Frederick S. Pardee School of Global Studies, Boston University

International Nuclear Politics
IR315/ PO358/ HI335
Professor Jayita Sarkar

Office: 154 Bay State Road, #201A
Email: jsarkar@bu.edu
Office hours: https://jsarkar.youcanbook.me

Course dates: TBD
Course Time & Location: TBD
Course credits: TBD

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 historically 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 have effective mitigation been? These are some of the questions that this course will examine. No background in nuclear issues is required for taking this course. This course satisfies Historical Consciousness, Social Inquiry I, and Writing-Intensive Course.

Pre-requisite: First-Year Writing Seminar — WR 100 or WR 120.

Course Hub Outcomes

HUB CAPACITY: Philosophical, Aesthetic and Historical Interpretation
AREA: Historical Consciousness
In IR315/PO358/HI335, students will routinely analyze primary source documents on nuclear proliferation, nonproliferation and nuclear crises cases from the Cold War era. These primary sources — textual documents, photographs and video clippings— will teach the students to identify various factors that influenced international politics in the nuclear domain. Students will learn to challenge the historical national narratives about nuclear weapons development in countries like India, Pakistan, Israel and South Africa, and nuclear disaster management as in Ukraine (Chernobyl), Kazakhstan (Polygon test-site) and elsewhere. Students will determine the long-term trends that have influenced the global nonproliferation regime, notably the Nuclear Nonproliferation Treaty and the International Atomic Energy Agency.

HUB CAPACITY: Social & Scientific Inquiry
AREA: Social Inquiry I
Students will identify and apply key concepts like alliance formation, security dilemma, extended nuclear deterrence, coercive diplomacy, preemptive war, and multilateral negotiations to current and past international politics surrounding nuclear weapons and technologies. Through an examination of how the institutions comprising the global nuclear nonproliferation regime operate, their strengths and weaknesses, and the risks and opportunities that they provide to individual member countries, students will develop a comprehensive understanding of the workings of these institutions, related
multilateral governance networks and the role of technocratic and political leaders, who dominate them.

**HUB CAPACITY: Communication**

**AREA: Writing-Intensive Course**

Students will undertake two major and one minor writing assignments comprising 55% of their total grade. These are one policy memo (30%), two op-eds (30% = 15+15) and one response paper (5%) following the in-class simulation exercise. At the beginning of the semester, students will be trained on how to read effectively using Patrick Rael’s ‘Predatory Reading’ handout, and regular class discussions will focus on students’ analysis of the assigned readings. This way, the students will gradually develop an understanding and appreciation of critical judgment of the course materials. The policy memo assignment is ‘scaffolded,’ i.e. broken down into two steps allowing the students to obtain feedback on their early drafts before submitting the final memos. This assignment scaffolding technique will enable students to develop well-structured written arguments suitable to the situation, which in this case, is identifying a policy problem, devising policy options, and arguing in favor of one or a combination of two solutions with the aim to convince an imagined policymaker. The op-ed is also scaffolded because students will get guidelines to write the op-ed, receive detailed feedback on the first op-ed, which will enable them to improve their op-ed writing capabilities for the second op-ed. The op-ed assignment requires students to adopt an approach to writing that is different from a research paper in terms of intent, audience and hence, style. The instructor will circulate op-ed guidelines at the beginning of the semester, share op-ed samples for students to learn from, and offer writing advice during office hours. The instructor has successfully used op-eds in her courses (IR300 & IR377) during 2017-18. Students will learn how to effectively undertake this innovative assignment that can have a moderately high payoff as a market-ready skillset after graduation.

**Course Learning Objectives**

By the end of this course, students will have achieved 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 to contemporary security problems

**ACADEMIC HONESTY STATEMENT**

Students are responsible for understanding and following the provisions of the CAS Academic Conduct Code and Policies. Copies of the code are available here:

- [http://www.bu.edu/academics/policies/academic-conduct-code/](http://www.bu.edu/academics/policies/academic-conduct-code/)
- [GRS: http://www.bu.edu/cas/students/graduate/grs-forms-policies-procedures/academic-discipline-procedures/](http://www.bu.edu/cas/students/graduate/grs-forms-policies-procedures/academic-discipline-procedures/)

Cases of misconduct must be reported to the Dean’s office. All class members are expected to maintain the highest standards of academic honesty and integrity. You are expected to provide citations in papers for all quotations, paraphrases, and ideas taken
from any source other than your own original thoughts. Boston University has very strict standards for intellectual integrity, and punishment for plagiarism is severe, and can include permanent expulsion from the university.

### Instructional Format, Course Pedagogy, & Approach to Learning
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 to write their policy memo and op-ed assignments for this course.

