

Proliferation SYLLABUS

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**Office Hours: Tuesdays 9-10:30 AM;
Wednesdays 4-6:30 PM; other times
by appointment and email**

SIS 419-002 / 653-002

Spring 2011

Tuesday 5:30-8:00 PM

Two books are required for this course:

- Sagan and Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*
- Cirincione, Wolfsthal, Rajkumar, *Deadly Arsenals*

All other course readings can be found on Blackboard as links in an electronic syllabus. These readings can be accessed through the “Readings” button in the main menu.

January 11 Introduction

Objectives:

- Understand course content including subjects covered, assignments, and grading standards; and
- Introduce ourselves.

January 18 Proliferation: Good or Bad?

Objectives:

- Understand competing ideas about the dangers of nuclear proliferation and nuclear weapons.

Readings:

- Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (W. W. Norton & Company, Inc., 2002).
 - Read the entire book with the exception of Chapter 3: Indian and Pakistani Nuclear Weapons: For Better or Worse?
- Arundhati Roy, “The end of imagination,” *Frontline*, July 27, 1998.

January 25 Nuclear Expertise, Jargon and Political Power

Objectives:

- Understand key nuclear weapons and proliferation jargon;
- Investigate the political importance of jargon and fear in nuclear weapons politics.

Readings:

- Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals," *Signs: Journal of Women in Culture and Society*, 1987, Vol. 12, No. 4, pp. 687-718.
- Henry T. Nash, "The bureaucratization of homicide," *Bulletin of the Atomic Scientists*, April 1980, pp. 22-27
- Lee Butler, "The False God of Nuclear Deterrence," *Global Dialogue*, Vol. 1, No. 2, (Autumn 1999) pp. 74-81.

February 1 Resources, Research and Writing

Objectives:

- Understand how to construct a thesis argument and to use evidence and analysis in support of that argument;
- Be able to identify and avoid plagiarism;
- Become familiar with the relevant library resources.

Readings:

- Chapter 3, "From Topics to Questions," and Chapter 7, "Making Good Arguments," in Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, *The Craft of Research* (Chicago: University of Chicago Press, 2003).

February 8 Nuclear Basics

Objectives:

- Understand the basics of what it takes to make a nuclear weapon and which parts of this process constitute significant barriers for potential proliferants;
- Become more aware of the difficulties of detecting nuclear weapons programs versus legitimate uses of nuclear technology.

Readings:

Nuclear Weapons Effects

- Lynn Eden, "City on Fire," *Bulletin of the Atomic Scientists*, Vol. 60, No. 1 (January /February 2004), pp. 32-37, 40-43.

Nuclear weapons basics

Chapter 3, "Nuclear Weapons and Materials," in *Deadly Arsenals*.

- Chapter 4, "Technical Aspects of Nuclear Proliferation," in Office of Technology Assessment, *Technologies Underlying Weapons of Mass Destruction*, (Washington, DC: US Government Printing Office, December 1993), OTA-BPISC-115, pp. 119-171.

Different approaches to getting the bomb

- Chapter 7, "The World's Nuclear Development," in Robert F. Mozley, *The*

Politics and Technology of Nuclear Proliferation (Seattle: University of Washington Press, 1998), pp. 157-213.

- Robert Williams and Hal Feiveson, "How to Expand Nuclear Power without Proliferation," *Bulletin of the Atomic Scientists*, April 1990, pp. 40-45.

Paper #1 is due by 5:00 pm on Friday, February 11. This paper must be submitted electronically to skweiner@american.edu.

February 15 Why do states want nukes?

Objectives:

- Understand the 3 main reasons why states may want nuclear weapons and how these motivations may have changed over time;
- Discuss the use of arguments and counter arguments.

Readings:

Why do states seek nuclear weapons?

- Scott D. Sagan, "Why do States Build Nuclear Weapons?: Three Models in Search of a Bomb," *International Security*, Vol. 21, No. 3 (Winter 1996-1997), pp. 54-86.
- Chaim Braun and Christopher Chyba, "Proliferation Rings: New Challenges to the Nuclear Nonproliferation Regime," *International Security*, Vol. 29, No. 2 (Fall 2004), pp. 5-49.

Case study: Iran

- Chapter 15, "Iran," in *Deadly Arsenals*.
- Ray Takeyh and Nikolai K. Gvosdev, "Pragmatism in the Midst of the Iranian Turmoil," *The Washington Quarterly*, Autumn 2004, pp. 33-56.
- Ray Takeyh, "Iran Builds the Bomb," *Survival*, Winter 2004-2005, pp. 51-63.

