

History 396–003 Global Nuclear Proliferation
Mondays, 1–4 pm
G160 Angell Hall

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Overview

This course presents global perspectives on the history of nuclear weapons, focusing on the political, cultural, environmental, health, and technological factors involved in their development and spread since the end of World War II. We will begin by considering the aftermath of the Hiroshima and Nagasaki bombings. Next we explore the unfolding of the Cold War, focusing particularly on the superpower arms race and exploring both US and Soviet perspectives on these developments. We ask why and how different states pursue nuclear weapons development, first posing this as a general question and then moving on to case studies. We also consider the international dimensions of uranium production and atomic testing. The course then moves to an exploration of international treaties and organization, particularly the International Atomic Energy Agency (IAEA) and its inspection regime, and the Nuclear Non-proliferation Treaty (NPT). We examine projections of the effects of nuclear warfare, and consider the question of whether nuclear weapons can be “uninvented.” Finally, we conclude with a brief consideration of other forms of radioactive weaponry, including depleted uranium munitions and “dirty bombs.”

Expectations and Assignments – PLEASE READ CAREFULLY!

Global nuclear proliferation is a complex topic which requires a great deal of work to understand. If you have signed up for this course thinking that it would offer an easy end to your college career, you will be sorely disappointed. You must complete all the assignments, on time, in order to pass the course. I do not respond well to special pleading – including pleas that involve the need to graduate on time. Students who complete all the work in a serious and responsible fashion, however, can expect to gain substantial insight into a topic of considerable contemporary relevance.

Your work:

Weekly reading & writing: You will be assigned an average of 160 pages of reading a week (sometimes more, sometimes less). You are expected to do all the assigned reading before class. For most sessions, reading questions will be posted on our CTools site. You must respond to these in writing, and should allow 1–2 hours for this purpose every week. They must be turned in during the relevant class period. These “short responses” should be typed, double-spaced (2–3 pages, except for the first one which will be 3–4 pages), and consist of full paragraphs (including an introductory sentence, examples, and a brief conclusion).

Keeping up with the news: In addition to the assigned academic reading, you are expected to sign up for Google’s daily news alerts. Go to <http://www.google.com/alerts?hl=en>, and enter

“nuclear” as a search term, and “once a day” as a frequency. This will return an email with links to that day’s nuclear news. Please read at least one article every week day (ideally 2 or 3 to really get a sense of current affairs). You can choose to follow a particular story, or read in a more wide-ranging manner.

Class participation: Participating in class discussion is an essential part of learning. You are expected to contribute regular, thoughtful comments that reflect completion of the assigned readings. You may also draw upon your reading of the week’s news or on material that you’ve learned elsewhere in your comments. Be careful, though, to relate such material to the topic at hand in specific ways. Feel free to raise questions about anything in the reading that you didn’t understand: such questions are also a valuable way of advancing the discussion.

If I feel you have not been preparing adequately for discussions, I reserve the right to administer pop quizzes. Reading, written response, keeping up with the news, discussion participation, and pop quizzes – taken all together – will account for 40% of your final grade.

Papers: This course fulfills the Upper Level Writing Requirement. Accordingly, a major means through which you will learn about nuclear proliferation is by your own research and writing. You will write two midterm papers (each one will be 8–10 pages and count for 20% of your grade) and one final paper (15–18 pages, 20% of your grade) The first midterm paper will be on the historical dimensions of Iran’s nuclear development; it will draw on common readings, primary sources provided on Ctools, and some of your own research. The second midterm paper will cover a topic of your choice, and will require your own independent research. For your final paper, you will revise and expand one of your two midterm papers, taking close account of the feedback you’ve received on content and writing. More detailed guidelines for all three papers will be available on Ctools in due course.

The course will include 2 writing workshops (one after each of the first two papers). Students will also be expected to meet individually with both the GSI and Prof. Hecht in order to discuss their papers.

Attendance: Because we cover a lot of ground, meet only once a week, and move at a good clip, it is *essential* that you attend class. When you skip, you miss steps; when you miss steps you get lost. Your absences will be noticed, by yourself, by your peers, and by us. The same applies to tardiness. Absences and lateness will also affect your final grade. See the fine print (p. 3) for more on this.

