October 29, 2008

TO: The General Studies Council
FROM: Nicholas Alozie
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).
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  
Bridget 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
FULTON CENTER, SUITE 420  
300 EAST UNIVERSITY DRIVE  
PO BOX 877805, TEMPE, AZ 85287-7805  
(480) 965-1224  FAX: (480) 965-0785  
betty.capaldi@asu.edu
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 Examines how changing technologies impact all aspects of national security
description: 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) (prefix) (number) (title) (semester hours)

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. For the rules governing approval of omnibus courses, contact the General Studies Program Office at 965-0739.

5. AREA(S) PROPOSED COURSE WILL SERVE. A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study.

   Core Areas
   - Literacy and Critical Inquiry–L
   - Mathematical Studies–MA CS
   - Humanities and Fine Arts–HU
   - Social and Behavioral Sciences–SB
   - Natural Sciences–SQ SG

   Awareness Areas
   - Global Awareness–G
   - Historical Awareness–H
   - Cultural Diversity in the United States–C

   (Note: one course per form)

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: ☑ No ☐ Yes; Please identify courses:

Is this a multisection course?: ☑ No ☐ Yes; Is it governed by a common syllabus?

NICHOLAS ALOZIE
Chair/Director (Print or Type)

Date: 10/29/2008

Chair/Director (Signature)
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
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:**


**Required Materials:**

Two textbooks are required for the course:


**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 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.
**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.

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>Identify Documentation Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>□</td>
<td>1. Course is designed to advance basic understanding and knowledge about human interaction.</td>
</tr>
<tr>
<td>X</td>
<td>□</td>
<td>2. Course content emphasizes the study of social behavior such as that found in:</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>• ANTHROPOLOGY · LINGUISTICS</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>• ECONOMICS · POLITICAL SCIENCE</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>• CULTURAL GEOGRAPHY · SOCIAL PSYCHOLOGY</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>• HISTORY · SOCIOLOGY</td>
</tr>
<tr>
<td>X</td>
<td>□</td>
<td>3. Course emphasizes:</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>a. the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological).</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis).</td>
</tr>
<tr>
<td>X</td>
<td>□</td>
<td>4. Course illustrates use of social and behavioral science perspectives and data.</td>
</tr>
</tbody>
</table>

THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS:

- 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.
<table>
<thead>
<tr>
<th>Course Prefix</th>
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<th>Title</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>STS</td>
<td>364</td>
<td>SCIENCE, TECHNOLOGY, AND NATIONAL SECURITY</td>
<td>SB</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Criteria (from checksheet)</th>
<th>How course meets spirit (contextualize specific examples in next column)</th>
<th>Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)</th>
</tr>
</thead>
</table>
| 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. | 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. | From the syllabus:

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.

2. The following topics will be treated in the course:
<table>
<thead>
<tr>
<th>Course emphasizes both the distinct knowledge of the social and behavioral sciences and the distinct methods of inquiry of the social and behavioral sciences.</th>
<th>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 are 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. 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.</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course illustrates use of social and behavioral science perspectives and data.</td>
<td>The course relies on accumulated literature predicated upon practical and theoretical evidence on social and behavioral perspectives and data.</td>
<td>Two books selected for the course speak clearly to the social science nature of the issues surrounding national security policy.</td>
</tr>
</tbody>
</table>