

October 29, 2008

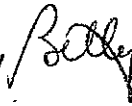
TO: The General Studies Council
FROM: Nicholas Alozie *NOA*
Head, Social and Behavioral Sciences
RE: STS Courses Submitted for General Studies Review

Earlier this year the ABOR approved the B.S. degree program in Science, Technology, and Society for the Polytechnic campus (see attached memorandum from Provost Capaldi). Science, Technology, and Society (STS) is a social science discipline that investigates the interrelationship of science/technology and human systems. Typically, issues concerning the impact of science/technology on globalization, reproductive technology and human values, information technology and human relations, and science/technology and public policy and governance all come under the general domain of studies in STS. All of the STS courses included in this review are *required* to support this new degree program. These courses have all gone through the ACRES process and have received final approval (see attached front sheet from ACRES).

ASU
ARIZONA STATE UNIVERSITY

March 28, 2008

TO: David Schwalm, Dean
School of Applied Arts and Sciences

FROM: Elizabeth D. Capaldi
Executive Vice President and Provost of the University 

SUBJECT: B.S. in Science, Technology, and Society

This is to notify you that on March 25, 2008, the Academic Affairs Committee of the Board of Regents approved the request for authorization to implement the B.S. in Science, Technology, and Society.

You may proceed to implement the proposal effective immediately. The following plan code has been established in OASIS, effective fall 2008: ECSTSBS

XC: Maria Allison
Bridgot Allcott
Jill Andrews
Nancy Dickson
Melinda Gebel
Jennifer Glawson
Heather Hoffart
Cecilia Hook
Glenn Irvin
Nancy Kiernan
Phyllis Lucie
Linda Pedersen
Julie Ramsden
Adrian Sannier
Gini Sater
David Young
Nicholas Alozie
Lisa Frank

EXECUTIVE VICE PRESIDENT AND PROVOST OF THE UNIVERSITY

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New Course Curriculum Form

Arizona State University

E STS 364 Science, Technology and National Security 3.0 - Spring 2009 | CL: None

Originator: Silvia Llamas-Flores **Status:** Approved **Department:** Social and Behavioral Sciences (Polytechnic)**Date Created:** 05/08/2008 **Submitted:** 05/14/2008 **Completed:** 10/21/2008 **To****ACETS:****Campus:** E**College:** Applied Arts and Sciences**Subject:** STS**Number:** 364**Title:** Science, Technology and National Security**Abbreviated title:** Science, Techn, Natnl Security**Semester hours:** 3.0**Effective semester:** - Spring**Summer justification:** N/A**Effective year:** 2009**Catalog description:** Examines how changing technologies impact all aspects of national security policy in the United States.**Primary component:** Lecture**Graded component:** *Same as primary component**Additional component(s):****Optional component(s):****Cross-listing:** | CL: None**Cross-listed course(s):****Enrollment Requirements?:** Yes**Prerequisite(s):** STS 101, 301, or instructor approval**Conditional prerequisite(s):****Corequisite(s):****Pre-/corequisite(s):****Repeat for credit:** No**Total hours allowed:****Total completions allowed:****Multiple**

ARIZONA STATE UNIVERSITY EAST/TEMPE CAMPUS

GENERAL STUDIES PROGRAM COURSE PROPOSAL COVER FORM

Courses submitted to the GSC between 2/1 and 4/30 if approved, will be effective the following Spring.

Courses submitted between 5/1 and 1/31 if approved, will be effective the following Fall.

(SUBMISSION VIA ADOBE.PDF FILES IS PREFERRED)

DATE 10/31/2008

- 1. ACADEMIC UNIT: ASUP SOCIAL AND BEHAVIORAL SCIENCES
2. COURSE PROPOSED: STS 364 Science, Technology and National Security (3)
3. CONTACT PERSON: Name: Sherrie Loomis Phone: 480/727-1984
Mail Code: 0180 E-Mail: sherrie.loomis@asu.edu

- 4. ELIGIBILITY: New courses must be approved by the Tempe Campus Curriculum Subcommittee and must have a regular course number.
5. AREA(S) PROPOSED COURSE WILL SERVE. A single course may be proposed for more than one core or awareness area.

Table with 2 columns: Core Areas and Awareness Areas. Includes checkboxes for Literacy and Critical Inquiry, Mathematical Studies, Humanities and Fine Arts, Social and Behavioral Sciences, Natural Sciences, Global Awareness, Historical Awareness, and Cultural Diversity.

- 6. DOCUMENTATION REQUIRED. (1) Course Description (2) Course Syllabus (3) Criteria Checklist for the area (4) Table of Contents from the textbook used, if available
7. In the space provided below (or on a separate sheet), please also provide a description of how the course meets the specific criteria in the area for which the course is being proposed.