Resources:

The following assigned books are available at Shaman Drum Bookshop (upstairs):

M. Susan Lindee, *Suffering Made Real*
David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–56*
Helen E. Purkitt and Stephen F. Burgess, *South Africa’s Weapons of Mass Destruction*
Matthew Evangelista, *Unarmed Forces: The Transnational movement to End the Cold War*
Lynn Eden, *Whole World on Fire*

Depending on the session, other readings are located in the course pack, available via Excel (on S. University street, upstairs over Ulrich’s supply store), or on Ctools: <http://ctools.umich.edu>. In the latter case, you should print out the readings and bring them to class on the relevant days – please allow enough time for this.

You should look upon each other as resources in discussions and for figuring things out. Please also feel free to drop in on me during office hours (see top of syllabus for details) and/or

contact me by email with questions. NOTE: please do not count on me to read email evenings or weekends – if I do, it's the exception rather than the rule.

The Fine Print: unpleasant but crucial stuff

Attendance

Again, class attendance is mandatory. This is not just a matter of discipline, respect, and courtesy; it is also crucial to the success of the course as a group effort. Discussions and learning depend on all of you being present and engaged with the material. I do recognize, that serious problems may arise that absolutely prevent you from attending class. You may therefore have one excused absence. Any more will affect your final grade. All unexcused absences will affect your final grade or evaluation. **You cannot pass this course if you have more than 3 total absences, excused or not.**

An excused absence is one that you inform me about **before** the class meeting (even an email shortly before class can do the trick, depending on the reason) **and** that receives approval from me. To be excused, you must present a compelling reason for your inability to come to class. In the most exceptional emergencies, you may be excused for an absence that you have not informed me about ahead of time, but you should be prepared to present documentation after the fact. An unexcused absence is one that you have not informed me about ahead of time, and/or for which you do not have a compelling reason.

Timeliness

Timeliness is also crucial to the success of the course, and to your learning experience. All assignments must therefore be turned in on time. You must also show up to class on time. This too is a matter of respect for all.

We will take 1/3 of a grade off for every day that an assignment is late. So for example, if you turn in an A assignment two days late, you will receive a B+; a B+ assignment would be demoted to a B-, and so on. Excessive and/or frequent lateness to class may ultimately count as unexcused absences. I will only grant no-penalty extensions in absolutely exceptional, documented circumstances.

Plagiarism etc.

Plagiarism will not be tolerated under any circumstances. **I REPORT ALL INSTANCES OF PLAGIARISM TO THE ACADEMIC AFFAIRS OFFICE IMMEDIATELY AND WITHOUT WARNING. Any piece of work that plagiarizes, cheats, or otherwise exhibits dishonesty will automatically receive a failing grade. You may also be subject to additional penalties, including a failing grade for the whole course and a permanent notation on your record that will show up on job and graduate school applications.**

IT IS YOUR RESPONSIBILITY TO HAVE A COMPLETE UNDERSTANDING OF WHAT CONSTITUTES PLAGIARISM OR ACADEMIC DISHONESTY. CLAIMING IGNORANCE WILL NOT GET YOU OFF THE HOOK. Here are some definitions from University of Michigan policy, but again there's more to it than this:

Plagiarism – “Submitting a piece of work (for example, an essay, research paper, assignment, laboratory report) which in part or in whole is not entirely the student's own work without attributing those same portions to their correct source.” **NOTE: Among other things, this means that if you use someone else's phrases (more than 3 words in a row is a good rule of thumb), you must put quotation marks around them. If you're using some part of another author's argument, you must acknowledge doing so in the footnotes.**

Cheating – “Using unauthorized notes, or study aids, or information from another student or student's paper on an examination; altering a graded work after it has been returned, then submitting the work for re-grading; and allowing another person to use one's work and to submit the work under one's own name.”

Double Submission of Papers – “Submitting or resubmitting substantially the same paper for two or more classes in the same or different terms without the express approval of each instructor.”

Fabrication – “Presenting data in a piece of work which were not gathered in accordance with guidelines defining the appropriate methods for collecting or generating data and failing to include a substantially accurate account of the method by which the data were gathered or collected.”

AGAIN: when in doubt, be sure to use quotation marks and cite carefully and completely all sources from which you obtain information. Feel free to ask – in ADVANCE of submitting assignments – for any clarifications.

