

POLI 369C: Issues in International Security Risks of the Nuclear Age

Course Syllabus

Instructor: M. V. Ramana

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Class Time: Tuesday & Thursday, 5-6.30 PM

Class Room: SWNG-121

Course Overview

In January 2018, the Science and Security Board of the *Bulletin of the Atomic Scientists* moved the famous Doomsday Clock to “two minutes to midnight”, as close as it was in 1953, at the height of the Cold War. The accompanying statement offering reasons for this assessment stated that the “greatest risks last year arose in the nuclear realm”. The danger is growing; as former U.S. Secretary of Defense William Perry has opined, the risk of nuclear catastrophe is greater today than during the cold war.

The consequences of nuclear war and the use of nuclear weapons are, of course, disastrous, but they are not the only risks associated with the nuclear age. This proposed course will offer a systematic exploration of the different kinds of risk that are intrinsic to the nuclear age from many different perspectives.

After an introduction to the subject, students will examine the first, and only, use of atomic weapons in war: Hiroshima and Nagasaki. The course will focus on the harrowing dangers of nuclear bomb use, including the multiple physical mechanisms that are responsible for the massive losses of human life and the long-term health impacts of radiation exposure. Students will then study the potential consequences of large scale nuclear war.

The risk of the proliferation of nuclear weapons technology remains one of the most important challenges to international stability. This course will look at why countries acquire nuclear weapons, the risks of nuclear war as a result of such acquisition, and one case study about the pathways to such acquisition and the risks from some measures that have been adopted to counter this process.

Although nuclear weapons have not been used in war since 1945, there is still an enduring risk of nuclear weapon, either during periods of heightened international tension, as in the case of the Cuban Missile Crisis, or the possibility of accidental launch of nuclear weapons. Nuclear weapons have also been “used” political leaders, not by exploding them, but by threatening to

use nuclear weapons. The threat to use nuclear weapons lies at the core of another area of concern, namely nuclear terrorism.

The nuclear age also poses a risk to the natural world. Study will explore some of the environmental impacts of producing and testing nuclear weapons and the environmental consequences of nuclear war. Nuclear weapons are also closely related to the technology to produce nuclear energy and the class will look at both the linkages between the two as well as the debate over whether and how nuclear energy could help with mitigating climate change. Nuclear energy also comes with two risks: that of catastrophic accidents and the production of radioactive wastes that remain hazardous to human health for millenia.

Nuclear weapons also pose risk that is not often recognized: the threat to democracy. Students will examine some of the ways in which the acquisition of nuclear weapons affects people's control over their governments. The class will conclude by examining efforts to counter these risks. All of these topics should help inform student engagement in the current nuclear debate.

Requirements

Students are required to carefully go through the readings assigned for each class and be prepared to discuss it in class. There will also be a number of quizzes in class based on the readings as well as the lectures. Students are required to participate in a few online discussions on prompts provided. After responding to the prompt, students can read and respond to postings by other students. During the first half of the term, students will have to watch a film (feature or documentary) from the list below and write an analytical review. The review is due February 17 at 9 PM (or earlier).

Students will also be divided into groups to work on a group presentation on a topic to be chosen from the list below (or other topics, after discussing with instructor about its suitability). These presentations will be during the second half of the term (dates chosen randomly, and to be assigned later in the course) and receive a group grade. In addition, each student will submit one paragraph on her or his contribution to the group presentation. The last requirement is an op-ed (1000 words + references) that will build on the topic of the group presentation. The op-ed will be due on April 20 at 11.59 PM (or earlier).

Paper Format

Any submissions must be word-processed and follow these rules.

- Save the file with a name that includes your first name, last name (or preferred name) and student ID and the specific assignment
- Use Times New Roman 12 or its close equivalent.
- Set your margins at 1”.
- Proofread your writing for typographical, grammatical, and punctuation errors. If you consistently make these kinds of errors, your grade will drop.
- Use a standard citation format and maintain it consistently.

