

Frederick S. Pardee School of Global Studies, Boston University
Nuclear Governance
IR315. PO358. HI335
Tuesdays & Thursdays, 12:30-1:45 PM, CAS 233

Professor Jayita Sarkar
she/her/hers

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Columbia Pictures 1964

COURSE DESCRIPTION

What are the causes and consequences of nuclear weapons and their related technologies? How are nuclear technologies, equipment and materials managed at the international, regional and national levels? What is the ‘global atomic marketplace’ and how can it be controlled to contain proliferation threats? What are the tools of nonproliferation and counterproliferation that have been adopted by the United States and its allies? What policy lessons can be derived from those past policies? How has radioactive poisoning from nuclear tests, nuclear facilities and accidents affected lives, and how effective have mitigation and redressal been? These are some of the questions that this course will examine. No background in nuclear issues is required for taking this course.

LEARNING OUTCOMES

By the end of this course, students will achieve the following course learning outcomes:

- Demonstrate a strong basis of knowledge of the politics, history and technologies surrounding nuclear weapons and nuclear energy.
- Demonstrate an understanding of dominant explanations for nuclear proliferation, nonproliferation, nuclear trade and nuclear latency.
- Demonstrate the ability to do historical research and analysis, including the use of primary sources.
- Develop the ability to effectively collaborate within and across teams with a problem-solving approach toward contemporary security problems.

INSTRUCTIONAL FORMAT

This is a lecture course organized around required weekly readings. Students are expected to come prepared with the required readings, and participate in class discussions. The instructor will lecture for half of the duration of each session. The other half is kept for class discussions. Occasionally, the instructor will circulate primary source material (i.e. declassified government document) relevant to the course content, and the students will examine this material during the session, and engage in class discussion. Please note that students are not required to come prepared with items mentioned under 'additional/optional readings'. Additional readings are resources for students to use for writing their policy memo and op-ed assignments, as appropriate, for this course.

BOOKS & COURSEWARE

There are no required textbooks for this course. Readings are available through Blackboard via Leganto. Students are only required to watch movies #3 and #4. The rest are optional.

1. The Day After Trinity, 1980
2. Hiroshima, 2005
3. *Fail-Safe, 1964*
4. *Dr. Strangelove, 1964*
5. The Battle of Chernobyl, 2006
6. Command & Control, 2016
7. Silkwood, 1983

All the movies in the above list are on reserve at Krasker Film/Video Service, located at the basement level of the BU Mugar Memorial Library.

ASSIGNMENTS

1. Policy Memo (25%): Students are required to write a policy memo of no longer than 3000 words (2000-2500 words approximately) in which they will (a) identify a contemporary policy problem relevant to international nuclear politics, (b) identify appropriate government agencies or ministries (of any country with adequate justification), (c) offer a minimum of 3 and a maximum of 5 policy options, (d) identify one best option and provide a data-driven justification for it, and (e) offer contingency plans. The policy memo will be addressed to a top policymaker, and will be written keeping in mind official etiquette and political and socioeconomic realities in mind. This assignment is broken down into two steps in order to help students to obtain feedback on their writing and analysis. These two steps are explained below. Policy memo guidelines will be circulated in class.

a. Draft Memo (10%): Students will submit a draft memo by email during Week 5, which should be at least 60% complete. The policy scenario, main policy options and the data must be clearly identified with at least 1200 words written. Students will receive feedback and guidance from the instructor on the memo at this stage. Students are required to meet me during office hours at this stage to obtain and discuss feedback.

b. Final Memo (15%): Students will submit the final policy memo during Week 9. No resubmission is permitted beyond this point. It should be under 3000 words (2000-2500 approx.).

2. Briefing Simulation (30%): On Week 10, there will be a briefing simulation on a regional nuclear deterrence. The simulation assignment will have two steps: first, preparation (role assignments, forming country delegations and research on the policy problem at hand) for effective participation in the simulation session, and second, a write-up of 700-750 words. The write up is due on Week 11. The total assignment is worth 30% and the two steps are worth 15% each.

