

INTA 8001, Science, Technology and International Affairs

Spring 2012

Tuesday, 12:05 – 2:55
G17 Habersham

Prof. Seymour Goodman, goodman@cc.gatech.edu
302 Habersham, 5-1461
Office Hours: Tuesday 3:00 – 4:30, and by appointment
Bernard Gourley, Bernard.gourley@inta.gatech.edu
Jessica Gibson, gtg909g@mail.gatech.edu; Will Foster

Grades: 1) PTI presentation and paper (all except John and Som) (25); 2) class participation (35); 3) semester project (40).

All assignments are due on the dates under which they are listed. The written papers for the PTI reports should be available for the class to read no later than the Sunday morning preceding the presentation date.

- Richard Rhodes, *The Making of the Atomic Bomb*, 1988. There is a paperback edition in print. ISBN 0-671-65719-4
- Vannevar Bush, "Science: The Endless Frontier," 1945. This has been published and republished multiple times. Any version will do. For example: <http://www.amazon.com/Science-frontier-President-scientific-research/dp/124564422X/> For a recent assessment, see http://sciencepolicy.colorado.edu/admin/publication_files/2010.24.pdf

The readings assigned below should be done by the date under which they are listed. Other readings will be assigned throughout the semester. Links to two are below.

This syllabus is current as of January 30, 2012. It will change as opportunities or necessities arise.

Week 1

Jan 10: Overview of the semester. PTI proposals.
Somali piracy in the Indian Ocean
The Making of the Atomic Bomb,
The International Science of the Atom
Read: Rhodes, Chs 1-9.

Week 2

Jan 17: The path to the Einstein letter and the Roosevelt decision+
All PTI choices made
Read: Rhodes Chs 10-12
Due: Team path charts and analyses

Jan 19: Optional lecture
Elisabeth Pate-Cornell, "Games and Risk Analysis: Four cases involving Management and National Security,"
11 a.m. – noon, IC 217, ISyE Instructional Center

Week 3

Jan 24: Note time and place before our normal class.
Rob Butera (ECE and former Department of State) and Margaret Kosal (INTA and former Office of the Secretary of Defense)
"Biotechnology and national security: the role of the scientist and engineer in Washington"
11 am – noon Suddath Room, Institute for Bioengineering and Bioscience (315 Ferst Drive, Building 146 on the campus map)

Jan 24: After the Butera/Kosal talk, our class will start at 12:30 in G17
Gourley reception and class
From the second Roosevelt decision to the creation of Los Alamos
Read: Rhodes Chs 13-14
Discussion of semester projects
Due: Team process charts and analyses

Week 4

Jan 31: "Reducing the Vulnerability of a Supply Chain to an Intentional Attack," Chip White and Alan Erera (ISyE) (until 1:30)
Los Alamos to the Trinity test
Status reports on semester projects
Read: Rhodes Chs 15-17
Due: Team process charts and analyses

Week 5

Feb 7: Trinity to Ending World War II
Status reports on semester projects
Read: Rhodes Chs 18-19 and Epilogue;
"The Manhattan Project" (HC)
Due: Team process charts and analyses

Week 6

Feb 14: German & French Tank Development During the Interwar Period (CE)
The Development and Impact of Radar: A Policy Perspective (AT)
The institutionalization of R&D for the national well-being
Read: Bush, *Science: The Endless Frontier*; 2 PTI papers

Week 7

Feb 21: The Chinese Atom Bomb (WF)
The Cold War and Nuclear Arms Race
"The Chappe Telegraph" (TH)

Week 8

Feb 28: "Critical Thinking" Nancy Ruggeri, CETL (until 1:30)
Contending with Malaria (GL and cake)
"Labeling of Genetically Modified Foods" (NS)

Week 9

Mar 6: "Can you copy this" (JP)
"Development of the Internet" (AnS)
"Understanding the Trusted Foundry Program" (SS)

Week 10

Mar 13: "Development of Radiation Exposure Regulation" (CA)
"Earthquake Monitoring Networks" (AbS)

Week of March 19 = Spring Break

Week 11

Mar 27: First project presentation

Apr 16: Energy Security (exact title to follow)
Sam Nunn Policy Forum, note that this is a Monday

Apr 24: Last class of the semester. All presentations to be completed

May 6-10 DC trip