Schedule of Assignments

January 9 Introduction

January 16 Science and the survivors of Hiroshima
→ MLK Day – No class meeting, but there is an assignment

Reading:

Susan Lindee – *Suffering Made Real*, chapters 1–5, 7, 9, 10, 13.

Short responses due on Ctools (3–4 pages).

January 23 Raising the stakes

→ **NOTE: We will spend some time today discussing Lindee, before moving on to this week's readings.**

Reading:

Peter Galison and Barton Bernstein, “In any light’: Scientists and the Decision to Build the Hydrogen Bomb,” *Historical Studies in the Physical and Biological Sciences* 19 (1989): 267–347.

David Holloway, *Stalin and the Bomb: The Soviet Union and Atomic Energy, 1939–56*. New Haven: Yale University Press, 1994. **Read Introduction and chapters 9, 10, 13, 14.**

Short responses due in class (2–3 pages).

January 30 The global arms race

Reading:

Scott Sagan, “Why do States Build Nuclear Weapons? Three Models in Search of a Bomb,” *International Security*, Vol. 21, no. 3 (Winter 1996–97): 54–86.

Graham Spinardi, “Aldermaston and British Nuclear Weapons Development: Testing the ‘Zuckerman Thesis,’” *Social Studies of Science*, vol. 27, no. 4 (August 1997): 547–82.

Binyamin Pinkus, “Atomic Power to Israel’s Rescue: French–Israeli Nuclear Cooperation, 1949–57,” *Israel Studies*, Vol. 7, no. 1: 104–138.

Francis J. Gavin, “Blasts from the Past: Proliferation Lessons from the 1960s,” *International Security*, Vol. 29, No. 3 (Winter 2004/05): 100–138.

George Perkovich, “Nuclear Proliferation,” *Foreign Policy*, no. 112 (Autumn 1998): 12–23.

Short responses due in class (2–3 pages).

February 6

Uranium: Fueling the global arms race

Reading:

Secondary sources:

Katherine Yih et al., "Uranium Mining and Milling for Military Purposes," pp. 105–168 in Arjun Makhijani et al., *Nuclear Wastelands: A Global Guide to Nuclear Weapons Production and Its Health and Environmental Effects* (MIT Press, 1995 & 2000).

US Department of Energy, *Advisory Committee on Human Radiation Experiments (ACHRE) Final Report*, (US Government Printing Office, 1995 and <http://www.eh.doe.gov/ohre/roadmap/achre/index.html>).

Read:

Chapter 12: "Observational Data Gathering" – Introduction, Part I, Conclusion.

Consult as a reference, on an as-needed basis:

Introduction – 2nd part, "The Basics of Radiation Science"

Primary sources – TBA.

Short responses due in class (2–3 pages).

February 13 The South African weapons program

Reading:

Secondary sources:

Peter Liberman, "The Rise and Fall of the South African Bomb," *International Security*, Vol. 26, no. 2 (Fall 2001): 45–86.

Helen E. Purkitt and Stephen F. Burgess, "Correspondence: South Africa's Nuclear Decisions," *International Security*, Vol. 27, no. 1 (Summer 2002): 186–194.

Helen E. Purkitt and Stephen F. Burgess, *South Africa's Weapons of Mass Destruction* (Bloomington: Indiana University Press, 2005). Read pp. 1–84.

Primary sources:

African National Congress, *The Nuclear Conspiracy: FRG collaborates to strengthen Apartheid* (Bonn: PDW-Verlag, 1975).

Dan Smith, "South Africa's Nuclear Capability" (World Campaign against Military and Nuclear Collaboration with South Africa; UN Centre Against Apartheid. February 1980)

Short responses due in class (2–3 pages).

February 20 The Iranian program: first midterm paper due

Reading:

Mohammad Sahimi, "Iran's Nuclear Program," parts I, II, III. October 2003, on <http://www.payvand.com/news/03/oct/1039.html> (last accessed 19 December 2005)

More secondary sources TBA.

Packet of primary sources TBA, available on Ctools.

Browse through the website of the Atomic Energy Organization of Iran: <http://www.aeoi.org.ir/NewWeb/default1.asp>

Paper due (8–10 pages):

Analyze the early history of Iranian nuclear efforts using the assigned secondary and primary sources, plus one other source that you've found on your own. Detailed guidelines to be handed out separately.

