

# INTA 8000, Science, Technology and International Affairs

Fall 2012  
Tuesday, 12:05 – 3:00  
G17 Habersham

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Office Hours: Tuesday 11-12, Thursday 2-3; and by appointment (easily made)

A detailed discussion of the Sam Nunn Security Program and what we hope to do over the course of the semester and academic year will make up parts of the first two classes. Some of this is discussed in the first section of the Lukasik policy paper.

Grades: 1) class participation and short assignments (1/3); group policy exercises (1/3); 3) policy + technology + implementation (PTI) -> impact project (1/3). All assignments are due on the dates under which they are listed.

## Readings:

- Stephen J. Lukasik, "Technology and Public Policy: A Currently Empirical Process," CISTP, April 2011. Available on-line
- William C. Davis, *Duel Between the First Ironclads*, 1975. Paperback edition. ISBN 0-8071-0868-5 Purchase your copy online
- Weekly readings from the *Economist*.
- Additional readings for many of the early classes are listed under the week for which they are assigned.

The readings assigned below should be done by the date under which they are listed. Links to readings may be placed on T-Square.

This syllabus is current as of August 17, 2012. It may change as opportunities or necessities arise.

Note that there are some scheduled guest lectures at other than class times.

## **Week 1**

August 21:

Introduction to the Sam Nunn Security Program. Subject matter overview and class organization. Scientists and engineers as policy advisors to national and international leadership. An introduction to the “cloud” and “path traveled” concept and process (to be discussed in greater detail next week).

## **Week 2**

August 28:

The path traveled from scientific or engineering concepts to world changing impact. An analytic framework for studying the science/ technology/ policy/ and policy implementation (PTI) dimensions in their broader political/ social/ economic/ institutional/ historical contexts. Discussion of the team policy projects. Introduction to a large number of PTI and team policy project examples and possibilities.

Read: Lukasik “Technology and Public Policy,” CISTP, Georgia Tech, April 2011 <http://www.cistp.gatech.edu/programs/sam-nunn-security-program/docs/SLTechnology%20and%20policy.pdf>

## **Week 3**

Sep 4:

Introduction to a large number of PTI and team policy project examples and possibilities, continued.

Read the following sample of papers on possible policy exercise topics:

Max Boot, “Pirates, Then and Now,” *Foreign Affairs*, July/August 2009, Vol. 88, Issue 4, p. 94-107.

<http://prx.library.gatech.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=42119812&site=ehost-live>

Laurie A. Garrett, “The end of AIDS? Who will pay for it” “The End of AIDS? The science says not now” , “The end of AIDS? What are you smoking?”

<http://www.lauriegarrett.com/index.php/en/blog/>

Mary Beth Nikitin, “North Korea’s Nuclear Weapons: Technical Issues,” Congressional Research Service, Feb. 29, 2012, 7-5700.

<http://www.fas.org/sgp/crs/nuke/RL34256.pdf>

Sam Nunn Security Fellows, Georgia Institute of Technology, “The INTA 8000 Commission Report: An Assessment of the State of International Civil Aviation in the Post-9/11 World.” Available on T-Square.

John Farrell, "Rooftop Revolution: Changing Everything with Cost-Effective Local Solar," Institute for Local Self Reliance, March 21, 2012  
<http://www.ilsr.org/wp-content/uploads/2012/03/rooftop-revolution-ilsr.pdf>

Molly Wood, "In the world of big data privacy-invasion is the business model," *CNet News*, Feb. 29, 2012 [http://news.cnet.com/8301-31322\\_3-57388097-256/in-the-world-of-big-data-privacy-invasion-is-the-business-model/](http://news.cnet.com/8301-31322_3-57388097-256/in-the-world-of-big-data-privacy-invasion-is-the-business-model/)

S. L. Chown et al., "Challenges to the Future Conservation of the Antarctic," *Science*, July 13, 2012, Vol. 337.  
<http://www.sciencemag.org/content/337/6091/158.full?sid=57c0f404-df44-40f6-9bfc-b5a42beb123b>

Sept. 6: (Thursday)  
Professor Sheila Jasanoff, Harvard University  
"Science and Reason in Public Decision Making"  
4-6 pm Neely Room, Georgia Tech Library

#### **Week 4**

Sep 11:

Zak Taylor (1/2 class) "Why Are Some Countries More Technologically Innovative Than Others?"