3. Op-Ed (15%): Each student will write one op-ed of approximately 1000-1200 words on a contemporary policy question relevant to national and/or international nuclear politics. Writing op-eds is an important way to influence public opinion in contemporary world. It is an important skill that combines complex knowledge with the ability to lucidly draw in an informed but non-expert audience, and make an evidence-based compelling argument. Op-ed guidelines will be circulated in class.

4. Class Participation (30%): Regular attendance in class is mandatory but merely showing up to class will not suffice. In order to do well, do your readings prior to class, ask clarifying questions in and outside of class, and contribute to in-class discussions of the course content during class. Throughout the semester, a 5/6-person team will make team presentations on a chosen academic assigned reading (required or optional) for 10 minutes, which will be followed by a 5-minute Q&A to the team by the entire class. Team presentation (10%), participation in Q&A (10%), and regular attendance and in-class discussions (10%) will account for the 30%. For more information see ‘Teamwork’ below.

HOW TO SUCCEED IN THIS COURSE?

1. Professor’s Office Hours

Research has shown that there is a positive correlation between office-hour visits by students and obtaining higher grades:

<https://www.tandfonline.com/doi/abs/10.1080/15512169.2013.835554?src=recsys&journalCode=upse20>

Office hours are for you to seek clarifications about course materials and assignments, brainstorm about career options, and develop mentorship connections, to name a few. I hold office hours for five hours every week from 2 to 4:30 PM on Tuesdays and Thursdays in my office. Make use of those office hours to ask about the ‘muddiest point’ in the lecture, connect history with policy, understand current nuclear issues, and any other burning question that you might have. What if you have class or you work during those times? Send me an email, and we will find a time and date to meet in my office outside of my office hours schedule. I have held office hours meetings via Skype in exceptional cases of student’s illness. So, reach out! To confirm our meeting, you just need to sign up here: <https://jsarkar.youcanbook.me>

2. Teamwork

The class participation grade is based on regular teamwork and individual regular attendance. Teams will be formed of 5-6 students each for the team presentations, Q&A after presentation, and in-class discussion on the topic of the day. Students will be divided into 9 teams (of 5-6 students each) by the end of Week 2. A team handout will be circulated after Week 2. Each day, students will seat themselves with their corresponding teams. Teams should be visually distinct from each other (i.e. space

yourself accordingly). Each team is encouraged to pick a name with a ‘nuclear’ theme. Otherwise (boring) letters will be assigned.

3. Weekly “Mudcards”

At the end of the class each Thursday, each team will submit up to three ‘mudcards’ stating what the muddiest point was in the week’s discussion. This could be anything that was discussed during the class but for some reason was not clear. The content of the mudcards will be discussed on the Tuesday of the following week. This exercise will allow me to understand points of confusion and clarify these accordingly.

4. Writing Assistance

In order to do well in written assignments at BU, you might want to seek support of a writing tutor or coach on campus. This is especially if you are a non-native speaker of English. If you are a native speaker of English, your writing could exponentially improve through appropriate writing assistance. So, please make use of the existing resources on campus. The Education Resource Center (ERC) is located on 100 Bay State Road, and has a number of free resources: <https://www.bu.edu/erc/writingassistance/>

5. Citations

For all written assignments, use Chicago Manual of Style — Notes & Bibliography **not** Author-Date. http://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-1.html

6. Similarity Reports on ‘Turnitin’

For all written assignments, I will generate similarity reports to check for plagiarism. If plagiarism is found for any assignment, the grade for all three assignments (op-ed, policy memo, simulation write-up) will be a zero (i.e. 0 out of 70 of the final grade).

GRADING CRITERIA & SCALE

Explanation of grades and GPA at Boston University can be found by following this link: <https://www.bu.edu/reg/academics/grades-gpa/>

A	93 – 100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76

CLASS POLICIES

1) Course members’ responsibilities

- This is a screen-down class. So, laptops, cellphones and tablets are not permitted in class except on the week of simulation, and when doing team presentations.
- Students who need laptops for accommodation/accessibility purposes for note taking must contact the instructor with official notification from appropriate authority (see ‘Accessibility’).

