

# Problem of Proliferation Spring 2025

INTA 3102/8803 Syllabus

Problem of Proliferation

Tuesday/Thursday, 3:30pm – 4:45pm, Clough 123

## Instructor Information

Instructor	Email	Office Hours
Dr. Tarun Chaudhary	<a href="mailto:tchaudhary@gatech.edu">tchaudhary@gatech.edu</a>	By Appointment

## General Course Information

### Description

This course will utilize a combination of lectures, discussion, and activities to explore the political, economic, and strategic issues, both international as well as domestic, involved in the spread of weapons of mass destruction since the end of the Second World War. The course will begin by characterizing the relationship of technology to society before focusing on weapons, with particular emphasis on nuclear weapons.

### Course Goals and Learning Outcomes

1. *Problem Solving in International Affairs*: Students will be able to use their knowledge of international affairs in a practical problem-solving way to understand and analyze issues of immediate international concern.
  - a. For this course, that includes
    - i. Analyzing and unpacking the relationship between technology, society, and politics with respect to weapons and weapons development
    - ii. Demonstrate a working knowledge of nuclear energy and nuclear weapons design and development
    - iii. Analyze the factors, events, and nature of the threat that influenced international security policy with regard to WMD
    - iv. *Effective Communication Skills*: Students will be able to express their arguments clearly and effectively both in written reports and in their research and oral presentations.
  - b. **This is a Core IMPACTS course that is part of the Social Sciences area.** *Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help*

*master course content, and support students' broad academic and career goals.*

- c. This course should direct students toward a broad Orienting Question: How do I understand human experiences and connections?
- d. Completion of this course should enable students to meet the following Learning Outcome:
  - i. Students will effectively analyze the complexity of human behavior, and how historical, economic, political, social or geographic relationships develop, persist or change.
- e. Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:
  - i. Intercultural Competence
  - ii. Perspective-Taking
  - iii. Persuasion

## Course Requirements & Grading

You will be graded on a variety of work and your participation. The expectation is you will ask questions, participate in discussions based on lecture material and assigned readings. The rest of your grade will be assigned based on your performance across three assignments. 1) We will discuss how to review and evaluate an academic paper. You will find an academic paper relevant to the study of technology and/or WMD and write a 2 page evaluation. We will discuss what the evaluation consists of and how the specific grading criteria several weeks ahead of the assignment being due. 2) There will be a take-home midterm that will consist of four short answer and/or essay questions. The midterm questions will be distributed (via Canvas) on 13 Feb and be due via email to me before class begins on 18 Feb. The midterm date may change based on how the class progresses. We will discuss this during the first few weeks and finalize the date well ahead. 3) Lastly, you will have a final paper and presentation due during finals week. The topic will need to be approved by me, we will discuss the specific form and criteria for the final paper during the first few week of class. I will require an outline of your final paper to be submitted, likely by week 10 of class, to ensure you are on track to complete the final paper/presentation.

<b>Assignment</b>	<b>Date</b>	<b>Weight</b>
Participation	Ongoing	20%
Academic Article Critique	Before class 27 March	25%
Take Home Midterm	Due Before Class 13 Feb (tentatively scheduled)	30%
Final Paper/presentation	Due During Finals Week	25%

## Extra Credit Opportunities

During the semester, there may be opportunities for extra credit. For example, these opportunities could consist of attending local events or lectures pertinent to course topics and presenting your experience and what you learned to class via a short briefing. This sort of extra credit or other extra credit opportunities will be offered at my sole discretion.

## Grading Scale

Your final grade will be assigned as a letter grade according to the following scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

Each class assignment will be given a grade on scale above and weighted accordingly to produce your final grade for the class. We will discuss the grading criteria associated with each assignment in the first few classes and well ahead of due dates.

## Course Materials

### Course Text

There no required text you need to purchase. Class readings will be available online through 1) GT Library, 2) Via online access through direct link or via Google search, 3) Posted to Canvas. Access to various readings will be demonstrated in class and you are expected to proactively verify your ability to obtain the readings prior to the class discussion date. If you have any issues finding or obtaining reading, please get in touch with me. Sometimes readings may become unavailable and I will adjust the syllabus accordingly by assigning alternatives or altering the plan. At the end of each Thursday class, I'll help you focus on how to prioritize and approach the readings for the next week. I know, at first glance, the amount of reading materials may seem overwhelming, but I promise you can learn how to manage, prioritize, and create strategies to help you absorb the material quickly and efficiently to prepare for class discussions!