CROSS-LISTED COURSES: [X] No [] Yes; Please identify courses:

Is this a multisection course?: [X] No [] Yes; Is it governed by a common syllabus?

NICHOLAS ALOZIE
Chair/Director (Print or Type)

Handwritten signature of Nicholas Alozie
Chair/Director (Signature)

Date: 10/29/2008

Syllabus
Arizona State University Polytechnic Campus
School of Applied Arts and Sciences
Social and Behavioral Sciences

STS 364 Science, Technology, and National Security

Fall, 2008

Schedule Line Number:

Satisfies General Studies:

Venue: Santa Catalina Hall 133
Time: 2:00PM – 3:15PM
Days: Monday and Wednesday
Meeting Dates: 8/25/2008 – 12/9/2008
Class Format: Lecture/Discussion

Professor: Dr. Nicholas Alozie
Office: Santa Catalina (SANCA) 252M
Tel.: (480) 727-1395
E-Mail: Alozie@asu.edu

Office Hours: Mondays & Wednesdays 12:00pm-1:30pm, and by appointment.

Course Description:

The 9-11 terrorist acts in New York City changed America's view of national security. Before that day, Americans thought of such events largely as things that happened in foreign lands. Today, however, that view has changed to one of "know who your neighbor is." Yet, we understand that 9-11 may not be the worst terrorists are planning. We know that they trying to get: chemical weapons; biological weapons; even nuclear weapons. If they can get their hands on such weapons, no one should doubt that they would use them. So our government today is taking many steps to protect the nation from future attacks with weapons of mass destruction and provide for homeland security broadly.

This course will explore the interaction of technology and national security policy from the perspective of history to the implications for this new security imperative - Homeland Defense. In particular, we will ask the questions: How do we define the threat? What are appropriate and effective responses to the threat? How are important policy decisions made when informed scientific judgment is critical to that decision? We will study the nature of key technologies used in nuclear and biological weapons, military platforms, intelligence gathering, and the internet. In addition to the US perspective, we will look at these policy issues from the point of view of other nations, both allies and adversaries, and the impact of the terrorist threat more broadly. Actual case studies and applications will be examined.

Learning Outcomes:

Students are expected to have a sophisticated grasp of how we define the security threat to the United States, the appropriate and effective responses to the threat, the important policy decisions made when informed scientific judgment is critical to that decision, and the nature of key technologies used in nuclear and biological weapons, military platforms, intelligence gathering, and the internet. In addition to the US perspective, students are expected to understand these policy issues from the point of view of other nations, both allies and adversaries, and the impact of the terrorist threat more broadly.

The following topics will be treated in the course:

The Theaters of War; Debating National Security (The Preventive Defense Strategy); National Security Strategies (Surveillance, anti-missiles and Peace Shields); Weapons and Weapons of Mass Destruction (Laser Weapons, "Smart Bombs," Biological Weapons, Chemical Weapons, Dirty Bombs, Nuclear Bombs); Safety Critical Systems; Nuclear Proliferation and Containment; and Nuclear Energy and the Dilemmas of Dual-Use.

Required Materials:

Two textbooks are required for the course:

Ashton Carter and William Perry. Preventive Defense: A New Security Strategy for America.

Richard Garwin and Georges Charpak. Megawatts and Megatons: The Future of Nuclear Power and Nuclear Weapons.

Grading:

The course requires both a midterm and a final examination. In addition, a major policy paper is required that investigates security concerns in one particular area. For instance, such papers could focus on urban preparedness, protection of nuclear facilities, airlines and shipping, and border patrol. The final grade is determined as follows: each examination 30%; policy paper 30%; and attendance and participation 10%. The University's standard grading is used:

A+=98-100%= 392-400

A =92- 97%= 368-388

A-= 90-91%= 360-364

B+=87- 89% =348-356

B =82-86%=328-344

B-=80-81%=320-324

C+=77-79%=308-316

C =70-76% =280-304

D=60-69% =240-276

E=59% or less=236 points or less

The instructor will exercise discretion in grading only in cases where the point total falls within the "gap" between grading categories. As always, the benefit of any doubt will be given to those who participate and consistently seek to achieve the goals of the course.

An "A" grade means that a student is doing outstanding or excellent work. The student hands-in all of the course assignments on time and demonstrates a thorough grasp of the material. To receive an "A" grade a student must go well above and beyond the basic expectations for the course.

A "B" grade means that a student is doing above average work. The student hands-in all of the course assignments and demonstrates a strong grasp of the material.

