**COURSE AIMS**

This course focuses on questions central to assessing the merits of any nation’s civil and military nuclear policies. Course topics include nuclear deterrence, nuclear energy and technology, the history of nuclear nonproliferation and arms control, energy economics, nuclear terrorism and intelligence, and future trends.

**ATTENDANCE POLICY AND SCHEDULE**

The course will cover the following topics over an 11 week period. Participants are expected to attend virtually via webcam to eight or more seminars, and at least four must be priority topics. Any class marked with an (\*) is considered a priority topic. Any class that is missed can be made up by taking the online quiz. With the exception of the September 4th kick-off which will be held from 5-6 PM, these lectures will be held from 12-2 PM.

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| --- | --- |
| **September 3rd (Wednesday)** | Joshua Stanton: Nuclear Policy Certificate Program Kick-Off.  |
| **September 5th (Friday)** | City Busting, the Nuclear Weapons Revolution, and Precision Guidance\* |
| **September 12th** | Nuclear Deterrence |
| **September 19th**  | Nuclear Energy Basics: Fission, Fusion and Bomb Designs Part 1**\*** |
| **September 26th**  | Nuclear Energy Basics: Fission, Fusion and Bomb Designs Part 2\* |
| **October 3rd** | Nuclear Energy Basics: Reactors and Fuel Making\* |
| **October 10th** | Early International Nuclear Controls: The Acheson-Lilienthal Report, the Baruch Plan, and Eisenhower’s Atoms for Peace\* |
| **October 17th**  | International Nuclear Controls, Part 2: International Atomic Energy Agency (IAEA) and Safeguards, The Nuclear Nonproliferation Treaty (NPT) and the Three Pillars View \* |
| **October 23rd (Thursday)** | Arms Control Part 1 |
| **October 24th**  | Arms Control Part 2 |
| **October 31st (Friday)** | Energy Economics: Nuclear and Non-Nuclear |
| **November 7th**  | Nuclear Terrorism and Nuclear Proliferation Intelligence |
| **November 14th**  | Thinking About the Next Arms Race\* |

**DISCUSSION MEETINGS AND GUEST LECTURES**

Additional guest lectures will be held at 5 pm on the following days. Students are required to attend at least 6 of these guest lectures.

|  |  |
| --- | --- |
| **September 8th** | [Aidan Clarke](https://docs.google.com/document/d/1mLeKR5wSJfTAH-qOp-kbT5mRsQYArOuYXT1Ebsjb690/edit?usp=sharing): The World Replete with Advanced Precision Strike Weapons |
| **September 15th**  | [Brent Ziarnick](https://drive.google.com/file/d/1JnYQLKbw9MT4JtbMQPX96prHlR2no_a_/view?usp=sharing): How Space Power Theory Affects One’s Deterrence Outlook[Jake Bebber](https://www.navifor.usff.navy.mil/Leadership/All-Leadership/Article/3426123/commanding-officer-cryptologic-warfare-activity-sixty-seven/): How Might We Deter China? |
| **September 22nd**  | [Gregory Jones](https://drive.google.com/file/d/1nvaWwETQic14PgboFX3HHDLjGy4-Lmbk/view?usp=sharing): More Than Fissile Material: Building a Bomb, the Historical Experience |
| **September 29th**  | [Bruce Goodwin](https://cgsr.llnl.gov/experts/visiting-scientists/present/bruce-goodwin): Reactor-Grade Plutonium’s Weapons Utility |
| **October 6th**  | Shaun Burnie: Reactors in Warzones: What Could Go Wrong |
| **October 14th (Tuesday)** | [Thomas Grant](https://drive.google.com/file/d/1ruSxT4IEVGlXdnZLadm6tpCo0jxKgn0M/view?usp=sharing): Articles I, II, VI, and X: New Issues for the NPT |
| **October 20th**  | [Eva Lisowski](https://drive.google.com/file/d/1ZgOtT76fJjvGhjowbgd2IassCTQxGd_h/view): Grim Prospect: Low-Yield Nuclear Weapons in the Middle East |
| **October 27th**  | [Melissa De Zwart](https://researchers.adelaide.edu.au/profile/melissa.dezwart): Safety Zones: Emerging Norms in Space Security? |
| **November 3rd**  | [Peter Bradford](https://drive.google.com/file/d/1oNXuIjYKOtos9V9zPKiZfLbdFG3p-bdK/view?usp=sharing): How Should Small Reactor Accidents Be Insured?Scott Kemp: Key Questions for New Nuclear Investors |
| **November 12th (Tuesday)** | [William Tobey](https://www.belfercenter.org/person/william-h-tobey): Libya As a Nuclear Nonproliferation Intelligence Success[Richard Lawless](https://www.nbr.org/people/richard-lawless/): Success in Turning Off the South Korean Program in the 1970s |

**Please Note: As a sign of respect, we will be using surnames for the duration of the course (i.e. Mr. Sokolski) both in class and in correspondence.**

**ACCESSING PASSWORD PROTECED READINGS**

Additional required and recommended readings/films listed in syllabus will be made available to the students at the following website: <https://www.nuclearpolicy101.org/>.