February 22 I've got nukes. Now what do I do with them?

Objectives:

- Understand the fundamentals of nuclear weapons strategy and force structure;
- Discuss U.S. nuclear weapons strategies and their evolution during the Cold War.

Readings:

Fundamentals of nuclear strategy:

- Henry A. Kissinger, "Force and Diplomacy in the Nuclear Age," *Foreign Affairs*, Vol. 34, No. 3 (April 1956), pp. 249-366.
- Bernard Brodie, "The Anatomy of Deterrence," *World Politics* Vol. 11, No. 2 (January 1959), pp. 173-191.
- John Mueller, "The Essential Irrelevance of Nuclear Weapons," *International Security*, Vol. 13, No. 2 (Fall 1988), pp. 55-79.

Growth in nuclear arsenals

- "Introduction," pp. 1-31; Box 1-1 "The Growth and Evolution of the U.S. Nuclear Stockpile," pp. 44-45; and "Figure 1-4: Global Nuclear Stockpiles, 1945-97," p. 46, all in

Stephen I. Schwartz, ed., *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940* (Washington, DC: The Brookings Institution Press, 1998)

- Chapter 10, "The United States," in *Deadly Arsenals*.

Current U.S. nuclear strategy

- Subcommittee on National Security and Foreign Affairs, House Policy Committee, U.S. House of Representatives, *Differentiation and Defense: An Agenda for the Nuclear Weapons Program*, February 2003.

March 1 Old and New Nuclear Powers

Objectives:

- Understand the evolution of the arsenals of the nuclear powers and current debates;
- Consider the relationship between the nuclear weapons force structure of old and that of new nuclear powers. Should new nuclear powers be expected to behave like old ones?

Readings:

Old nuclear powers

- *Deadly Arsenals* Chapter 6 (Russia), Chapter 7 (China), Chapter 8 (France), Chapter 9 (UK), and Chapter 13 (Israel).

New versus old nuclear powers

- Chapter 3: Indian and Pakistani Nuclear Weapons: For Better or Worse? In Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (W. W. Norton & Company, Inc., 2002)
 - Read this with an eye towards determining whether the authors assume Pakistan and India will have a nuclear relationship just like that of the US and USSR? Are there important differences?

March 15 Stopping Proliferation – International Regimes & Voluntary Groups

Objectives:

- Understand the pros and cons of international institutions and mechanisms for dealing with proliferation.

Readings:

Traditional approaches

- Chapter 2, "The International Nonproliferation Regime," *Deadly Arsenals*.
- *Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms* (Weapons of Mass Destruction Commission, 2006), pp. 43-109.
- Harald Muller, "Compliance Politics: A Critical Analysis of Multilateral Arms Control Treaty Enforcement," *The Nonproliferation Review*, Summer 2000, p. 77-90.

U.S. enforcement of nonproliferation

- Zia Mian, "The American Problem: The United States and Noncompliance in the World of Arms Control and Nonproliferation," in *International Law and Organization: Closing the Compliance Gap*, Edward C. Luck and Michael W. Doyle, editors, (Lanham: Rowman & Littlefield, 2004), pp. 247-302.

Paper #2 is due by Friday, March 18 at 5:00 PM. The paper must be submitted electronically to skweiner@american.edu.

March 22 Stopping Proliferation – U.S. Responses and Public Opinion

Objectives:

- Debate the pros and cons of the new US strategy of counter proliferation;
- Understand the influence of public opinion and protest on nuclear weapons politics; and
- Understand how to write a policy memo.

Readings:

The new US counterproliferation strategy

- Chairman of the Joint Chiefs of Staff, National Military Strategy to Combat Weapons of Mass Destruction (Washington, DC, February 13, 2006).
- The White House, The National Security Strategy of the United States of American, May 2010.

Military options for dealing with Iran

- Sammy Salama and Karen Ruster, “A Preemptive Attack on Iran’s Nuclear Facilities: Possible Consequences,” *CNS Research Story* (Center for Nonproliferation Studies, August 12, 2004).

Public opinion and the bomb:

- Program on International Policy Attitudes, “Americans on WMD Proliferation,” PIPA/Knowledge Networks Poll, April 15, 2004.