- Students are expected to be punctual in class. Late arrivals will affect individual class participation grade.
- The instructor will respond to emails within 24 hours of receiving them, except on weekends. If the student is dissatisfied with their grade, please wait 48 hours from receiving the grade, and then meet the instructor.

2) Attendance & Absences

Students' attendance in this class is mandatory. If a student cannot attend a session, they must email the instructor in advance in order to excuse themselves. Any more than two absences during the semester will result in a deduction in the participation grade by one letter grade. Students who must be absent from class for religious observance must notify the instructor as early as possible.

3) Assignment Completion & Making Up

All assignments must be submitted on Blackboard as a 'Turnitin' assignment by 5pm (Eastern Standard Time) on the day it is due. Late work without adequate justification will be penalized by one letter grade for that assignment. Students who will miss examinations for unforeseen factors or factors beyond their control must contact me with adequate justification as early as possible so that makeup assignments can be scheduled.

CAREERS IN THE NUCLEAR FIELD

I will be frequently posting advertisements for internships and jobs on Blackboard. If you are interested in a particular job in a government agency, think tank, nonprofit, or university, feel free to reach out to me. I enjoy mentoring future nuclear wonks! Keep an eye out for opportunities at the Carnegie Endowment's Nuclear Policy Program, Stimson Center's South Asia Program, Harvard's Project on Managing the Atom, Wilson Center's Nuclear Proliferation International History Project, CSIS PONI, IGCC at UC San Diego, US Department of Energy, UN Office on Disarmament Affairs, and the national weapons laboratories, like Los Alamos, Livermore and Sandia, among others.

STATEMENT ON ACADEMIC INTEGRITY

Plagiarism is a serious offence and will not be tolerated. The members of this class will follow the "Academic Code of Conduct" of Boston University, accessible here:

<https://www.bu.edu/academics/policies/academic-conduct-code/>

STATEMENT ON ACCESSIBILITY

BU is committed to providing equal access to our coursework and programs to all students. In order to be sure that accommodations can be made in time for all exams and assignments, please plan to turn in your accommodations letter as soon as possible and no later than 14 days from the first exam/assignment. After you turn in your letter, please meet with the instructor to discuss the plan for accommodations so we can be sure that they are adequate and you are supported in your learning. If you have further questions or need additional support, please contact the Office of Disability Services (access@bu.edu).

CAMPUS RESOURCES FOR STUDENTS IN DISTRESS

Please make use of BU resources to support yourself, friends and classmates when in distress: *http://www.bu.edu/helpinfo/pdf/10102_SHS.pdf*

DETAILS OF CLASS MEETINGS

PART I: Politics, History & Technologies

Week 1-3

WEEK 1

Sep. 4: Managing Weapons of Mass Destruction

Introductory lecture. Slides will be posted on Blackboard after lecture.

Sep. 6: Nuclear Fission in History

- Introductory lecture continued.
- Pre-World War II to the Manhattan Project
 - Podcast: Direct Current, US Department of Energy
 - S2E2, The Manhattan Project, Part I (entire episode)
<https://www.energy.gov/podcasts/direct-current-energygov-podcast/s2-e2-manhattan-project-part-1>
 - Optional documentary: The Day After Trinity (1980)

WEEK 2

Sep. 11: Atomic Bombings

- Atomic Bombings of Japan
 - Podcast: Direct Current, US Department of Energy
 - S2E3, The Manhattan Project, Part II (until 19:33)
<https://www.energy.gov/podcasts/direct-current-energygov-podcast/s2-e3-manhattan-project-part-2>
 - Wellerstein, Alex. "Nagasaki: The Last Bomb," *New Yorker*, 7 August 2015
 - Optional documentary: Hiroshima (2005)

Optional

- Sagan, Scott D. and Benjamin A. Valentino. "Revisiting Hiroshima in Iran: What Americans Really Think About Using Nuclear Weapons and Killing Noncombatants." *International Security* 42, no. 1 (Summer 2017): 41-79.

