First, recent research has shown that students taking longhand notes do better on conceptual questions than those taking notes on laptops. Second, not surprisingly, there is a tendency for anyone to multitask by checking email, watching videos, reading websites, etc. I'm guilty of this myself in meetings. Unfortunately, this sort of multitasking inhibits your learning. Third, and perhaps most importantly, use of a laptop or tablet can distract those around you and inhibit their learning. For discussion on these points see http://www.washingtonpost.com/news/national/wp/2014/08/26/ditch-the-laptop-and-pick-up-a-pen-class-researchers-say-its-better-for-note-taking/ AND http://chronicle.com/blogs/linguafranca/2014/08/25/why-im-asking-you-not-to-use-laptops/.

Students with Disabilities

I am strongly committed to working with students who have any disability recognized under the Americans with Disabilities Act to ensure that they are able to fully participate in class activities. If you feel you require reasonable accommodations please follow the process outlined by the Services for Students with Disabilities office, at: http://www.ssd.vt.edu/.

Course Outline

August 23 (T)	Class 1	Introduction

Part 1: Proliferation Causes

August 25	Class 2	Delivery Systems
August 30	Class 3	Nuclear Energy
September 1	*No Class*	*No Class*
September 6	Class 4	Nuclear Weapons
September 8	Class 5	Targeting
September 13	Class 6	Demand Side, I
September 15	Class 7	Demand Side, II
September 20	Class 8	Supply Side
September 22	Class 9	Nonproliferation, I
September 27	Class 10	Nonproliferation, II
September 29	Class 11	Nuclear Zero
October 4	Class 12	Nuclear Terrorism
October 6	Class 13	Midterm Exam

Part 2: Proliferation Consequences

October 11	Class 14	Theory of the Nuclear Revolution
October 13	Class 15	Coercion
October 18	Class 16	Morality
October 20	Class 17	Bombing Japan
October 25	Class 18	Cold War Strategy
October 27	Class 19	*Dr. Strangelove*
November 1	Class 20	*Dr. Strangelove* and Discussion
November 3	Class 21	Cold War Crises
November 8	Class 22	Command and Control
November 10	Class 23	Foreign Policy Behavior
November 15	Class 24	Regional Force Postures
November 17	Class 25	Nuclear Taboo
November 22	*No Class*	*Thanksgiving Break*
November 25	*No Class*	*Thanksgiving Break*
November 29	Class 26	Simulation
December 1	Class 27	Simulation
December 6	Class 28	Simulation

Final Exam: December 13, 10:05 AM to 12:05PM

Course Reading Schedule

August 23 (T) Class 1. Introduction

- No Reading

PART 1: Proliferation

August 25 (Th) Class 2. Delivery Systems

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

- Hans M. Kristensen and Robert S. Norris, "Chinese Nuclear Forces, 2016," *Bulletin of Atomic Scientists,* (2015), pages 205-211
- Hans M. Kristensen and Robert S. Norris, "Pakistani Nuclear Forces, 2015," *Bulletin of Atomic Scientists* (2015), pages 1-7
- Hans M. Kristensen and Robert S. Norris, "Indian Nuclear Forces, 2015, *Bulletin of Atomic Scientists* (2015), pages 77-82
- Hans M. Kristensen and Robert S. Norris, "Russian Nuclear Forces, 2016," *Bulletin of Atomic Scientists,* (2015), pages 125-134
- Hans M. Kristensen and Robert S. Norris, "United States Nuclear Forces, 2016" *Bulletin of Atomic Scientists,* (2016), pages 63-73
- Hans M. Kristensen and Robert S. Norris, "Israeli Nuclear Weapons, 2014," *Bulletin of Atomic Scientists* (2014), pages 102-111
- Hans M. Kristensen and Robert S. Norris, "Worldwide Deployments of Nuclear Weapons, 2014," *Bulletin of Atomic Scientists,* (2014), pages 1-11

August 30 (T) Class 3. Nuclear Energy
– Guest Lecture by Professor of Physics Patrick Huber

- Charles D. Ferguson, *Nuclear Energy: What Everyone Needs to Know* (Oxford: Oxford University Press, 2011), pages 3-52

September 1 (Th) ***No Class***

September 6 (T) Class 4. Nuclear Weapons

- Richard L. Garwin and Georges Charpak, *Megawatts and Megatons: A Turning Point in the Nuclear Age?* (New York, NY: Alfred A. Knopf, 2001), pages 58-79

September 9 (Th) Class 5. Targeting

- Keir A. Lieber and Daryl G. Press, "The End of MAD? The Nuclear Dimension of U.S. Primacy," *International Security* Vol. 30, No. 4 (Spring 2006), pages 7-31, 41-44
- William J. Broad and David E. Sanger, "As U.S. Modernizes Nuclear Weapons, 'Smaller' Leaves Some Uneasy," *New York Times* January 11, 2016

Homework handed out in class

September 13 (T) Class 6. Demand Side, I

- Nuno P. Monteiro and Alexandre Debs, "The Strategic Logic of Nuclear Proliferation," *International Security* Vol. 39, No. 2 (Fall 2014), pages 7-51.