### Books & Courseware
There are no required textbooks for this course. There are required readings that will be made available to the students through Blackboard and course reserves at BU’s Mugar Library. Below is a list of movies/documentaries that students are required to watch as part of this course:

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

### Assignments

1. **Policy Memo (30%)**: Students are required to write a policy memo of no longer than 3000 words (2000-2500 words approximately) in which they will identify a contemporary policy scenario, offer 3-5 policy options, identify one best option, and provide a data-driven justification for it. The policy scenario must relate to one or more of the themes in this course. The policy memo will be addressed to a top policymaker, and will be written keeping in mind official etiquette and political realities in mind. This assignment is broken down into two steps in order to help students to obtain feedback on their writing and analysis. The two steps are explained below.

   a. **Draft Memo (10%)**: Students will submit a draft memo 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.

   b. **Final Memo (20%)**: Students will submit the final policy memo during Week 9. No resubmission is permitted. The final policy memo should incorporate all the elements that are mentioned under (A).

2. **Simulation (15%)**: On Week 12, the two weekly sessions will be used for running a simulation on a nuclear policy problem. Each team will be assigned one of the two
scenarios. 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 300 words. The write-up is due on Week 13. The total assignment is worth 15 points (10 points for simulation and 5 points for the write-up). Further instructions will be circulated closer to the date.

3. **Op-Ed (30%)**: Each student will write two op-eds of approximately 750 to 1000 words each 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. The first op-ed (15 points) is due on Week 4. The second op-ed (15 points) is due on Week 14. Op-ed guidelines will be circulated in class.

4. **Attendance & Participation (25%)**: Regular attendance in class is mandatory. Attendance and regularly active class participation based on critical analysis of the assigned readings will account for 25% of the total 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/](https://www.bu.edu/reg/academics/grades-gpa/)

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<thead>
<tr>
<th>Course Component</th>
<th>Percentage</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>Attendance and Participation</td>
<td>25%</td>
<td>A 93 - 100</td>
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<tr>
<td>Simulation</td>
<td>15% (10+5)</td>
<td>A- 90-92</td>
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<tr>
<td>Policy Memo</td>
<td>30% (10+15)</td>
<td>B+ 87-89</td>
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<tr>
<td>Op-Ed</td>
<td>30% (15+15)</td>
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<td>B- 80-82</td>
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<td>C+ 77-79</td>
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**Class and University 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. 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 class participation grade.

The instructor will respond to emails within 24 hours of receiving them, except on weekends. So, clarifications related to Monday sessions must be sought during the previous week, and not over the weekend. The instructor will make grades available within 48 hours of the completed assignment. 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 grade letter. Students who must be absent from class for religious observance must notify the instructor as early as possible, and at least two weeks in advance.

3) Assignment Completion & Late Work
All assignments must be sent by email to the instructor before 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 as early as possible so that makeup assignments can be scheduled.

4) 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/

5) Accessibility
Boston University 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 your professor 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).

DETAILS OF CLASS MEETINGS

PART I
Introduction to Politics, History & Technologies
Week 1-3

WEEK 1
Lecture 1: Managing Weapons of Mass Destruction
No readings. The instructor will lecture.

Lecture 2: Nuclear Fission in History
- Pre-World War II
  - No readings. The instructor will lecture.
- Manhattan Project
  - Documentary: The Day After Trinity (1980)
- Atomic Bombings of Japan
  - Documentary: Hiroshima (2005)

WEEK 2
Lecture 3: How do Nuclear Weapons Work?
- Fissile Materials & Significant Quantity
Lecture 4: The Utility of Nuclear Weapons in Foreign Policies
- Dissuasion, Deterrence and Compellence
- U.S. Nuclear Posture Reviews
  - Executive summaries of NPR 2010 & 2018

WEEK 3
Lecture 5: Atoms for Peace & N+1 problem
- Global Atomic Marketplace
  - President Eisenhower’s Speech at UN General Assembly, 8 Dec. 1953
- Proliferation Cascades & Intelligence Assessments
  - National Intelligence Estimate No. 4-2-64, October 1964

Briefing on Teamwork in Simulations and Crisis Scenarios

Lecture 6: Demand & Supply Sides of Proliferation
- Sagan-Waltz Debate
  - No readings. The instructor will lecture.
- Sagan’s Three Models & Solingen’s Nuclear Logics
- Supply Side Logics & Outcomes
  - Fuhrmann/Kroenig vs. Montgomery/Braut-Hegghammer /Miller

PART II
Managing Nuclear Technologies
Week 4-6

WEEK 4
Lecture 7: Proliferation, Nonproliferation & Counterproliferation, I
- Institutions
- Carrots: Umbrellas, Guns, Money
- Sticks: Sanctions, Threats, Preemptive Strikes, Aid Withholding, Sabotage
Lecture 8: Proliferation, Nonproliferation & Counterproliferation, II

- Technological Diversion

- Nuclear, Space & Cyber Technologies

WEEK 5

Lecture 9: Nuclear Institutions in the United States

- Manhattan Project to USAEC
- USAEC to ERDA to DOE
- USAEC to NRC
- ACDA to the State Department’s ISN
  - No readings. The instructor will lecture. Handouts will be circulated.