#### **Read:**

Mark Zachary Taylor, "National Innovation Rates: The Evidence For/Against Domestic Institutions," Paper prepared for the 2007 American Political Science Association Annual Meeting, Aug. 30 – Sept. 2, Chicago, IL. (Available on T-Square)

Introduction to the rest of the team policy projects

Aliya Robin Deri, "Costless" War: American and Pakistani Reactions to the U.S. Drone War," *Intersect* Vol. 5, 2012  
<http://ojs.stanford.edu/ojs/index.php/intersect/article/view/367/167>

William Foster, "Technology Drivers of World Water Scenarios," UNESCO World Water Assessment Project (WWAP), Round 2, (available on T-Square)

Introduction to the "ironclads" PTI case study for Sept. 25. Technology, industry, and geographies (physical, economic, political, demographics) at the start of the American Civil War; USA and CSA strategies and policies and their technological

implementations. Division of the class into N-S halves. Examples of the PTI process charts.

Introduction to the China PTI class for next week.

Tentative selection of policy study teams and topics.

### **Week 5**

Sep 18:

Selection of policy study teams and topics (continued).

How PTI works in China, with historical and contemporary examples.

Students will bring to class a one page essay about a technology in China.

### **Week 6**

Sept. 25

Class PTI case study. The race to Hampton Roads.

Read:

Davis Chapter 1-12

Bring in your team process charts and analyses

### **Week 7**

Oct 2:

The meeting on October 4, described below, will substitute for this class.

Oct. 4: (Thursday)

“Fifty Years after the Cuban Missile Crisis: Science in Support of Nuclear Arms Control and Security” Gordy Room, Wardlaw (Around lunch time: Exact time and place to be announced)

Read:

Alexander Glaser, “Facilitating Nuclear Disarmament: Verified Declarations of Fissile Material Stocks and Production,” *The Nonproliferation Review*, 2012 19:1, 125-135. <http://dx.doi.org/10.1080/10736700.2012.655092>

On Tuesday, Aug 21 we will pass out the syllabus through Week 7 above. And not anything that follows for the time being.

### **Week 8**

Oct 9:

Selection of PTI projects

Have Som and/or Tanguy (both still around) come and give their PTI presentation as an exemplar. Also have people read their papers for the class.

### **Week 9**

Oct 16: Fall Recess (no class) Trip to CDC?

\*\*\*We will fix up the descriptions of the next 2 classes, and make both into CISTP lunch presentations, with the first half advertised to the public, and the second half just with the class and the speakers. Try to reserve the Gordy Room at Wardlaw.\*\*\*

### **Week 10**

Oct 23:

Dr. Stanley Foster, \*(Professor, Rollins School of Public Health, Emory University) on lessons learned from the smallpox eradication program that are relevant to building developing countries' capacity for health care decision-making.

Learning Objective: Evolution of Health Policy

Pre-Class Preparation

- Ted Talks Hans Rosling – Our Changing World [http://video.ted.com/talk/podcast/2006/None/HansRosling\\_2006.mp4](http://video.ted.com/talk/podcast/2006/None/HansRosling_2006.mp4)
- Spina Bifida – the Development of Policy – Godfrey Oakley  
Link early September Class

Class

- Q&A re reading
- Smallpox – a case study in Policy and Program
- Q&A

### **Week 11**

Oct 30:

Tony Rutkowski, [ITU-T Study Group 17 \(Security\) Rapporteur for Cybersecurity](#)

### **Week 12**

Nov 6: First PTI

**Week 13**

Nov 8:  
3 PTIs

**Week 14**

Nov 13: 3 PTIs

**Week 15**

Nov 20:  
1 Policy Team, 2 PTIs

**Week 16**

2 Policy Teams

**Week 17 (last class)**

Dec 4: 2 Policy Teams

Reading assignment over the intercession (Rhodes)  
Richard Rhodes, *The Making of the Atomic Bomb*, Simon and Shuster, August 1,  
1995. ISBN-13-978-0684813783

*Possibilities for individual PTI projects:*

Panama Canal (McCullough) followed by current PC widening efforts. Original PC would include Yellow Fever. Maybe use this to start Spring semester?

US Transcontinental RR

Russia Trans Siberian RR

Military UAVs

GPS

Radar (Buderer)

Man to the Moon, and US space program to that point

Arpanet/Internet

Bio/medical: insulin  
DNA for forensics  
Malaria  
Bioterrorism/pandemic preparedness (Maggie)  
Smallpox, SARS  
Polio  
Flu (1918 to H1N1)

The US Weather Service

Fall social with last/this year's fellows, some others (have WF organize)?  
Who is still around? Som? Tanguy?

Fall trip: Charleston (SPAWAR, +), Augusta (SRS), ORNL (Oct 16-18), CDC

International agreements (w/ Adam, Maggie)

Possible speakers (mostly for the Spring?):

Fall or Spring: Tony Rutkowski, Maggie, Adam, Danny, Marilyn Brown, Mike Best,  
Robert Butera, Stan Foster

Tony Rutkowski on can we negotiate cybersecurity

Read: Lynn; any 20 Schneier essays;

Lukasik, "Protecting Users of the Cyber Commons"

Spring trip to DC: Note problem with so many non-citizens. Do during Spring break?