INTA 8000: Science, Technology and International Affairs I
SNSP Seminar
Fall 2014

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TuTh 1:35-2:55

G17 Habersham

Office hours: Before each class and as otherwise arranged

Syllabus as of 15 September 2014. It will be updated as we make choices and take advantage of opportunities during the semester.

Overview

The course, as part of the Sam Nunn Security Program (SNSP), will explore and enable better understanding of the interactive roles; the effect of science and technology; and the economic, institutional, policy and social contexts in which science and technology may implemented. This will be accomplished through extensive and intensive in-class discussions, guest lectures by experts, individual and group projects, and off-site visits to policy-making and –executing organizations, agencies, and institutions.

Learning Objectives

1. Students will demonstrate the ability to describe the causal and determinant relationships between science and technology (S&T) and security across different topic areas.
2. Students will demonstrate ability to apply concepts and multiple methodologies to explain phenomena in security related to S&T.
3. Students will understand and be able to assess relationships among organizational institutions & structures at the local, national, regional & global level and S&T.
4. Students will become familiar with multiple major governance entities (e.g., international agreements and institutions) relevant to S&T and security.
5. Students will understand and learn about how S&T shaped history, promising S&T developments (such as information and communications technology, cognitive and

biological sciences, robotics, and nanotechnology), and pressing S&T challenges for the future in an international context.
6. 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.
7. Team working skills. Students will be able to work in small groups in a way that demonstrates respect for their colleagues and efficiency in working collaboratively towards projects and goals.

Attendance and Participation

You are expected to make reasonable efforts to attend all classes and participate actively. We recognize that both anticipated and unanticipated events may overlap with the regularly scheduled class.

Academic Integrity

For all assignments, materials, and exams, you are expected to maintain the highest academic integrity.

While academic integrity takes many forms, one of the most common violations is plagiarism. Per the Georgia Tech Honor Code, plagiarism is an act of academic misconduct. The Georgia Tech Honor Code specifies: "'Plagiarism' is the act of appropriating the literary composition of another, or parts of passages of his or her writings, or language or ideas of the same, and passing them off as the product of one's own mind. It involves the deliberate use of any outside source without proper acknowledgment."

Plagiarism ranges from the blatant, such as purchasing a term paper or copying on an exam, to the subtle, e.g., failing to credit another author with the flow of ideas in an argument. Simply changing a few words from the writings of other authors does not alter the fact that you are essentially quoting from them and appropriating their ideas. Paraphrasing of this sort, where you use the words of another almost verbatim without acknowledging your source, is the most common form of plagiarism among students and in general. When you state another author's viewpoint, theory, or hypothesis – especially when it is original or not generally accepted – you must also include a reference to the originator. In general citations are unnecessary when the information is considered common knowledge or a matter of widespread agreement or controversy.

For more information on the Georgia Tech Honor Code, please see http://www.honor.gatech.edu.

In short: just don't cheat.
*This is one instance when asking forgiveness rather than permission is *not* a good strategy.*

Accommodations for Students with Disabilities

Per Georgia Tech policy: if you have a significant disability, special arrangements will be made to accommodate documented needs (through the ADAPTS office). Please contact either professor after class or at your earliest convenience.

Course Schedule and Readings

Readings will be assigned and distributed in hard copy or on T-Square in a timely way throughout the semester. The CISTP conference room/library in 307 Habersham is available to members of this seminar for meetings, quite time, etc. The material in that room may be borrowed on an honor system basis for any purpose that interests you. We will maintain a folder of hardcopies of most of the readings for the class there as well.

Week 1

August 19 & 21
- Introduction to the SNSP
- Semester and academic year scope
- Subject matter overview and class organization
- Scientists and engineers as policy advisors for national and international leadership.
- Introduction to the "cloud" and "path travelled" concept and framework
- Introduction to possible class PTI choices

Assignment:
Choose a PTI (Policy, Technology, and Implementation) topic and write a short (no more than 2 pages) description along the lines presented in class.
Due on Sep 2. We will discuss your papers in class.

Week 2

August 26
- The paths travelled from S&T conception to world-changing impact
- Continued discussion of the PTI framework for studying the science, technology, policy, and policy implementation dimensions in their broader political, social, economic, institutional, and historic contexts.
- Discussion of class and individual project possibilities

Assignments:
Read:
- S. J. Lukasik, "Technology and Public Policy," A set of slides prepared for INTA 8000A, 22January 2001.
- Stephen J. Lukasik, "Technology and Public Policy: A Currently Empirical Process," CISTP, 19 pages, undated.

Aug 28
- How S&T research programming and funding is done within the US federal government, the connections to strategy, and budget processes

Week 3

Sep 2
- Hand in and discuss the short individual PTI exercises

Sep 4
- Discussion of short individual PTI exercises.
- Start proposals for individual/pair term PTI exercises

Week 4

Sep 9
- Anesthetics and antiseptics

Assignment:
Read
- Atul Gawande, "Slow Ideas: Some innovations spread fast. How do you speed the ones that don't?" *The New Yorker*, 29 July 2013, pp. 36-45.