Lecture 10: International Nuclear Institutions: IAEA & NPT

- IAEA

- NPT

WEEK 6

Lecture 11: Regional Nuclear Institutions: EURATOM & URENCO

- Instructor will lecture on URENCO

Lecture 12: International Nuclear Frameworks: NSG & Zangger Committee, UNSCR 1540 & Proliferation Security Initiative
PART III
Crises & Proliferation
Weeks 7-10a

WEEK 7
Lecture 13: Nuclear Crisis I: 1962 Cuban Missile Crisis
  o Movie: Dr. Strangelove, 1964
  o Movie: Fail-Safe, 1964

  o Instructor will lecture on 1969 Sino-Soviet conflict

WEEK 8
Lecture 15: Nuclear Latency: Japan and Iran

Optional: 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-40e389e2238&sessionGUID=29cc3007-d04b-2c7d-503b-9a01ec0cd259

Lecture 16: Nuclear Rogues: North Korea, Iraq, Libya & Syria
WEEK 9

Lecture 17: Proliferation Cascade in Asia: China, India, Pakistan

Lecture 18: A.Q. Khan & Its Lessons
  - Chapter 7: Mastery of Uranium Enrichment
  - Chapter 8: Procurement Network in the Grey Market

WEEK 10

Lecture 19: Deterrence Stability in South Asia: India-Pakistan-China
- Nuclear South Asia, online Stimson Center course videos will be used.
- Instructor will lecture. Handouts will be circulated

Lecture 20: Deterrence Stability in Action: Crisis Scenarios
This is an in-class exercise for participation grade. More documents will be circulated earlier in the week.

WEEK 11

Lecture 21: Nuclear Opacity: Israel
  - Chapter on Israel

PART IV: Consequences & Oppositions

Weeks 11b-14

Lecture 22: Radioactive Poisoning: Kazakhstan and South Africa
- Movie: Silkwood (1983)
WEEK 12
Lecture 23: *Simulation Preparation Day – in-class event
Lecture 24: *Simulation Day – in-class event
More documents containing detailed guidelines will be provided a few weeks prior to the event.

WEEK 13
Lecture 25: Nuclear Security: Insider Threats & Smuggling
  - Chapter 6: Worst Practices Guide to Insider Threats

Lecture 26: Nuclear Safety: Chernobyl, Fukushima, Weapons Safety
- Movie: The Battle of Chernobyl, 2006
- Movie: Command & Control, 2016

WEEK 14
Lecture 27: Nuclear Reversal & Denuclearization

Lecture 28: Wrap-up
International Nuclear Politics, 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. How do Nuclear Weapons Work?
4. The Utility of Nuclear Weapons in Foreign Policies
5. Atoms for Peace & the N+1 Problem
6. Demand & Supply Sides of Proliferation

PART II: Managing Nuclear Technologies
Weeks 4-6
7. Proliferation, Nonproliferation & Counterproliferation I
8. Proliferation, Nonproliferation & Counterproliferation II
Op-Ed #1 due by 5 pm by email

9. Nuclear Institutions in the United States
10. International Nuclear Institutions: IAEA & NPT
*Draft Policy Memo due by 5 pm by email

11. Regional Nuclear Institutions: EURATOM & URENCO
12. International Nuclear Frameworks: NSG, Zangger Committee, UNSCR 1540, & Proliferation Security Initiative

PART III: Crises & Proliferation
Weeks 7-11a
13. Nuclear Crisis I: 1962 Cuban Missile Crisis

15. Nuclear Latency: Japan and Iran
16. Nuclear Rogues: North Korea, Iraq, Libya & Syria

17. Proliferation Cascade in Asia: China, India, Pakistan
18. A.Q. Khan & its Lessons
*Final Policy Memo due by 5 pm by email

19. Deterrence Stability in South Asia: India-Pakistan-China
20. Deterrence Stability in Action: Crisis Scenarios

21. Nuclear Opacity: Israel

PART IV: Consequences & Oppositions
Weeks 11b-14
22. Radioactive Poisoning

23. *Simulation Preparation Day – in-class event
24. *Simulation Day – in-class event

25. Nuclear Security
26. Nuclear Safety
*Simulation Write-Up Due

27. Nuclear Reversals & Denuclearization
28. Wrap-up
*Op-Ed #2 due by 5 pm on the last day of class