"How do Nuclear Weapons Work?"

- Fissile Materials & Significant Quantity
 - Key Nuclear Explosive Materials by Institute for Science & International Security: *http://www.isis-online.org/publications/fmct/primer/Section_I.html*
- Nuclear 101: How do Nuclear Weapons Work? Parts 1 & 2 by Matthew Bunn
 - *<https://www.youtube.com/watch?v=zVhQOhxb1Mc>*
 - *<https://www.youtube.com/watch?v=MnW7DxsJtb0>*
- Atmospheric & Underground Testing
- Miniaturization & Delivery Vehicles

Sep. 13: The Impact of Nuclear Weapons on Foreign Policies

- Dissuasion, Deterrence and Compellence
 - Bell, Mark "Beyond Emboldenment: How Acquiring Nuclear Weapons Can Change Foreign Policy." *International Security* 40, no. 1 (Summer 2015): 87-119.
- U.S. Nuclear Posture Reviews
 - Executive summaries of NPR 2010 & 2018
- Arms Race
 - Dr. Seuss, "The Butter Battle Book" (Random House, NY, 1984)

**Presentation teams formed*

**Sign-up sheets for team presentations circulated in class*

**Patrick Rael's 'Predatory Reading' discussed*

WEEK 3**Sep. 18: Demand & Supply Sides of Proliferation**

- Horizontal vs. Vertical Proliferation
- Proliferation Optimism vs. Proliferation Pessimism
- Sagan-Waltz Debate
- Supply Side Logics & Outcomes
- Sagan's Three Models & Solingen's Nuclear Logics
 - Sagan, Scott D. "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb." *International Security* 21, no. 3 (1996-1997): 54 – 86.
 - Solingen, Etel. "The Political Economy of Restraint," *International Security* 19, no. 2 (Fall 1994): 126-169.

Sep. 20: The N+1 problem of Nonproliferation

- Global Atomic Marketplace
 - President Eisenhower's Speech at UN General Assembly, 8 Dec. 1953
- Nuclear Reversal & Denuclearization
 - Levite, Ariel. "Never Say Never Again: Nuclear Reversal Revisited." *International Security* 27, no. 3 (2002/03): 59-88.

Optional:

Miller, Nicholas L. "Why Nuclear Energy Programs Rarely Lead to Proliferation." *International Security* 42, no. 2 (Fall 2017): 40-77.

**Policy Memo instructions given*

PART II: Managing Risks

Week 4-6

WEEK 4**Sep. 25: Proliferation Cascades**

- Proliferation Cascades & Intelligence Assessments
 - National Intelligence Estimate No. 4-2-64, October 1964
 - CIA Research Memo, "Managing Nuclear Proliferation: The Politics of Limited Choice," 1975
- Nuclear Domino Theory
 - Miller, Nicholas L. "Nuclear Dominoes: A Self-Defeating Prophecy?". *Security Studies* 23, no. 1 (2014): 33-73.

Sep. 27: Nonproliferation & Counterproliferation

- Multilateral Institutions & Treaties
- Carrots: Umbrellas, Guns, Money
- Sticks: Sanctions, Threats, Preemptive Strikes, Aid Withholding, Sabotage
 - Gavin, Francis J. "Strategies of Inhibition: U.S. Grand Strategy, the Nuclear Revolution, and Nonproliferation." *International Security* 40, no. 1 (Summer 2015): 9- 46.
- Technological Diversion
 - Krige, John and Jayita Sarkar. "American Technological Collaboration for Nonproliferation: Key Evidence from the Cold War," *Nonproliferation Review*, 25, no. 3-4 (2018).

WEEK 5**Oct. 2: International Institutions: IAEA**

- Roehrlich, Elisabeth. "The Cold War, the Developing World, and the Creation of the International Atomic Energy Agency (IAEA), 1953–1957." *Cold War History* 16, no. 2 (2016): 195-212.