Grading

Quizzes and Discussions: 40 percent

Film review: 15 percent

Group presentation: 15 percent

Individual paragraph: 5 percent

Final op-ed (1000 words + references): 25 percent

Late assignments (individual paragraph, film review, final op-ed) will be penalized. An assignment that is late by 1-7 days will have a grade that is 10 percent lower than it would have received if it had been submitted on time. Likewise, if it is 8-14 days late, the grade will be lowered by 20 percent. Anything later than 14 days will not be graded. Students with extenuating circumstances should notify the instructor as soon as possible.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct

regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University's policies and procedures, may be found in the Academic Calendar at <http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0>.

Access & Diversity

Access & Diversity works with the university to create an inclusive living and learning environment in which all students can thrive. The university accommodates students with disabilities who have registered with the Access & Diversity unit:

[<http://www.students.ubc.ca/access/drc.cfm>]. Students must register with the Disability Resource Centre to be granted special accommodations for any on-going conditions.

Religious Accommodation

The university accommodates students whose religious obligations conflict with attendance, submitting assignments, or completing scheduled tests and examinations. Students should let their instructor know in advance, preferably in the first week of class, if they will require any accommodation on these grounds. Students who plan to be absent for varsity athletics, family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss their commitments with the instructor before the course drop date. UBC policy on Religious Holidays: <http://www.universitycounsel.ubc.ca/policies/policy65.pdf>

UBC Statement on Respectful Environment for Students, Faculty and Staff

The University of British Columbia envisions a climate in which students, faculty and staff are provided with the best possible conditions for learning, researching and working, including an environment that is dedicated to excellence, equity and mutual respect. The University of British Columbia strives to realize this vision by establishing employment and educational practices that respect the dignity of individuals and make it possible for everyone to live, work, and study in a positive and supportive environment, free from harmful behaviours such as bullying and harassment.

Schedule of Topics and Readings

Many of the readings are available online (some through the UBC library website). Please download them. PDFs of many of these will also be available through the Library Online Course Reserves through Canvas.

Topic 1) Introduction

7 January:

- Nichols, Thomas M. *No Use: Nuclear Weapons and U.S. National Security*. University of Pennsylvania Press, 2013 (Chapter 1: Why Nuclear Weapons Still Matter), pp 1-12. <https://muse.jhu.edu/chapter/1052990/pdf> 12 pages
- Harris, John F., and Bryan Bender. 2017. "Bill Perry Is Terrified. Why Aren't You?" *Politico*, January 6, 2017. <https://politi.co/2P0JNbc>. 5 pages
- Sanger, David E, and William J Broad. 2018. "Saudis Want a U.S. Nuclear Deal. Can They Be Trusted Not to Build a Bomb?" *New York Times*, November 24, 2018. <https://www.nytimes.com/2018/11/22/world/middleeast/saudi-arabia-nuclear.html> 2 pages
- Schwartz, Stephen I, ed. *Atomic Audit - The Costs and Consequences of U.S. Nuclear Weapons Since 1940*. Washington, D.C.: Brookings Institution Press, 1998, pp. 1-21.

Topic 2) Risks from Use of Nuclear Weapons

9 January:

- Hersey, John. 1946. "Hiroshima." *New Yorker*, August 31, 1946. <https://www.newyorker.com/magazine/1946/08/31/hiroshima>.

14 January:

- Hiroshima-shi Nagasaki-shi Genbaku Saigaishi Henshau Inkaï. *Hiroshima and Nagasaki, the Physical, Medical, and Social Effects of the Atomic Bombings*. New York: Basic Books, 1981, pp. 21-29, 55-66.
- Eden, Lynn. 2006. *Whole World on Fire: Organizations, Knowledge, and Nuclear Weapons Devastation*. Cornell University Press, pp. 15-26.
- Ramana, M. V. 1998. "Effects of a Nuclear Blast Over Bombay." *Medicine & Global Survival* 5 (2): 74-77. <http://www.ippnw.org/medicine-and-global-survival.html>

16 January:

- Malloy, Sean L. "'A Very Pleasant Way to Die': Radiation Effects and the Decision to Use the Atomic Bomb against Japan*." *Diplomatic History* 36, no. 3 (2012): 515-45. <https://doi.org/10.1111/j.1467-7709.2012.01042.x>.