Sep 11
- Biological Weapons and BWC

Assignments:
Read:
- Gregory D. Koblentz, "Pathogens as Weapons: The International Security Implications of Biological Warfare," International Security, Vol. 28, No. 3 (Winter 2003/04), pp. 84-122, http://belfercenter.ksg.harvard.edu/publication/346/pathogens_as_weapons.html

Browse:
- "Life Sciences and Related Fields: Trends Relevant to the Biological Weapons Convention," 2011, National Academies Press, Washington DC, http://www.nap.edu/catalog.php?record_id=13130

All individual/pair PTI term topics approved

Week 5

Sep 16
- Bioterrorism

Assignments:
Read:
- H. J. Jansen, F. J. Breeveld, C. Stijnis, and M. P. Grobusch, "Biological Warfare, Bioterrorism, and Biocrime," Clinical Microbiology and Infection, Volume 20, Issue 6, pp. 488-496, June 2014, http://onlinelibrary.wiley.com/doi/10.1111/1469-0691.12699/pdf

Browse:
- CDC | Bioterrorism - Emergency Preparedness and Response Webpages, http://www.bt.cdc.gov/bioterrorism/
- "Biotechnology Research in an Age of Terrorism, 2004, National Academies Press, Washington DC, http://www.nap.edu/catalog.php?record_id=10827

Sep 18
- SNSP reception
- *Note time: 6PM in Sam Nunn Conference Room, Habersham Building

Week 6

Sep 23
Watch:
- Dr. Hans Rosling's 31 October 2012 Mountain Lecture at CDC: "An Evidenced Based View of Public Health," http://www.youtube.com/watch?v=iL8tl6jWCK0

Assignments:
Browse:
- "Globalization, Biosecurity, and the Future of the Life Sciences, 2006, National Academies Press, Washington DC, http://www.nap.edu/catalog.php?record_id=11567

Sep 25
- No class (absorbed into the CDC visit)

Week 7

Sep 30
- Current global public health issues. CDC visit overview and final detail coordination

Assignments:
Browse:
- Centers for Disease Control (CDC) and Prevention website, http://www.cdc.gov/
- HHS Public Health Emergency website, http://www.phe.gov/preparedness/Pages/default.aspx
- WHO website, http://www.who.int/en/

Oct 1
- Class visit to CDC (note that this is a Wednesday and the field trip will take the entire day starting at 08:30AM)

Oct 2
- No class (absorbed into the CDC visit)

Week 8

Oct 7
- Individual PTI status reports

Oct 9
- Individual PTI status reports
- Organization of teams for the ironclads class PTI exercise

Assignment: start reading

- William C. Davis, ***Duel Between the First Ironclads***, 1975. Paperback edition, ISBN 0-8071-0868-5 Available at the Engineer's Book Store in late September.

Week 9

Oct 14
- Fall recess, no class

Oct 16
- Background on policy and conflict in context of ironclads class PTI exercise

Week 10

Oct 21 & 23
- The race to Hampton Roads

Week 11

Oct 28
- Visiting lecture by LTG Russel L. Honoré, US Army (ret) *(tentative)*

Oct 30
- Finish ironclads class exercise, especially discussion of impacts
  Final "paths through the cloud" charts due

Week 12

Nov 4 & 6
- Starting this week we will begin our individual PTI project presentations; 2 per class for 13 total. These will be explicitly scheduled after the status reports of Week 8. We have a cushion of 1-2 classes to give us flexibility to reschedule (e.g., if one of our class members has an unexpected development) or take advantage of an opportunity. On one of these days we are likely to have a visiting lecture.

Week 13

Nov 11 & 13
- Continue individual PTI project presentations

Week 14

Nov 18 & 20
- Continue individual PTI project presentations

Week 15

Nov 25
- Continue individual PTI project presentations

Nov 27
- Thanksgiving, no class

Week 16

Dec 2
- Semester wrap-up and synthesis of topics covered

Dec 4
- Class review and discussion of next semester

NO FINAL EXAM

Grades: To be discussed during the first week of class.

One More Thought

Collaboration, sharing ideas, etc.

"Talk about your ideas. Help your colleagues work out their problems. Pay attention to what other people are doing, and see if you can learn something, or if you can contribute.

"Other than the mundane goal of getting your degree, you are in school to push back the frontiers of knowledge. You do this by generating and exploring new ideas. There is no way that you will ever be able to explore all of the ideas that you generate, but some of those ideas that you discard might be just what some of your colleagues are looking for.

"Human nature tends to make us want to hoard our own ideas. You have to fight against that. Human nature also tends to make us treat other people's ideas with disrespect. The closer the idea to our own area of research, the more likely some part of our brain will try to find fault with it. Fight against that even harder.

"You will find many people in academia who give in to the dark side. These Stealth Researchers never discuss what they are working on, except in vague and deceptive terms. They are experts at finding fault with the work of their colleagues. The Stealth Researcher writes papers that make very grand claims, but you can never quite figure out what they've accomplished and what they haven't. He is a master at omitting the key detail of the design or process that would enable others to follow his work. The Stealth Researcher is a knowledge diode, a roach motel for information. He has replaced the fundamental goal of discovery and publication with the twin evils of ego and empire.

"Be open about what you are working on. Be honest about what you've done, and even more honest about what you haven't. Don't ever hide an idea for fear that someone will steal it, even if you are talking to a Stealth Researcher. With patience, maybe we can cure them."

Prof Kristofer S.J. Pister
Electrical Engineering and Computer Science
UC Berkeley