Optional:

- Holloway, David. "The Soviet Union and the creation of the International Atomic Energy Agency," *Cold War History* 16, no. 2 (2016): 177-193

Oct. 4: International Treaty Mechanism: NPT

- Hunt, Jonathan. "The Birth of an International Community: Negotiating the Treaty on the Non-Proliferation of Nuclear Weapons," In R. Hutchings, & J. Suri (Eds.), *Foreign Policy Breakthroughs: Case Studies in Successful Diplomacy*, Oxford, GB: Oxford University Press, 2015.
- Text of the Treaty on Nuclear Nonproliferation, 1968. Available online at <http://www.un.org/en/conf/npt/2005/npttreaty.html>
- NPT Extension, 1995: https://unoda-web.s3-accelerate.amazonaws.com/wp-content/uploads/assets/WMD/Nuclear/1995-NPT/pdf/NPT_CONF199503.pdf
- Treaty on the Prohibition of Nuclear Weapons, 2017 (overview only) <https://www.un.org/disarmament/wmd/nuclear/tpnw/>

**Draft Policy Memo due by 5 pm by email*

WEEK 6

No class on Oct. 9. Monday's Schedule

Oct. 11: International Trade/Export Controls: NSG

- Burr, William. "A Scheme of 'Control': The United States and the Origins of the Nuclear Suppliers' Group, 1974–1976." *The International History Review* 36, no. 2 (2014): 252-76.
- Salisbury, Daniel. "Why do entities get involved in proliferation? Exploring the criminology of illicit WMD-related trade," *The Nonproliferation Review* (2018).
- NSG & Trigger List (with reference to France-Pakistan, 1970s): <http://digitalarchive.wilsoncenter.org/document/112846>

PART III: Crises & Proliferation

Weeks 7-11

WEEK 7**Oct. 16: Nuclear Crises: 1962 Cuban Missile Crisis & 1983 Able Archer**

- Hershberg, James G. "The Cuban Missile Crisis" in Leffler, M.P. and O.A. Westad (eds.) *The Cambridge History of the Cold War Vol 2*. (New York: Cambridge University Press, 2010).
- Jones, Nate and J. Peter Scoblic. "The Week the World Almost Ended," *Slate*, Apr. 2017: <https://slate.com/news-and-politics/2017/06/able-archer-almost-started-a-nuclear-war-with-russia-in-1983.html>

Oct. 18: Group-led in-class discussion on lessons from the Cuban Missile Crisis

- Required movie: Dr. Strangelove, 1964
- Required movie: Fail-Safe, 1964
- Cohen, Eliot A. (Winter 1985/6). "Why We Should Stop Studying the Cuban Missile Crisis." *The National Interest* (2): 3-13.

Note: *You are expected to come prepared to class after watching both movies. No team presentations on this day.*

Op-Ed instructions given

WEEK 8**Oct. 23: Denuclearization: Iraq, Libya and North Korea (?)**

- Braut-Hegghammer, Målfrid. *Unclear Physics: Why Iraq and Libya Failed to Build Nuclear Weapons*. Cornell Studies in Security Affairs. Ithaca: Cornell University Press, 2016.
 - Introduction
 - Wilson Center webcast of author's book talk:
<https://www.wilsoncenter.org/event/unclear-physics-why-iraq-and-libya-failed-to-build-nuclear-weapons>
 - Hecker, Siegfried S., "What I Found in North Korea", *Foreign Affairs*, December 9, 2010.
 - Lewis, Jeffrey. "Imagining Nuclear War with North Korea," *The Economist*, Aug. 9, 2018.
- *Visit by BU Today*

Oct. 25: END & Decoupling Fears in Asia: Japan and South Korea

Special session with Dr. Se Young Jang, Stanton Nuclear Security Fellow at MIT and former South Korean diplomat.