February 27 Winter break – No class meeting

March 6 Testing

Reading:

US Department of Energy, *Advisory Committee on Human Radiation Experiments (ACHRE) Final Report*, (US Government Printing Office, 1995 and <http://www.eh.doe.gov/ohre/roadmap/achre/index.html>). Read the following selections:

- Chapter 10: "Atomic Veterans: Human Experimentation in Connection with Atomic Bomb Tests" – entire
- Chapter 12: "Observational Data Gathering" – Part II, "The Marshallese"

Jean-Marc Regnault, "France Search for Nuclear Test Sites, 1957–1963," *The Journal of Military History*, 67 (October 2003): 1223–48.

Jean-Marc Regnault, "The Nuclear Issue in the South Pacific: Labor Parties, Trade Union Movements, and Pacific Island Churches in International Relations," *The Contemporary Pacific*, vol. 17, no. 2 (2005): 339–357.

Nic Maclellan, "The Nuclear Age in the Pacific Islands," *The Contemporary Pacific*, vol. 17, no. 2 (2005): 363–372

Short responses due in class (2–3 pages).

Later in the week: schedule meeting to discuss your second midterm paper.

March 13 Controlling the spread

Reading:

Secondary sources:

Gabrielle Hecht, "Nuclear Exceptionalism," *Constellations*, forthcoming.

Martin J. Medhurst, "Atoms for Peace and Nuclear Hegemony: The Rhetorical Structure of a Cold War Campaign," *Armed Forces and Society* 23:4 (1997): 571–93.

Matthew Evangelista, *Unarmed Forces: The Transnational movement to End the Cold War* (Ithaca: Cornell University Press, 1999). Read chapters 1, 4, 8, 13.

Selection of short articles from *Arms Control Today*:

- George Bunn, "The Nuclear Nonproliferation Treaty: History and Current Problems" (December 2003).
- Wade Boese, "Nuclear Nonproliferation Treaty Meeting Sputters" (July/August 2005).
- Daryl G. Kimball, "Repairing the Nonproliferation Regime" (July/August 2005).
- Daryl Kimball and Wade Boese, "Limited Test Ban Treaty Turns 40" (October 2003).

Primary sources:

Treaty on the Non-Proliferation of Nuclear Weapons, entered into force on 5 March 1970, reprinted as IAEA INFCIRC/140, 20 April 1970.

"Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water," entered into force on 10 October 1963, reprinted on ACT website:

<http://www.armscontrol.org/documents/LTBT.asp?print>

➔ Go to the United Nations website on the 2005 NPT Review Conference. Select 1–3 Documents or Working papers of interest to you (about 20–30 pages worth).

<http://www.un.org/events/npt2005/working%20papers.html>

Ist

Short responses due in class (2–3 pages): your 2–3 page response paper for this week should analyze the UN documents you've selected in light of the common assigned readings.

March 20 Second midterm paper due

8–10 pages, guidelines to be handed out separately.

March 27 What would happen?

Reading:

Lynn Eden, *Whole World on Fire*, pp. TBA

Short responses due in class (2–3 pages).

April 3 Nuclear Taboos...and can we go back?

Reading:

Nina Tannenbaum, "Stigmatizing the Bomb: Origins of the Nuclear Taboo," *International Security*, Vol. 29, No. 4 (Spring 2005): 5–49

Scott D. Sagan and Jeremi Suri, "The Madman Nuclear Alert: Secrecy, Signaling, and Safety in October 1969," *International Security*, Vol. 27, No. 4 (Spring 2003): 150–83.

Donald MacKenzie and Graham Spinardi, "Tacit Knowledge, Weapons Design, and the Uninvention of Nuclear Weapons," *American Journal of Sociology*, vol. 101 (1995): 44–99.

Helen E. Purkitt and Stephen F. Burgess, *South Africa's Weapons of Mass Destruction* (Bloomington: Indiana University Press, 2005). Read pp. 178–222.

Short responses due in class (2–3 pages).

Later in the week: schedule meeting to discuss your final paper.

April 10 Depleted uranium

Reading:

TBA

Short responses due in class (2–3 pages).

April 17 Last day of class – papers due

Final paper assignment:

Revise and expand one of your two midterm papers. Details and guidelines to be provided separately.