21 January:

- Lifton, Robert Jay. 1982. "Psychological Effects of the Atomic Bombings." In *Last Aid: The Medical Dimensions of Nuclear War*, edited by Eric Chivian, Susanna Chivian, Robert Jay Lifton, and John E. Mack, 48–68. San Francisco: W.H. Freeman.
- Boyer, Paul. 1994. *By the Bomb's Early Light: American Thought and Culture At the Dawn of the Atomic Age*. Chapel Hill: Univ of North Carolina Press, pages 275-287.

23 January:

- Levi, Barbara G, Frank N Von Hippel, Theodore A. Postol, and Willam H. Daugherty. 1988. "Civilian Casualties from Counterforce Attacks." *Scientific American* 259 (3): 36–42. <https://doi.org/10.1038/scientificamerican0988-36>.
- Robock, Alan. "Nuclear Winter." *Wiley Interdisciplinary Reviews: Climate Change* 1, no. 3 (May 1, 2010): 418–27. <https://doi.org/10.1002/wcc.45>.

Topic 3) *Risk of Proliferation of Nuclear Weapons*

28 January:

- Sagan, Scott D. 1996. "Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb." *International Security* 21 (3): 54–86. <https://www.jstor.org/stable/2539273>

30 January:

- Vaez, Ali, and Karim Sadjadpour. 2013. "Iran's Nuclear Odyssey: Costs and Risks." Washington, D.C.: Carnegie Endowment for International Peace, pp. 4-12. <https://carnegieendowment.org/2013/04/02/iran-s-nuclear-odyssey-costs-and-risks-pub-51346>
- Gross, Michael Joseph. 2011. "A Declaration of Cyber-War." *Vanity Fair*, March 2011. <https://www.vanityfair.com/news/2011/03/stuxnet-201104>.
- Waltz, Kenneth N. 2012. "Why Iran Should Get the Bomb: Nuclear Balancing Would Mean Stability". *Foreign Affairs* 91 (4): 2-5. <https://www.jstor.org/stable/23218033>

4 February:

- MccGwire, Michael. 1985. "Deterrence: The Problem-Not the Solution." *International Affairs* 62 (1): 55–70. <https://doi.org/10.2307/2618067>.
- Wilson, Ward. 2015. "How Nuclear Realists Falsely Frame the Nuclear Weapons Debate." *Bulletin of the Atomic Scientists*, May 7, 2015. <https://thebulletin.org/2015/05/how-nuclear-realists-falsely-frame-the-nuclear-weapons-debate/>

Topic 4) *Risks of Accidental Nuclear Weapons Use*

6 February:

- “Nuclear Close Calls: The Cuban Missile Crisis.” Washington, D.C.: Atomic Heritage Foundation, June 15, 2018. <https://www.atomicheritage.org/history/nuclear-close-calls-cuban-missile-crisis>
- Reif, Kingston. “13 days—and what was learned.” *Bulletin of the Atomic Scientists*, June 22, 2012. <https://thebulletin.org/2012/06/13-days-and-what-was-learned/>
- Coll, Steve. 2006. “The Stand-Off.” *The New Yorker*, February 13, 2006: 126-139.

Deadline for submission of suggestions for group presentation topics (with names of 5 students per suggestion)

11 February:

- Lewis, Patricia, Heather Williams, Benoît Pelopidas, and Sasan Aghlani. “Too Close for Comfort: Cases of Near Nuclear Use and Options for Policy.” London: Chatham House, 2014, pages 7-24. <https://www.chathamhouse.org/node/13981>.
- Hamilton, Keegan. 2017. “The Plan to Make America’s Nukes Great Again Could Go Horribly Wrong.” *Vice News* (blog). April 20, 2017. https://news.vice.com/en_us/article/a3j9mg/the-plan-to-make-americas-nukes-great-again-could-go-horribly-wrong.
- Kazel, Robert. 2015. "An Interview With Gen. Lee Butler, Ex-Chief Of US Nuclear Forces". *Nuclear Age Peace Foundation*. <https://www.wagingpeace.org/general-lee-butler/>.