Bio here: <http://carnegieendowment.org/experts/1416>

- Roehrig, Terence. *Japan, South Korea, and the United States Nuclear Umbrella*. Columbia University Press, 2017.
 - Chapter 4
 - Chapter 5

WEEK 9**Oct. 30: Proliferation Cascade in Asia: China, India, Pakistan**

- Sarkar, Jayita. "The Making of a Nonaligned Nuclear Power: India's Proliferation Drift, 1964-1968." *The International History Review* 37, no. 5 (2015): 933-50.
- Sumit Ganguly. 1999. "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program." *International Security* Vol. 23 No. 4, 148-177.

Optional:

Ganguly, Sumit, "Nuclear stability in South Asia," *International Security* 33, no. 2 (Fall 2008): 45-70.

Nov. 1: The A.Q. Khan Network

- Khan, Feroz Hassan. *Eating Grass: The Making of the Pakistani Bomb*. Stanford, CA: Stanford University Press, 2013.
 - Chapter 7: Mastery of Uranium Enrichment
 - Chapter 8: Procurement Network in the Grey Market

Optional:

Craig, Malcolm M. "Nuclear Sword of the Moslem World?: The United States, Britain, Pakistan, and the 'Islamic Bomb', 1977-80." *The International History Review* 38, no. 5 (2016): 857-79.

** Final Policy Memo due by 5 pm on Blackboard as Turnitin Assignment*

WEEK 10**Nov. 6: Deterrence Stability in South Asia: India-Pakistan-China**

- Nuclear South Asia, online Stimson Center course videos will be used. Handouts will be circulated

Nov. 8: *Simulation Day – in-class event

- *Deterrence Stability in Action: Crisis Scenario Briefing Simulation*
- More documents will be circulated earlier in the week.

WEEK 11**Nov. 13: Nuclear Latency of Iran**

- Jervis, Robert. "On the Road to Yes with Iran: How to Read the Nuclear Deal." *Foreign Affairs*, 29 November 2013.
- Belfer Center's "The Iran Deal: A Definitive Guide," p. 1-16:
<http://belfercenter.ksg.harvard.edu/files/IranDealDefinitiveGuide.pdf?webSyncID=e36797e7-3cdb-2173-817c-40ea389c2238&sessionGUID=29ce3007-d04b-2e7d-5030-ba01ecdcd259>

Optional:

- Hamblin, J. D. (2014). "The Nuclearization of Iran in the Seventies." *Diplomatic History* 38(5): 1114-1135.

Nov. 15: FBI & Counterproliferation

Special session with Prof. Aaron Arnold, Assistant Professor at Curry College and former counterproliferation consultant with the US Departments of Defense, Justice and Homeland Security
Bio here: <https://www.curry.edu/directory-bios/arnold-aaron.html>

- Arnold, Aaron. "Solving the Jurisdictional Conundrum: How US Enforcement Agencies Target Overseas Illicit Procurement Networks using Civil Courts." *Nonproliferation Review* 24, no. 3 (Fall 2018).
- Arnold, A. (2017). A Resilience Framework for Understanding Illicit Nuclear Procurement Networks. *Strategic Trade Review*, 3(4), 3–23.

Optional:

- Thompson, D. (2016). In *China's Shadow: Exposing North Korean Overseas Networks*. C4ADS.

**Simulation Write-Up due by 5pm on Blackboard as Turnitin Assignment*

PART IV: Consequences & Oppositions

Weeks 12- 14

WEEK 12**Nov. 20: America's Missile Heartland**

- Heefner, Gretchen. *The Missile Next Door: The Minuteman in the American Heartland*. Cambridge, MA: Harvard University Press, 2012.
 - Introduction
 - Chapter 5: Nuclear Heartland

Optional movie: Command & Control (2016)

No class on Nov. 22 for Thanksgiving recess.