# Course Policies, Expectations, & Guidelines

This is a hybrid lecture/seminar style course that requires students to engage in active discussions. To do so, you should come to class prepared having read the materials assigned. Your participation is both necessary for your success and that of your fellow students. Twenty percent of your grade will be contingent on your active participation as judged through engaging during class discussions and activities. Importantly, we will try to make class-time as engaging as possible with a mixture of lecture and presentation, active discussion, along with other collaborative activities. It is the expectation that all students contribute to a collaborative and constructive learning environment. This course will help develop your skills as a writer and briefer, a skill set that is important and sought after in professional environments. This may mean your work will be critically examined and commented upon by both me, the instructor, and your peers. Constructive criticism will be welcomed and encouraged, however impolite or unconstructive comments that are mean spirited, flippant, and not aligned with the collegiate environment we are building will not be tolerated. This class can be fun while also academically enriching, I sincerely hope you will help me ensure that outcome!

## Attendance

Attendance is necessary but in cases where you are not able to attend class, please email [tchaudhary@gatech.edu](mailto:tchaudhary@gatech.edu) as soon as possible so we can discuss exceptional circumstances ahead of your absence. In cases where we are unable to discuss your absence beforehand, please schedule time for us to discuss the absence outside of class time as soon as possible. Reasonable accommodation can be made for various circumstances, however, please do not abuse my good nature and that of your fellow students. You can miss up to two classes (but not those where you are scheduled to present) for any reason before your grade will be impacted, though I reserve the right to revisit this policy depending on both individual and overall class participation and performance.

## Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. [Review Georgia Tech's Honor Code](#) and the [student Code of Conduct](#).

Any student suspected of cheating or plagiarizing on an assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Much of your graded work will be via assignments that require you to write. These written assignments are your chance to practice and demonstrate your critical analysis skills, your communication skills, and your understanding and mastery of course content. We will discuss the use of AI tools both as an emerging issue in the practice of analysis and

production of academic work and how it may or may not apply to your assignments. This discussion will help you understand how you should or should not use such tools for any particular assignment.

## Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

## Collaboration & Group Work

There will be various assignments and activities that will require collaboration and group work during the semester in addition to the assignments you must complete on your own. While there is not a formal measure of your contribution, each student should engage in group collaboration and lack of effort will be addressed if necessary.

## Extensions, Late Assignments, & Re-Scheduled/Missed Exams

Generally, late assignments without documented excuse as outlined in Georgia Tech official policy will not be accepted. Major exception: similar to what is noted in the syllabus about attendance, if you have a scheduling conflict that will prevent you turning an assignment in on time, please contact me *before* the assignment is due. If it is not possible to contact me ahead of time, contact me as soon as you're able. We can discuss the particular circumstance.

## Student Use of Mobile Devices in the Classroom

It will be useful to have a laptop that you bring to the classroom, we may utilize laptops in classroom activities, and you may choose to take notes on your laptop or other device during class. That being said, I may ask that laptops be closed during discussions or other activities if I feel students are distracted or that the devices are causing other issues. While I understand that we all may need to have our phones with us, please keep them silent during class. Reasonable exceptions can be made for those that may need to monitor phones/messages due to work or personal reasons. However, generally, please do not interact with your phone during class time and limit your use to break periods.

## Course Schedule

**Important Note:** *The topics and readings listed on this course schedule **may change** based on a number of evolving factors. There may be guest speakers that will replace or partially replace the discussion and activities scheduled for a few of the dates below. Additionally, depending on class interest, current events, and emerging opportunities, the topics may be re-organized or different topics may be included. These changes will not*

*happen without notice being given first, and the official syllabus will be revised and kept updated. My hope is this class can adapt to areas of interest to you and your peers and we can collaborate to create a dynamic, engaging, and enriching learning experience.*