Guest lecture by Lauren Borja

13 February:

- Wellerstein, Alex. “No One Can Stop President Trump from Using Nuclear Weapons. That’s by Design.” *The Washington Post*, December 4, 2016. https://www.washingtonpost.com/posteverything/wp/2016/12/01/no-one-can-stop-president-trump-from-using-nuclear-weapons-thats-by-design/?utm_term=.cfaf7efebfeb.
- Ellsberg, Daniel. 2017. *The Doomsday Machine: Confessions of a Nuclear War Planner*. New York: Bloomsbury USA, pp. 309-334.

Film Review due February 17

25 February:

- Allison, Graham. 2004. *Nuclear Terrorism: The Ultimate Preventable Catastrophe*. Macmillan, pp. 1-15.
- Vanaik, Achin. 2002. “The Ethics and Efficacy of Political Terrorism.” In *Critical Views of September 11: Analyses from around the World*, edited by Eric Hershberg and Kevin W. Moore, 23–43, 244-249 (notes). New York: New Press.

Topic 5) *Environmental Risks*

27 February:

- Makhijani, Arjun, Howard Hu, Katherine Yih, International Physicians for the Prevention of Nuclear War., and Institute for Energy and Environmental Research (Takoma Park Md.). *Nuclear Wastelands : A Global Guide to Nuclear Weapons Production and Its Health and Environmental Effects*. Cambridge, Mass.: MIT Press, 1995, pp. 1-9.
- Crowley, Kevin D., and John F. Ahearne. 2002. "Managing the Environmental Legacy of U.S. Nuclear-Weapons Production." *American Scientist* 90 (6): 514–23.
- Brown, Kate. 2010. "The Forsaken: The Unfinished Business of Making Plutonium in Russia." *International Labor and Working-Class History*, no. 78: 137–44.

*Topic 6) Gender***3 March:**

- Cohn, Carol. 1987. "Sex and Death in the Rational World of Defense Intellectuals." *Signs: Journal of Women in Culture and Society* 12 (9): 687–718.
<https://www.jstor.org/stable/3174209>
- Runyan, Anne Sisson. 2018. "Disposable Waste, Lands and Bodies under Canada's Gendered Nuclear Colonialism." *International Feminist Journal of Politics* 20 (1): 24–38. <https://doi.org/10.1080/14616742.2017.1419824>.

*Topic 7) Risks from Nuclear Energy***5 March:**

- Cooke, Stephanie. 2009. *In Mortal Hands: A Cautionary History of the Nuclear Age*. New York: Bloomsbury USA, pp. 302-327.
- Perrow, Charles. 2011. "Fukushima and the Inevitability of Accidents." *Bulletin of the Atomic Scientists* 67 (6): 44–52. <https://doi.org/10.1177/0096340211426395>
- Ramana, M. V. 2018. "Technical and Social Problems of Nuclear Waste." *Wiley Interdisciplinary Reviews: Energy and Environment* 7 (4): e289.
<https://doi.org/10.1002/wene.289>.

10 March:

- Peter J. Stoett. 2003 "Toward Renewed Legitimacy? Nuclear Power, Global Warming, and Security." *Global Environmental Politics* 3, no. 1: 99-116. <https://muse.jhu.edu/>
- Socolow, Robert, and Alexander Glaser. 2009. "Balancing Risks: Nuclear Energy & Climate Change." *Daedalus* 138 (4): 31–44. <https://www.jstor.org/stable/40543999>
- Mez, Lutz. 2012. "Nuclear Energy—Any Solution for Sustainability and Climate Protection?" *Energy Policy* 48 (September): 56–63.
<https://doi.org/10.1016/j.enpol.2012.04.047>.

12 March:

- Haas, Reinhard, Steve Thomas, and Amela Ajanovic. 2019. “The Historical Development of the Costs of Nuclear Power.” In *The Technological and Economic Future of Nuclear Power*, edited by Reinhard Haas, Lutz Mez, and Amela Ajanovic, 97–115. Energiepolitik Und Klimaschutz. Energy Policy and Climate Protection. Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-25987-7_14.
- Laskow, Sarah. “The Mushroom Cloud and The X-Ray Machine.” *Foreign Policy*. <https://foreignpolicy.com/2015/03/26/low-dose-radiation/>.

17 March:

- Schneider, Mycle, and Antony Froggatt. 2019. “The Current Status of the World Nuclear Industry.” In *The Technological and Economic Future of Nuclear Power*, edited by Reinhard Haas, Lutz Mez, and Amela Ajanovic, 35–73. Energiepolitik Und Klimaschutz. Energy Policy and Climate Protection. Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-25987-7_14.