People and the bomb:

- The Einstein-Russell Manifesto, July 9, 1955.
- Lawrence S. Wittner, “The Power of Protest,” *Bulletin of the Atomic Scientists*, July/August 2004, pp. 20-26.
- George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn, “A World Free of Nuclear Weapons,” *Wall Street Journal*, January 4, 2007.
- George P. Shultz, William J. Perry, Henry A. Kissinger and Sam Nunn, “Toward A Nuclear-Free World,” *Wall Street Journal*, January 15, 2007.

Policy Memos:

- On Blackboard under the “Assignments” section there are a variety of resources that provide information about how to write policy memos. Please read these, the example of a real policy memo, and skim the on-line sources listed.

March 29 New Nukes

Objectives:

- Understand the main technical and political issues behind new nuclear weapons development in the United States;
- Consider the effect of new U.S. nuclear weapons on nonproliferation and on nuclear developments in Russia and China;
- Consider the relationship between missile defenses and vertical proliferation.

Readings:

New nuclear developments in the United States:

- Stephen I. Schwartz, “Warheads Aren’t Forever,” *Bulletin of the Atomic Scientists*, September/October 2005, pp. 58-64.
- Robert W. Nelson, “Low-Yield Earth-Penetrating Nuclear Weapons,” *FAS Public Interest Report*, Vol. 54, No. 1, January/February 2001.
- United States Senate, Debate on Amendment No. 715 to the National Defense Authorization Bill for Fiscal Year 2004, *Congressional Record*, Senate, Tuesday, May 20, 2003, 108th Congress, 1st Session, pp. S6663-6696.
- Greg Mello, “That Old Designing Fever,” *Bulletin of the Atomic Scientists*, January/February 2000, pp. 51-57.

Missile defenses:

- Ronald Reagan’s “Star Wars Speech,” March 23, 1983.
- Richard L. Garwin and Hans A. Bethe, “Anti-Ballistic-Missile Systems,” *Scientific American*, March 1968, Volume 218, Number 3, pp. 21-31.

April 5 Nuclear Theft and Smuggling

Objectives:

- Understand the opportunities for nuclear theft and smuggling;
- Understand the risks and uncertainties associated with monitoring and detecting nuclear smuggling.

Readings:

The problem from the former Soviet Union:

- George Bunn and Fritz Steinhausler, “Guarding Nuclear Reactors and Material from Terrorists and Thieves,” *Arms Control Today*, October 2001.
- Ken Luongo and William Hoehn, “Reform and Expansion of Cooperative Threat Reduction,” *Arms Control Today*, June 2003.
- Matthew Bunn, *Securing the Bomb 2007*, (Harvard: Project on Managing the Atom, September 2007), browse entire report.

The AQ Khan Network:

- William Langewiesche, “The Wrath of Khan,” *Atlantic Monthly*, November 2005.
- David Albright and Corey Hinderstein, “Unraveling the A.Q. Khan and Future Proliferation Networks,” *The Washington Quarterly*, Spring 2005, pp. 111-128.
- Leonard Weiss, “Turning a Blind Eye Again? The Khan Network’s History and Lessons for U.S. Policy,” *Arms Control Today*, March 2005.

Problems with Detection and Monitoring

- William C. Potter & Elena Sokova, “Illicit Nuclear Trafficking in the NIS: What’s New? What’s True?” *The Nonproliferation Review*, Summer 2002, p. 112-120.
- Richard Willing, “Nuclear Traffic Doubles Since ‘90s,” *USA Today*, December 26, 2006, p. 1.

April 12 Biological & Chemical Weapons

Objectives:

- Understand the main characteristics of biological and chemical weapons;
- Understand the main hurdles to the development of these weapons;
- Develop a better understanding of the capabilities of nuclear and radiological weapons as well as biological and chemical weapons.

Readings:

- Chapter 4, “Biological and Chemical Weapons, Agents and Proliferation,” in *Deadly Arsenals*.
- Chapter 2, “Assessing the Risks,” in *Proliferation of Weapons of Mass Destruction*, Office of Technology Assessment, 1993.
- Wolfgang Panofsky, “Dismantling the Concept of Weapons of Mass Destruction,” *Arms Control Today*, April 1998.

April 19 **Course Wrap-Up**

Objectives:

- Understand the promise and problems of both theories and policy issues in the area of proliferation, international responses to proliferation and US responses;
- Understand how to give a policy briefing;
- Work on improving your policy memo.

The final revised policy memo is due by 5:00 pm April 26. This paper must be submitted electronically to skweiner@american.edu.