**Password protected readings can be accessed with the following information:**

 Username: NuclearPolicy101

Password: NP101

1. **CITY BUSTING, THE NUCLEAR WEAPONS REVOLUTION, AND PRECISION GUIDANCE**

**REQUIRED READINGS**

Henry Sokolski, [*City Busting, the Nuclear Weapons Revolution, and Precision Guidance Lecture Notes*](http://nuclearpolicy101.org/wp-content/uploads/2022/09/City-Busting-Lec-Sept-9-2022.pdf)*,* *Nonproliferation Policy Education Center.* September 2024.

Charli Carpenter, Grace Bernheart, Joseph Mara, and Zahra Marashi, “Military-trained Americans’ trust in the president’s nuclear launch authority dropped during Iran Crisis. Here’s why it matters,” *Bulletin of the Atomic Scientists*, July 18, 2025, <https://thebulletin.org/2025/07/military-trained-americans-trust-in-the-presidents-nuclear-launch-authority-dropped-during-iran-crisis-heres-why-it-matters/>

Brian Osgood, “Public opinion is split as US marks 80th anniversary of Hiroshima bombing,” *Al Jazeera*, August 6, 2025, <https://www.aljazeera.com/amp/news/2025/8/6/public-opinion-is-split-as-us-marks-80th-anniversary-of-hiroshima-bombing>

Henry Sokolski and Kate Harrison, [*Two Modern Military Revolutions: Dramatic Increases in Explosive Yields and Aiming Accuracies*](https://nuclearpolicy101.org/wp-content/uploads/PDF/Two-Modern-Military-Revolutions.pdf.)*, Nonproliferation Policy Education Center*,October 4, 2013.

James Digby, [*Precision Guided Weapons*](http://nuclearpolicy101.org/wp-content/uploads/2024/08/Digby_Precision-Guided-Weapons-3.pdf)*,* *Adelphi Paper* no. 118 (London: International Institute for Strategic Studies, 1975).

**RECOMMENDED READINGS**

Henry Sokolski, “[Dr. Strangelove's New Passion: Precision Guided Mayhem,"](https://www.persuasion.community/p/dr-strangeloves-new-passion-precision-guided-mayhem) *Persuasion,* March 17, 2021.

1. **NUCLEAR DETERRENCE**

**REQUIRED READINGS**

Henry Sokolski,[*Nuclear Deterrence Lecture Notes*,](https://nuclearpolicy101.org/wp-content/uploads/2022/09/Deter-Lec-2022.pdf) Nonproliferation Policy Education Center*.* September 2023.

Albert Wohlstetter, [*The Delicate Balance of Terror*](http://www.rand.org/about/history/wohlstetter/P1472/P1472.html.), paper P-1472 (Santa Monica, CA: RAND Corporation, November 6, 1958).

William Burr, ed., “[‘How Much is Enough?’: The U.S. Navy and ‘Finite Deterrence,’](http://www.gwu.edu/~nsarchiv/nukevault/ebb275/index.htm)” *National Security Archive*, Electronic Briefing Book No. 275, May 1, 2009.

Sir Michael Quinlin, [*Easements and Escape Routes,*](https://nuclearpolicy101.org/wp-content/uploads/Restricted/Quinlan_Easements-and-Escape-Routes.pdf.) in *Thinking About Nuclear Weapons* (Oxford: Oxford University Press, 2009): 99-104. **Password Protected PDF**

Nathan Leites, “[Once More About What We Should Not Do Even in the Worst Case: The Assured Destruction Attack](https://npolicy.org/once-more-about-what-we-should-not-do-even-in-the-worst-case-the-assured-destruction-attack-nathan-leites/),” *California Seminar on Arms Control and Foreign Policy*, June 1974.

1. **NUCLEAR ENERGY BASICS, PART 1: FISSION, FUSION AND BOMB DESIGNS**

**REQUIRED READINGS**

Henry Sokolski, [*Nuclear Energy Basics, Part 1: Fission, Fusion, and the Bomb,*](https://nuclearpolicy101.org/wp-content/uploads/2020/09/Bomb-Making-Lec-copy.pdf) *Nonproliferation Policy Education Center*. September 2020.

Sutherland Productions and General Electric, [*A is for Atom, B is for Bomb*](http://www.dailymotion.com/video/x79yfa_1953-a-is-for-atom-government-propa_news.) Daily Motion video, 14:44, from a film produced in 1953, posted by “Propaganda Hound,” November 2, 2008.