Topic 8) *Risks to Democracy*

19 March:

- Scarry, Elaine. 2014. *Thermonuclear Monarchy: Choosing Between Democracy and Doom*. W. W. Norton & Company, pages: 1-27.
- Cohen, Avner. 1998. *Israel and the Bomb*. New York: Columbia University Press, Epilogue, pages 339-349.

Topic 9) *Confronting and Reducing Risk – Disarmament and Abolition*

24 March:

- Ritchie, Nick. 2019. “A Hegemonic Nuclear Order: Understanding the Ban Treaty and the Power Politics of Nuclear Weapons.” *Contemporary Security Policy* 40 (4): 409–34. <https://doi.org/10.1080/13523260.2019.1571852>.
- Datan, Merav, and Jürgen Scheffran. 2019. “The Treaty Is Out of the Bottle: The Power and Logic of Nuclear Disarmament.” *Journal for Peace and Nuclear Disarmament* 2 (1): 114–32. <https://doi.org/10.1080/25751654.2019.1584942>.

26 March:

- Acheson, Ray, Loreta Castro, Beatrice Fihn, Linnet Ngayu, and Carlos Umaña. 2018. “Rebuilding the Antinuclear Movement.” *The Nation*, June 1, 2018. <https://www.thenation.com/article/rebuilding-antinuclear-movement/>.
- Falk, Richard. 1982. “Taking Stands.” In *Indefensible Weapons: The Political and Psychological Case Against Nuclearism*, edited by Robert Jay Lifton and Richard Falk, 128–43. New York: Basic Books.

- Carson, Lisa. 2018. “Why Youth and Feminist Activism Matters: Insights from Anti-Nuclear Campaigns in Practice.” *Global Change, Peace & Security* 30 (2): 261–69. <https://doi.org/10.1080/14781158.2018.1467395>.

Group Presentations

31 March:

- Lichterman, Andrew. 2010. “Nuclear Disarmament, Civil Society and Democracy.” *Disarmament Forum* 4: 49–60.
- Judd, Ron. 2018. “Why Aren’t More People Freaking out about the Nuclear Warheads Sitting 20 Miles from Downtown Seattle?” *The Seattle Times*, August 23, 2018. <https://www.seattletimes.com/pacific-nw-magazine/peace-activists-are-aging-but-all-those-nuclear-weapons-right-over-there-are-just-as-threatening-as-ever/>
- Hernandez, Jon. 2017. “‘It’s Not a Fight We’ve Won’: Vancouver’s Iconic Nuclear War Activists Renew Calls for Peace.” *CBC News*, October 7, 2017. <https://www.cbc.ca/news/canada/british-columbia/it-s-not-a-fight-we-ve-won-vancouver-s-iconic-nuclear-war-activists-renew-calls-for-peace-1.4344220>

2 April:

- Rydell, Randy. 2018. “A Strategic Plan for Nuclear Disarmament: Engineering a Perfect Political Storm.” *Journal for Peace and Nuclear Disarmament* 1 (1): 49–65. <https://doi.org/10.1080/25751654.2017.1410386>.
- Polanyi, John. 2019. “We Must Do More to Prevent Nuclear War.” *Times Higher Education*, December 9, 2019. <https://www.timeshighereducation.com/features/we-must-do-more-prevent-nuclear-war>.

Group Presentations

Films for watching and reviewing

Choose one from either the first or second lists (check availability on Netflix in advance)

Through UBC Library

Dr. Strangelove
The Day after
Into Eternity
Countdown to Zero
Jang aur Aman (War and Peace)
The China Syndrome
Silkwood
On the Beach
White light, Black rain

Through the Internet/Netflix

Buddha weeps in Jadugoda: <https://www.youtube.com/watch?v=XAb9UjzdixQ>
Episode 3 of Oliver Stone's Untold History of the United States:
The Bomb
Command and Control
Threads (https://archive.org/details/threads_201712)
Wargames (<https://www.amazon.com/WarGames-Matthew-Broderick/dp/B0011EQBOS>)
– not sure if this is available in Canada