

## **INTA 8803 -- International Affairs & Technology Policy**

3.0 Credits

Spring 2014

Monday, Wednesday, and Friday, 11:05pm – 11:55pm

Ivan Allen College, G-17

Prof. Mariel Borowitz, [mariel.borowitz@inta.gatech.edu](mailto:mariel.borowitz@inta.gatech.edu)

316 Habersham, 404-385-1494

Office Hours: Monday 12:30pm – 2:30pm or by appointment

### **Course Description:**

Science and technology are essential to almost every aspect of life, and to the government. However, the ways in which the government acts as a developer/ supporter as well as a consumer of science and technology have varied significantly across time and also vary across different fields. In this course, we will examine the relation between science and technology, public policy, and international affairs. The first half of the course focuses on governments as supporters of science and technology in historical perspective - why are governments involved in science and technology issues, and what form does this involvement take? In the second half of the course, we will look at governments as consumers of science and technology, examining a number of policy areas in which science and technology are crucial for informed decision-making.

### **Course Objectives:**

- Student will demonstrate the ability to describe the social, political, and economic forces that influence social behavior.
- Student will demonstrate the ability to describe the social, political, and economic forces that influence the global system
- Students will understand causal and determinant relationships between science and technology (S&T) and international affairs across different topic areas
- Explain why the U.S. government originally invested in science and technology, and why it continues to do so today
- Analyze whether federal or state scientific and technical investments are consistent with stated policy goals
- Recognize public policy challenges in which science and technology play a major role
- Identify both the scientific and policy components of an issue as well as how these issues interconnect during policy-making
- Understand some of the primary challenges in international science and technology policy

**Course Texts:**

Pielke, Roger A. *The Honest Broker: Making Sense of Science in Policy and Politics*. Cambridge: Cambridge UP, 2007.

Muller, R. *Physics and Technology for Future Presidents: An Introduction to the Essential Physics Every World Leader Needs to Know*. Princeton, NJ: Princeton UP, 2010.

Additional readings (available online) will be listed on T-Square at least one week in advance of the class for which they should be read.

**Grade Distribution:*****14% Class Participation (not just attendance!)***

This course will include discussion on a regular basis, drawing upon the readings and lecture material. The value of these discussions is entirely dependent on the preparation and engagement of the students in the class. To get full credit for class participation, you must, on a consistent basis, attend class, be prepared for discussion, and engage fully with your classmates.

***35% One-page Reading Responses (7 worth 5% each)***

There will be one-page (250-500 word) written assignments due on Friday before class each week, requiring you to analyze a specific issue based on the readings provided. The writing prompt will be provided at least one week in advance. Each response should be sent to me via email with the subject: [INTA 4050] Reading Response Week #X – FirstName LastName.

***20% Midterm Paper – Due Monday, March 3 at 11:05am***

Three topics/ questions will be provided to you two weeks before the midterm paper is due. Please choose one of the three topics as the focus of your midterm paper. This paper should be 10-15 pages (2500-7500 words), and can be answered based on readings assigned for class (though outside sources may also be used, if desired). The midterm should be sent to me via email with the subject: [INTA 4050] Midterm – FirstName LastName.

***30% Final Paper (20%) and Policy Memo (10%) – Due Friday, Dec. 6 at 11:05am***

The final paper should be approximately 20 pages (5000 words), written on policy issue of your choice for which science and technology play a central role. The issue should also have relevance for international affairs. You can choose from the topics that we cover in lecture, but you are not restricted to these topics. The paper should identify the policy issue you have chosen and describe the current state of affairs with regard to the issue, including its relevance to international affairs. It should describe the key policy goals, stakeholders, and technical or political challenges involved. The paper should identify and analyze existing policy proposals and analyze each with regard to the goals and challenges identified. The paper should conclude with concrete policy recommendations.

In addition to the final paper, you should write a 1-page (250-500 word) policy memo

summarizing the most important findings from your paper. Assume you are writing the memo to a high-level government official that is familiar with science and technology policy in general, but not the specifics of the issue you've chosen. Include relevant background on the issue as well as your recommendations for policy action. You will have an opportunity to turn in a draft copy of the policy memo in advance to receive feedback from me. This feedback can help to improve both the memo itself as well as the final paper.

The final and policy memo should be sent to me via email with the subject: [INTA 4050] Final – FirstName LastName.

**Class Schedule:**

<b>Week</b>	<b>Dates</b>	<b>Topic</b>	<b>Assignments</b>
1	Jan. 6, 8, 10	Science and Technology Policy Today	
2	Jan. 13, 15, 17	Government and Science Before and During WWII	Response 1 Due
3	Jan. 20, 22, 24	Government and Science Post WWII <i>No Class Mon., Jan. 20: MLK, Jr. Day</i>	Response 2 Due
4	Jan. 27, 29, 31	The Space Race	Response 3 Due
5	Feb. 3, 5, 7	National Innovation Systems and Science of Science Policy	Response 4 Due
6	Feb. 10, 12, 14	STEM Education and Workforce	Response 5 Due
7	Feb. 17, 19, 21	Science, Scientists, and Policy	Response 6 Due Midterm Assigned
8	Feb. 24, 26, 28	Science Policy and Risk Analysis	Response 7 Due
9	Mar. 3, 5, 7	Climate	Response 8 Due Midterm Paper Due
10	Mar. 10, 12, 14	Weather	Response 9 Due
11	Mar. 17, 19, 21	<i>No Class: Spring Break</i>	
12	Mar. 24, 26, 28	Energy	Response 10 Due
13	Mar. 31, Apr. 2, 4	Nuclear Weapons	Response 11 Due
14	Apr. 7, 9, 11	Cybersecurity	Response 12 Due
15	Apr. 14, 16, 18	Genetically Modified Organisms	Response 13 Due
16	Apr. 21, 23, 25	Presentations and Discussion	Final Paper Due