1. **NUCLEAR ENERGY BASICS, PART 2: REACTORS AND NUCLEAR FUEL MAKING**

**REQUIRED READINGS**

Henry Sokolski, [*Nuclear Energy Basics, Part 2: Reactors and Nuclear Fuel Making,*](https://nuclearpolicy101.org/wp-content/uploads/2020/10/Fuel-Making-Lec.pdf) *Nonproliferation Policy Education Center*, October 2020.

Victor Gilinsky, Harmon Hubbard, and Marvin Miller, [*Fresh Examination of the Proliferation Dangers of Light Water Reactors,*](https://npolicy.org/article_file/1701_Fresh_Examination_of_LWR_Proliferation_Dangers.pdf) *Nonproliferation Policy Education Center,* pp. 1-25, October 22, 2004.

Gregory Jones, [*Introduction*](https://npolicy.org/wp-content/uploads/2021/06/Reactor-Grade_Plutonium_and_Nuclear_Weapons-Intro.pdf), *Reactor-Grade Plutonium and Nuclear Weapons: Exploding the Myths*, April 2018.

1. **INTERNATIONAL NUCLEAR CONTROLS, PART 1: THE ACHESON-LILIENTHAL REPORT, THE BARUCH PLAN, AND EISENHOWER’S ATOMS FOR PEACE**

**REQUIRED READINGS**

Henry Sokolski, “[The Acheson-Lilienthal Report and Baruch Plan Lecture Notes](https://nuclearpolicy101.org/wp-content/uploads/2021/10/A-L-Report-and-Baruch-Plan-lec.pdf),” and “[Eisenhower’s Atoms for Peace Lecture Notes,](https://nuclearpolicy101.org/wp-content/uploads/2021/10/Atoms-for-Peace-Lec.pdf)” *Nonproliferation Policy Education Center.* Updated October 2021.

 Also see, U.S. Department of State, [*Press Release No. 235*](https://www.atomicarchive.com/resources/documents/acheson-lilienthal/press-release.html) (April 9, 1946).

Henry Sokolski, [*The Baruch Plan*](https://nuclearpolicy101.org/wp-content/uploads/Restricted/Best-of-Intentions_Ch-2.pdf.), in *Best of Intentions: America’s Campaign Against Strategic Weapons Proliferation* (Westport, CT: Praeger, 2001), 13-21. **Password Protected PDF**

[*A Report on the International Control of Atomic Energy*](http://fissilematerials.org/library/1946/10/a_report_on_the_international_control_of_atomic_energy.html) (The Acheson-Lilienthal Report), a report prepared for the Secretary of State’s Committee on Atomic Energy (Washington, DC: Government Printing Office, 1946).

1. **INTERNATIONAL NUCLEAR CONTROLS, PART 2: THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) AND SAFEGUARDS, THE NUCLEAR NONPROLIFERATION TREATY (NPT) AND THE CURRENT THREE PILLARS VIEW**

**REQUIRED READINGS**

[*Treaty on the Nonproliferation of Nuclear Weapons*](https://www.un.org/disarmament/wmd/nuclear/npt/text)

Henry Sokolski, “[The Nuclear Nonproliferation Treaty (NPT) Lecture Notes](https://nuclearpolicy101.org/wp-content/uploads/2021/10/NPT-Lec.pdf),” *Nonproliferation Policy Education Center.* Updated October 2021.

Henry Sokolski, [*Assessing the IAEA’s Ability to Verify the NPT*](https://npolicy.org/wp-content/uploads/2021/06/Falling-Behind_Ch1_Sokolski.pdf), in *Falling Behind: International Scrutiny of the Peaceful Atom*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2008), 3-41.

Robert Zarate, [*The three qualifications of Article IV’s Inalienable Right*](https://npolicy.org/wp-content/uploads/2021/06/Reviewing_NPT-Ch10_Zarate.pdf), in *Reviewing the Nonproliferation Treaty (NPT)*, ed. Henry Sokolski (Carlisle, PA: Strategic Studies Institute, 2010), 219-230.

1. **NUCLEAR ARMS CONTROL**

**REQUIRED READINGS**

Henry Sokolski, [*China, Russia, and the Coming Cool War*](https://npolicy.org/wp-content/uploads/2024/06/2402-China-Russia-Cool-War.pdf), Nonproliferation Policy Education Center, June 20, 2024, pgs. 12-66.

1. **ENERGY ECONOMICS: NUCLEAR AND NONNUCLEAR**

**REQUIRED READINGS**

Henry Sokolski, “[Energy Economics—Nuclear and Nonnuclear Lecture Notes,”](https://nuclearpolicy101.org/wp-content/uploads/2021/11/Energy-Economics-lec.pdf) *Nonproliferation Policy Education Center.* November 2022.