A "C" grade means that a student is doing at least satisfactory work, and is meeting the minimum requirements for the course. The student hands-in all of the course assignments and demonstrates a basic level of understanding of the course concepts.

A "D" or "E" grade means that a student is doing unacceptable work, demonstrating a lack of understanding of course concepts.

The Course will be graded using "+" and "-."

Grades demonstrate that you have mastered the material. If you are having problems in statistics, please do not let them slide until the end of class. Frequent practice applying statistical concepts is helpful in understanding them.

Policy paper requirements

The paper you will be writing is a policy analysis paper. This is distinct from advocacy pieces in that you give a balanced analysis of a policy decision first. After that is done, then you may make your recommendation based on your own judgment. When trying to decide what to put into your analysis, place yourself in the position of the decision-maker for whom you are working. What would that decision-maker want to know to make an informed decision?

The meat of your analysis should consist of the following:

- **Need/Demand Characterization:** What is the need/demand? Why are we considering this decision? Why is it significant?
- **Capabilities Comparison:** Effectiveness of the different policy options in dealing with the need/demand (or threat).
- **"Politics":** How does the decision fit into the web of institutional and personal relations of the parties affected?

Finally, you will want to make a recommendation based on your analysis. In putting forward a recommendation, you will be making judgments about the information presented in the analysis. You should explain what your judgment is and why.

A good policy analysis paper covers each of the following areas (the weighting given to each section will vary depending on the topic):

- **Issue Definition:** The policy decision is articulated and its significance is established.
- **Background:** All background information (technical, political, etc.) necessary to place the decision in its proper context is given.
- **Policy Options:** The various policy options that the decision-maker must decide between are presented and described.

- Policy Analysis: The pros and cons of each option are explained. The value trade-offs implicit in choosing one option over another are explained.
- Recommendation: Based on the analysis, a recommendation is made. The biases and judgment factors that went into the recommendation should be explained. You should summarize your recommendation concisely at the very start of your paper.

Topical Outline:

Week 1: General Introduction

Week 2/3: U.S. Homeland Security and Defense Policy

Week 4: The Theaters of War

Week 5/6: Debating National Security (The Preventive Defense Strategy)

Week 6/7: National Security Strategies (Surveillance, anti-missiles and Peace Shields)

Week 8/9: Weapons and Weapons of Mass Destruction (Laser Weapons, "Smart Bombs,"

Week 10/11: Biological Weapons, Chemical Weapons, Dirty Bombs, Nuclear Bombs)

Safety Critical Systems

Week 12/13: Nuclear Proliferation and Containment

Week 14/15: Nuclear Energy and the Dilemmas of Dual-Use.

ADA Statement:

The Americans with Disabilities Act (ADA) is a federal antidiscrimination statute that provides comprehensive civil rights protection for persons with disabilities. One element of this legislation requires that all qualified students with documented disabilities be guaranteed a learning environment that provides reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation please contact the Disability Resource Center at ASU Polytechnic located in Student Affairs Quad #4 or call 480-727-1039/TTY 480-727-1009. Eligibility and documentation policies online at <http://www.asu.edu/studentaffairs/ed/drc>

Student Academic Integrity: Students are required to adhere to the policy on student conduct identified in the ASU Student Academic Integrity Policy (http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm) and the Arizona Board of Regents Policy Manual (http://www.abor.asu.edu/1_the_regents/policymanual/chap5/chapter_v.htm#C.%20CODE%20)

Arizona State University Criteria Checklist for

SOCIAL AND BEHAVIORAL SCIENCES [SB]

Rationale and Objectives

The importance of the social and behavioral sciences is evident in both the increasing number of scientific inquiries into human behavior and the amount of attention paid to those inquiries. In both private and public sectors people rely on social scientific findings to assess the social consequences of large-scale economic, technological, scientific, and cultural changes.

Social scientists' observations about human behavior and their unique perspectives on human events make an important contribution to civic dialogue. Today, those insights are particularly crucial due to the growing economic and political interdependence among nations.

Courses proposed for General Studies designation in the Social and Behavioral Sciences area must demonstrate emphases on: **(1)** social scientific theories and principles, **(2)** the methods used to acquire knowledge about cultural or social events and processes, and **(3)** the impact of social scientific understanding on the world.

Proposer: Please complete the following section and attach appropriate documentation.