Date	Topic	Reading
<b>Week 1</b>		
<b>7 Jan 9 Jan</b>	Introduction and Reading for Social Science	<b>No Readings</b>
<b>Week 2</b>		
<b>14 Jan 16 Jan</b>	Technology and Society Overview and History of Warfare	<ol style="list-style-type: none"> <li>1. <a href="#">Hung, Wu, <i>Mirror Fever</i>,</a></li> <li>2. <a href="#">Technology Revolutions and the Gutenberg Myth</a></li> <li>3. <a href="#">Peruse NSF awards under the Science and Technology Studies program</a></li> <li>4. Kelly, Justin and Mike Brennan. <i>Distributed Manoeuvre: 21st Century Offensive Tactics</i>. pp. 1 - 25.</li> </ol>
<b>Week 3</b>		
<b>21 Jan 23 Jan</b>	Overview of WMD and Global Threat Landscape	<ol style="list-style-type: none"> <li>1. <a href="#">Carus, Seth W. Defining "Weapons of Mass Destruction." 2012</a></li> <li>2. <a href="#">U.S. Department of Defense Strategy for Countering Weapons of Mass Destruction, 2023</a></li> <li>3. <a href="#">Emerging Military Technologies Background and Issues for Congress, February 2024</a></li> <li>4. <a href="#">Annual Threat Assessment of the U.S. Intelligence Community, February 2024</a></li> </ol>
<b>Week 4</b>		
<b>28 Jan 30 Jan</b>	Radioactivity and Nuclear Weapons	<ol style="list-style-type: none"> <li>1. Muller, Richard. Physics for Future Presidents, Chapters 8, 10, 11, and Nukes: Presidential Summary (Available on Canvas)</li> <li>2. Watch: Bunn, Matthew. <a href="#">Nuclear 101: How Nuclear Bombs Work Part 1/2</a></li> <li>3. <a href="#">Woolf, Amy F. The U.S. Nuclear Weapons Complex: Overview of Department of Energy Sites</a></li> </ol>
<b>Week 5</b>		

<p><b>4 Feb</b> <b>6 Feb</b></p>	<p>History of the Weapon</p>	<ol style="list-style-type: none"> <li>1. Cirincione, Joseph. Bomb Scare: The History and Future of Nuclear Weapons. Chapters 1 – 3, Available via GT Library ebook (access will be demonstrated in class)</li> <li>2. <a href="#">Albert Einstein’s Letter to Pres FD Roosevelt, 2 August 1939</a>, be sure you look at the actual letter, not just the DOE write-up)</li> <li>3. <a href="#">National Intelligence Estimate Number 11-2A-62, CIA 1962</a></li> <li>4. <a href="#">Soviet Nuclear History, Wilison Center Digital Archive</a></li> </ol>
<p><b>Week 6</b></p>		
<p><b>11 Feb</b> <b>13 Feb</b></p>	<p>PBS Documentary: Bomb</p>	<p><i>No Reading, we will watch this in class:</i> <a href="https://www.pbs.org/show/bomb/">https://www.pbs.org/show/bomb/</a></p>
<p><b>Week 7</b></p>		
<p><b>18 Feb</b> <b>20 Feb</b></p>	<p>Demand Side Arguments I- Security and Economic Arguments</p>	<ol style="list-style-type: none"> <li>1. Sagan, Scott D. "Why do states build nuclear weapons? Three models in search of a bomb." <i>International Security</i> 21, No. 3 (1996-1997): 54-86.</li> <li>2. Monteiro, Nuno P., and Alexandre Debs. "The strategic logic of nuclear proliferation." <i>International Security</i> 39, no. 2 (2014): 7-51.</li> <li>3. Solingen, Etel. "The political economy of nuclear restraint." <i>International Security</i> 19, no. 2 (1994): 126-169.</li> </ol>
<p><b>Week 8</b></p>		



<p><b>25 Feb</b> <b>27 Feb</b></p>	<p>Demand Side Arguments II – Normative and Identity Arguments</p>	<ol style="list-style-type: none"> <li>1. Müller, Harald and Andreas Schmidt, “The Little Known Story of Deproliferation,” in <i>Forecasting Proliferation: The Role of Theory</i>, ed. William C. Potter (with Gaukhar Mukhatzhanova), Stanford University Press, 2010.</li> <li>2. Rublee, Maria Rost. <i>Nonproliferation norms: Why states choose nuclear restraint</i>. University of Georgia Press, 2009, chapters 1, pages 1-34. Skim 1-13, 21-27, 28-33; read the rest.</li> <li>3. Hymans, Jacques EC. "Isotopes and identity: Australia and the nuclear weapons option, 1949–1999." <i>The Nonproliferation Review</i> 7, no. 1 (2000): 1-23.</li> <li>4. Fuhrmann, Matthew, and Michael C. Horowitz. "When leaders matter: Rebel experience and nuclear proliferation." <i>The Journal of Politics</i> 77, no. 1 (2014): 72-87</li> </ol>
<p><b>Week 9</b></p>		
<p><b>4 March</b> <b>6 March</b></p>	<p>Supply Side Technical Arguments</p>	<ol style="list-style-type: none"> <li>1. Kroenig, Matthew. "Importing the bomb: Sensitive nuclear assistance and nuclear proliferation." <i>Journal of Conflict Resolution</i> 53, no. 2 (2009): 161-180.</li> <li>2. Fuhrmann, Matthew. "Spreading temptation: Proliferation and peaceful nuclear cooperation agreements." <i>International Security</i> 34, no. 1 (2009): 7-41.</li> <li>3. Kemp, R. Scott. "The nonproliferation emperor has no clothes: the gas centrifuge, supply-side controls, and the future of nuclear proliferation." <i>International Security</i> 38, no. 4 (2014):39-78.</li> </ol>
<p><b>Week 10</b></p>		