WEEK 13**Nov. 27: Radioactive Poisoning in the United States**

- Brown, Kate. *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*. Oxford, UK: Oxford University Press, 2013.
 - Chapter 7: Hazards
 - Chapter 8: The Food Chain

Optional movie: Silkwood (1983)

Nov. 29: Radioactive Poisoning in the Former Soviet Union and South Africa

- Stawkowski, Magdalena. "I am a radioactive mutant: Emerging biological subjectivities at Kazakhstan's Semipalatinsk Nuclear Test Site," *American Ethnologist* 43(1):144-157.
- Hecht, Gabrielle. "The Work of Invisibility: Radiation Hazards and Occupational Health in South African Uranium Production," *International Labor and Working Class History* 81 (Spring 2012): 94-113.

WEEK 14

Dec. 4: Nuclear Accidents: Chernobyl & Fukushima

- Brown, Kate. "Life in a Real Nuclear Wasteland," *Slate*, Apr. 18, 2013:
http://www.slate.com/articles/health_and_science/medical_examiner/2013/04/nuclear_contamination_in_former_ussr_radioactivity_in_muslomovo_on_techa.html
- Beser, Ari. "After Alarmingly High Radiation Levels Detected, What Are the Facts in Fukushima?," *National Geographic*, Feb. 22, 2017:
<https://blog.nationalgeographic.org/2017/02/22/after-alarmingly-high-radiation-levels-detected-what-are-the-facts-in-fukushima/>
- Health effects of the Chernobyl accident: an overview, World Health Organization, 2006:
http://www.who.int/ionizing_radiation/chernobyl/background/en/

Optional movie: The Battle of Chernobyl, 2006

Dec. 6: Nuclear Disarmament

- Schelling, Thomas C. "The Role of Deterrence in Total Disarmament." *Foreign Affairs* 40, no. 3 (1962): 392-406.
- Four WSJ op-eds by the 'Four Horsemen' between 2007 and 2011:
https://www.nti.org/media/pdfs/NSP_op-eds_final_.pdf?_=1360883065

Optional

Wittner, Lawrence S. "The Forgotten Years of the World Nuclear Disarmament Movement, 1975-78." *Journal of Peace Research* 40, no. 4 (2003): 435-56.

**Op-Eds due by 5pm on the last day of class*

Nuclear Governance (Fall 2018), IR315/ PO358/ HI335, Syllabus Outline

PART I: Introduction to Politics, History & Technologies

Weeks 1-3

1. Managing Weapons of Mass Destruction
2. Nuclear Fission in History

3. The Impact of Nuclear Weapons on Foreign Policies
4. How do Nuclear Weapons Work?

5. Demand & Supply Sides of Proliferation
6. The N+1 Problem of Nonproliferation

PART II: Managing Risks

Weeks 4-6

7. Proliferation Cascades
8. Nonproliferation & Counterproliferation

9. International Institutions: IAEA
10. International Treaty Mechanisms: NPT

**Draft Policy Memo due by 5 pm by email*

11. *No class. Monday's schedule*
12. International Trade/Export Controls: NSG

PART III: Crises & Proliferation

Weeks 7-11

13. Nuclear Crises: 1962 Cuban Missile Crisis & 1983 Able Archer
14. Lessons from the Cuban Missile Crisis

15. Denuclearization: Iraq, Libya and North Korea (?)
16. END & Decoupling Fears in Asia: South Korea and Japan

17. Proliferation Cascade in Asia: China, India, Pakistan
18. The A.Q. Khan Network

** Final Policy Memo due by 5 pm by email*

19. Deterrence Stability in South Asia: India-Pakistan-China
20. **Deterrence Stability in Action: Crisis Scenario Simulation*

21. Nuclear Latency of Iran
22. FBI & Counterproliferation

**Simulation Write-Up due by 5pm by email*

PART IV: Consequences & Oppositions

Weeks 12- 14

23. America's Missile Heartland
24. *No class. Thanksgiving recess.*

25. Radioactive Poisoning in the United States
26. Radioactive Poisoning in the former Soviet Union & South Africa

27. Nuclear Accidents: Chernobyl & Fukushima
28. Nuclear Disarmament

**Op-Eds due by 5pm on the last day of class*