September 15 (Th) Class 7. Demand Side, II

- Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007), pages, 1-6, 11-14, 17-20, 23-28, 40-47

Homework due at the beginning of class

September 20 (T) Class 8. Supply Side

- Matthew Fuhrmann, "Spreading Temptation: Proliferation and Peaceful Nuclear Cooperation Agreements," *International Security,* Vol. 34, No. 1 (Summer 2009), pages 7-41

September 22 (Th) Class 9. Nonproliferation, I

- Mark P. Hilborne, "The Non-Proliferation Treaty: Foundation of Disarmament Policy." In Harsh V. Plant. Handbook of Nuclear Proliferation (New York: Routledge, 2012), pages 251-260

September 27 (T) Class 10. Nonproliferation, II

- Sarah E. Kreps and Matthew Fuhrmann, "Attacking the Atom: Does Bombing Nuclear Facilities Affect Proliferation?" *Journal of Strategic Studies* (2011), Vol. 34, No. 2, pages 161-187.

September 29 (Th) Class 11. Nuclear Zero

- Thomas C. Schelling, "A World Without Nuclear Weapons?" *Daedalus* Vol. 138, No. 4 (2009), pages 124-129
- Remarks by President Barack Obama in Prague, April 5, 2009
- David Cortright and Raimo Vayrynen, "Towards Nuclear Zero," Adelphi Papers, Vol. 49, No. 410 (2009), pages 13-32

October 4 (T) Class 12. Nuclear Terrorism

- John Mueller, *Atomic Obsession: Nuclear Alarmism from Hiroshima to Al-Qaeda* (Oxford: Oxford University Press, 2010), pages 161-198

October 6 (Th) Class 13. Midterm Exam

- Exam during class period

PART 2: History and Strategy

October 11 (T) Class 14. The Nuclear Revolution

- Robert Jervis, *Theory of the Nuclear Revolution* (Ithaca: Cornell University Press, 1989), pages 1-45

- Optional: Kenneth N. Waltz, "More May Be Better," in *The Spread of Nuclear Weapons: An Enduring Debate* (New York: W.W. Norton 2013), 3-40

October 13 (Th) Class 15. Coercion

- Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), pages 69-125

October 18 (T) Class 16. Morality

- Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations*, 3rd ed. (New York: Basic Books, 2000[1977]), pages 269-283

October 20 (Th) Class 17. Bombing Japan

- Ward Wilson, "The Winning Weapon? Rethinking Nuclear Weapons in Light of Hiroshima," *International Security,* Vol. 31, No. 4 (Spring 2007), pp. 167-179.

October 25 (T) Class 18. Cold War Strategy

- Thomas M. Nichols, *No Use: Nuclear Weapons and U.S. National Security* (Philadelphia: University of Pennsylvania Press, 2014), pages 16-43

October 27 (Th) Class 19. *Dr. Strangelove*

- Watch film in class – no reading

November 1 (T) Class 20. *Dr. Strangelove and Discussion*

- Finish film in class and discussion – no reading

November 3 (Th) Class 21. Cold War Crises

- Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca: Cornell University Press, 2012), pages 57-74

November 8 (T) Class 22. Organizations

- Scott D. Sagan, "More Will Be Worse," *The Spread of Nuclear Weapons,* pages 41-81.

November 10 (Th) Class 23. Foreign Policy

- Mark S. Bell, "Beyond Emboldenment: How Acquiring Nuclear Weapons Can Change Foreign Policy," *International Security*, Vol. 40, No. 1 (2015), pages 87-119

November 15 (T) Class 24. Regional Nuclear Postures

- Vipin Narang, "What Does It Take to Deter?" Regional Nuclear Postures and International Conflict," *Journal of Conflict Resolution* Vol. 57, No. 3 (2012), pages 478-508

November 17 (Th) Class 25. The Nuclear Taboo

- Nina Tannenwald, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," *International Security,* Vol. 29, No. 4 (Spring 2005), pages 5-49
- Paul C. Avey, "Who's Afraid of the Bomb? The Role of Nuclear Non-Use Norms in Confrontations between Nuclear and Non-Nuclear Opponents," *Security Studies,* Vol. 24, No. 4 (Winter 2015), pages 563-596
- Simulation materials handed out in class

November 22 (T) ***No Class. Thanksgiving Break***

November 24 (Th) ***No Class. Thanksgiving Break***

November 29 (T) Class 26. Simulation

- Read simulation materials prior to class

December 1 (Th) Class 27. Simulation

- No reading

December 6 (T) Class 28. Simulation and Discussion

- No reading

Final Exam: December 13, 10:05 AM to 12:05PM