<p><b>11 March</b> <b>13 March</b></p>	<p>Supply Side Structural Arguments</p>	<ol style="list-style-type: none"> <li>1. Hymans, Jacques EC. "Veto players, nuclear energy, and nonproliferation: domestic institutional barriers to a Japanese bomb." <i>International Security</i> 36, no. 2 (2011): 154-189.</li> <li>2. Albright, David, and Corey Hinderstein. "Unraveling the AQ Khan and future proliferation networks." <i>Washington Quarterly</i> 28, no. 2 (2005): 109-128.</li> <li>3. Fuhrmann, Matthew, and Yonatan Lupu. "Do arms control treaties work? Assessing the effectiveness of the nuclear nonproliferation treaty." <i>International Studies Quarterly</i> 60, no. 3 (2016): 530-539.</li> </ol>
<p><b>Week 11</b></p>		
<p><b>18 Mar</b> <b>20 March</b></p>	<p><b>No Class-Spring Break</b></p>	<p><b>No Readings</b></p>
<p><b>Week 12</b></p>		
<p><b>25 Mar</b> <b>27 March</b></p>	<p>Non-proliferation and Arms Control</p>	<ol style="list-style-type: none"> <li>1. <a href="#">Treaty on the Non-Proliferation of Nuclear Weapons</a></li> <li>2. <a href="#">Treaty on the Prohibition of Nuclear Weapons</a></li> <li>3. Schelling, Thomas C. "A world without nuclear weapons?." <i>Daedalus</i> 138, no. 4 (2009): 124-129.</li> <li>4. Mearsheimer, John J. "The case for a Ukrainian nuclear deterrent." <i>Foreign affairs</i> (1993): 50-66.</li> <li>5. Miller, Steven E. "The case against a Ukrainian nuclear deterrent." <i>Foreign Affairs</i> (1993): 67-80</li> <li>6. <a href="#">Arms Control and Nonproliferation: A Catalog of Treaties and Agreements</a>, Congressional Research Service. 2024</li> <li>7. <a href="#">CTBTO Treaty</a></li> </ol>
<p><b>Week 13</b></p>		

<p><b>1 April</b> <b>3 April</b></p>	<p>Nuclear Coercion and Compellence</p>	<ol style="list-style-type: none"> <li>1. Schelling, Thomas C. Arms and Influence: With a New Preface and Afterword. Yale University Press, 2008. Chapter 2 – 3 (will be posted on Canvas)</li> <li>2. • Kroenig, Matthew. "Nuclear superiority and the balance of resolve: Explaining nuclear crisis outcomes." International Organization 67, no. 1 (2013): 141-171.</li> <li>3. • Sechser, Todd S., and Matthew Fuhrmann. "Crisis bargaining and nuclear blackmail." International Organization 67, no. 1 (2013): 173-195.</li> </ol>
<p><b>Week 14</b></p>		
<p><b>8 Apr</b> <b>10 Apr</b></p>	<p>Deterrence</p>	<ol style="list-style-type: none"> <li>1. Narang, Vipin. "What does it take to deter? Regional power nuclear postures and international conflict." Journal of Conflict Resolution 57, no. 3 (2013): 478-508.</li> <li>2. Huth, Paul K. "Extended deterrence and the outbreak of war." American Political Science Review 82, no. 2 (1988): 423-443.</li> <li>3. Rapp Hooper, Mira. "Uncharted Waters: Extended Deterrence and Maritime Disputes." The Washington Quarterly 38, no. 1 (2015): 127-146.</li> <li>4. TBD</li> </ol>
<p><b>Week 15</b></p>		
<p><b>15 Apr</b> <b>17 Apr</b></p>	<p>Presentations</p>	<p>More information regarding project presentations will be distributed soon.</p>
<p><b>Last Class</b></p>		
<p><b>22 Apr</b> <b>Day</b></p>	<p>Wrap up and extra topics</p>	<p><b>TBD</b></p>