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Summer 2008

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Science, Technology & Society: Weapons of Mass Destruction – STS 2400/03, 04, 05

An interdisciplinary course exploring the development and integration, both historical and contemporary, of science, technology, and society, this course seeks to help students to understand the world in which they live. Students will explore the complex, social, ethical, and moral choices presented by modern science and technology. The specific purpose of this course is to provide students with a strengthened understanding of emerging problems of the proliferation of weapons of mass destruction. This will include an examination of the dangers involved with the spread of chemical, biological, and nuclear weapons as well as ballistic missiles. Efforts to control these weapons including formal treaties and supplier agreements will also be examined.

ENGL 1101 is a prerequisite for this course.

LEARNING OUTCOMES

Students will be able to:

1. Identify and evaluate competing view and the information supporting them.
2. Formulate their own opinions on complex issues and to communicate their views clearly in both written and oral formats, and support their position with relevant evidence.
3. Recognize the ways in which science and technology have been shaped by, and have helped to shape, society and culture.
4. Apply STS concepts to the scientific disciplines and technologies relevant to their majors.
5. Participate effectively in multidisciplinary groups.

TEXTBOOKS

Cirincione, Joseph, with Jon B. Wolfsthal and Miriam Rajkumar. 2005. Deadly Arsenals: Tracking Weapons of Mass Destruction 2nd edition. Washington D.C.: Carnegie Endowment for International Peace.

Attendance to all classes is mandatory.

Listed below are some relevant sites that will aid you in your research

Carnegie Endowment's proliferation website

<http://www.ProliferationNews.org>

James Martin Center for Nonproliferation Studies

<http://cns.miis.edu/index.htm>

Center for Arms Control and Non-Proliferation

<http://www.armscontrolcenter.org/>

Nonproliferation Policy Education Center

<http://www.npec-web.org/>

Center for Strategic and International Studies

<http://www.csis.org/index.php>

Carnegie: NPP

<http://www.carnegieendowment.org/npp/>

Nuclear Threat Initiative

<http://www.nti.org/>

Belfer Center: Managing the Atom

http://belfercenter.ksg.harvard.edu/project/3/managing_the_atom.html?page_id=191/

Federation of American Scientists

<http://www.fas.org/programs/ssp/bio/index.html>

COURSE EVALUATION

Your final grade in this class will be derived from five assignments. These assignments include three essays (approximately 1500 words), a group participation project, and a group presentation project. Each assignment constitutes 20% of your final grade.

First Paper: The technologies used to produce chemical, biological, and nuclear weapons also have peaceful applications. In your paper discuss the peaceful and violent applications of these technologies. Evaluate the costs and benefits of applying these technologies in peaceful and violent forms. Should certain technologies be limited even if they do have benefits in order to limit the negative consequences?

Second Paper: The laws of probability suggest that as more states acquire nuclear weapons the likelihood that they will be used also increases. Can nuclear-armed states limit proliferation without reducing their own arsenals? Should nuclear weapons states like the United States completely eliminate their nuclear arsenals?

Third Paper: See instructions for group project

Group project: Each student will be assigned a geographical region and a specific issue area. Students will be required to work with the group to produce a collective presentation. The written assignment will be based on the student's assigned issue area within the specific region assigned to the group. This essay should be between five and eight pages in length and properly documented with at least five sources.

Regions

North America (including Mexico)

South America (including Caribbean)

Europe (excluding Russia and the countries of the former Soviet Union)

Russia (including countries of the former Soviet Union)

Africa (including Egypt)

East Asia (Turkey to Iran)

West Asia (Pakistan to Japan)

Issues Area

Biological and Chemical Weapons

Nuclear weapons

Nuclear energy

Missile Technologies

Week 1

Review of Course structure, assignments, and expectations

Read chapter 1

Week 2

A primer on biological and chemical weapons

Read chapter 4

Week 3

A primer on nuclear weapons
Read chapter 3

Week 4

Paper #1 due
A primer on missile proliferation
Read chapter 5

Week 5

Non-proliferation regimes
Read chapter 2

Week 6

How to look for credible sources of information

Week 7

Paper #2 due
Group work

Week 8

Presentations

Week 9

Presentations

Week 10

Presentations
Paper #3 due.