Amory Lovins, “[Artificial Intelligence Meets Natural Stupidity: Managing the Risks](https://integrative-design-for-radical-energy-efficiency.stanford.edu/sites/extreme_energy_efficiency/files/media/file/data-centersaiel-dr-16-10-may-2025.pdf),” May 10, 2025.

John Rowe, “[Energy Policy: Above All, Do No Harm](http://npolicy.org/wp-content/uploads/2023/10/spch_Rowe_AEI2011.pdf)” (transcript of a presentation at the American Enterprise Institute, March 8, 2011).

Henry Sokolski, “[Reactors Large and Small: Three Hurdles](https://npolicy.org/reactors-large-and-small-three-hurdles/),” a video lecture from Nonproliferation Policy Education Center. March 25, 2020

“[What is the cheapest way to cut carbon?](https://www.stuff.co.nz/business/world/300238133/what-is-the-cheapest-way-to-cut-carbon)” *The Economist*, February 24, 2021.

“[Deploying Advanced Nuclear Reactor Technologies for National Security](https://www.whitehouse.gov/presidential-actions/2025/05/deploying-advanced-nuclear-reactor-technologies-for-national-security/),” May 23, 2025, Executive Order.

“[Ordering the Reform of the Nuclear Regulatory Commission](https://www.whitehouse.gov/presidential-actions/2025/05/ordering-the-reform-of-the-nuclear-regulatory-commission/),” May 23, 2025, Executive Order.

“[Reforming Nuclear Reactor Testing at the Department of Energy](https://www.whitehouse.gov/presidential-actions/2025/05/reforming-nuclear-reactor-testing-at-the-department-of-energy/),” May 23, 2025, Executive Order.

“[Reinvigorating the Nuclear Industrial Base](https://www.whitehouse.gov/presidential-actions/2025/05/reinvigorating-the-nuclear-industrial-base/),” May 23, 2025, Executive Order.

**RECOMMENDED READINGS**

U.S. Energy Information Administration. [*An Analysis of Nuclear Power Plant Construction Costs*](https://nuclearpolicy101.org/wp-content/uploads/2025/08/EIA_NuclearCost_1986.pdf). Washington, DC: U.S. Department of Energy, April 1986.

1. **NUCLEAR TERRORISM**

**REQUIRED READINGS**

John Mueller, [*Atomic Obsession: Nuclear Alarmism from Hiroshima to Al Qaeda*](https://nuclearpolicy101.org/wp-content/uploads/Restricted/Mueller_Atomic-Obsession_full-book.pdf.)(New York: Oxford University Press, 2010), 181-198. **Password Protected PDF**

Peter D. Zimmerman and Jeffrey G. Lewis, [*The Bomb in the Backyard*](https://foreignpolicy.com/2009/10/16/the-bomb-in-the-backyard/), *Foreign Policy*, October 10, 2006.

1. **NUCLEAR PROLIFERATION INTELLIGENCE**

**REQUIRED READINGS**

Victor Gilinsky, [*Sometimes We Don’t Want to Know: Kissinger and Nixon Finesse Israel’s Bomb*](https://www.npolicy.org/article_file/Sometimes_We_Do_not_Want_to_Know__Kissinger_and_Nixon_Finesse_Israeli_Bomb_-_Gilinsky.pdf) (paper prepared for NPEC Stanford Seminar, Stanford University, August 4, 2011).

Henry Sokolski, “[Fighting Proliferation with Intelligence,](https://nuclearpolicy101.org/wp-content/uploads/Restricted/Sokolski_Fighting-Proliferation-with-Intelligence.pdf)” in *Fighting Proliferation: New Concerns for the Nineties* ed. Henry Sokolski (Montgomery, AL: Air University Press, 1996), 277-298. **Password Protected PDF**

Henry Sokolski, “[Improving the Role of Intelligence in Counterproliferation Policymaking: Report of the ‘Speaking Truth to Nonproliferation Project,](https://www.cia.gov/resources/csi/static/Improving-Role-of-Intel.pdf)’” *Studies in Intelligence*, Vol. 63, No.1, March 2019.

1. **THINKING ABOUT THE NEXT ARMS RACE**

**REQUIRED READINGS**

Henry Sokolski, “[Thinking about the Next Arms Race](https://nuclearpolicy101.org/wp-content/uploads/2020/07/2020-Arms-Race-Lec-1.pdf),” Nonproliferation Policy Education Center. Lecture notes, updated July 9, 2020.

Joseph Micallef, “[The Roots, Tactics and Consequences of New Generation Warfare](https://www.military.com/daily-news/2018/08/02/op-ed-roots-tactics-and-consequences-new-generation-warfare.html/amp),” Military.com, August 2, 2021.