ASU--[SB] CRITERIA					
A SOCIAL AND BEHAVIORAL SCIENCE [SB] course should meet all of the following criteria. If not, a rationale for exclusion should be provided.					
YES	NO		Identify Documentation Submitted		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Course is designed to advance basic understanding and knowledge about human interaction.	Syllabus		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Course content emphasizes the study of social behavior such as that found in: <table border="0" style="width: 100%; margin-left: 20px;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> • LINGUISTICS • POLITICAL SCIENCE • SOCIAL PSYCHOLOGY • SOCIOLOGY </td> </tr> </table>	<ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY 	<ul style="list-style-type: none"> • LINGUISTICS • POLITICAL SCIENCE • SOCIAL PSYCHOLOGY • SOCIOLOGY 	Syllabus
<ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY 	<ul style="list-style-type: none"> • LINGUISTICS • POLITICAL SCIENCE • SOCIAL PSYCHOLOGY • SOCIOLOGY 				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Course emphasizes: <ul style="list-style-type: none"> a. the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological). <li style="text-align: center;">OR b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis). 	Syllabus		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Course illustrates use of social and behavioral science perspectives and data.	Syllabus		
		THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS: <ul style="list-style-type: none"> • Courses with primarily fine arts, humanities, literary, or philosophical content. • Courses with primarily natural or physical science content. • Courses with predominantly applied orientation for professional skills or training purposes. • Courses emphasizing primarily oral, quantitative, or written skills. 			

Course Prefix	Number	Title	Designation
STS	364	SCIENCE, TECHNOLOGY, AND NATIONAL SECURITY	SB

Explain in detail which student activities correspond to the specific designation criteria. Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	How course meets spirit (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
<p>Course is designed to advance basic understanding and knowledge about human interaction and emphasizes the study of social behavior such as found in anthropology, economics, cultural geography, history, political science, social psychology, and sociology.</p>	<p>This survey course examines how changing technologies impact all aspects of national security policy in the United States. Topics include: How we define the threat, the appropriate and effective responses to the threat, how important policy decisions are made when informed scientific judgment is critical to that decision. The course also examines the nature of key technologies used in nuclear and biological weapons, military platforms, intelligence gathering, and the internet. In addition to the US perspective, the course will look at these policy issues from the point of view of other nations, both allies and adversaries, and the impact of the terrorist threat more broadly. Actual case studies and applications will be examined.</p>	<p>From the syllabus:</p> <p>1. Learning Outcomes: Students are expected to have a sophisticated grasp of how we define the security threat to the United States, the appropriate and effective responses to the threat, the important policy decisions made when informed scientific judgment is critical to that decision, and the nature of key technologies used in nuclear and biological weapons, military platforms, intelligence gathering, and the internet. In addition to the US perspective, students are expected to understand these policy issues from the point of view of other nations, both allies and adversaries, and the impact of the terrorist threat more broadly.</p> <p>2. The following topics will be treated in the course: The Theaters of War; Debating National Security (The Preventive Defense Strategy); National Security Strategies (Surveillance, anti-missiles and Peace Shields); Weapons and Weapons of Mass Destruction (Laser Weapons, "Smart Bombs," Biological Weapons, Chemical Weapons, Dirty Bombs, Nuclear Bombs); Safety Critical Systems; Nuclear Proliferation and Containment; and Nuclear Energy and the Dilemmas of Dual-Use.</p>

<p>Course emphasizes both the distinct knowledge of the social and behavioral sciences and the distinct methods of inquiry of the social and behavioral sciences.</p>	<p>The 9-11 terrorist acts in New York City changed America's view of national security. Before that day, Americans thought of such events largely as things that happened in foreign lands. Today, however, that view has changed to one of "know who your neighbor is." Yet, we understand that 9-11 may not be the worst terrorists are planning. We know that they trying to get: chemical weapons; biological weapons; even <u>nuclear</u> weapons. If they can get their hands on such weapons, no one should doubt that they would use them. So our government today is taking many steps to protect the nation from future attacks with weapons of mass destruction and provide for homeland security broadly. These efforts have taken a decidedly social and behavioral science dimension. The data that has accumulated in this respect has been social and behavioral information gathered through observation of human behavior. Thus this course emphasizes both the distinct knowledge of the social and behavioral sciences and the distinct methods of inquiry of the social and behavioral sciences.</p>	<p>As page 4 of the syllabus shows, the topics included in this course emphasize a uniquely social and behavioral science knowledge base. These topics include U.S homeland security and defense policy, debating national security, surveillance systems, and energy and nuclear proliferation.</p>
<p>Course illustrates use of social and behavioral science perspectives and data.</p>	<p>The course relies on accumulated literature predicated upon practical and theoretical evidence on social and behavioral perspectives and data.</p>	<p>Two books selected for the course speak clearly to the social science nature of the issues surrounding national security policy.</p>