

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).



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

FULTON CENTER, SUITE 420  
300 EAST UNIVERSITY DRIVE  
PO BOX 877805, TEMPE, AZ 85287-7805  
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**New Course Curriculum Form**

Arizona State University

E STS 302 Philosophy of Science and Technology 3.0 - Spring 2009 | CL: None

**Originator:** Silvia Llamas-Flores **Status:** Approved **Department:** Social and Behavioral Sciences (Polytechnic)**Date Created:** 05/07/2008 **Submitted:** 05/14/2008 **Completed:** 10/20/2008 **To****ACETS:****Campus:** E**College:** Applied Arts and Sciences**Subject:** STS**Number:** 302**Title:** Philosophy of Science and Technology**Abbreviated title:** Philosophy of Science/Tech**Semester hours:** 3.0**Effective semester:** - Spring**Summer justification:** N/A**Effective year:** 2009**Catalog description:** Focuses on the nature and implications of science as a body of knowledge, set of practices, specific methods, and how these differ from other human enterprises and activities.**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?:** No**Prerequisite(s):** ENG 101**Conditional prerequisite(s):****Corequisite(s):****Pre-/corequisite(s):****Repeat for credit:** No**Total hours allowed:****Total completions allowed:**

**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 302 Philosophy of Science and Technology (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)

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 302 Philosophy of Science & Technology**

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](mailto:Alozie@asu.edu)

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

**Course Description:**

**Course Description:** This course focuses on the nature and implications of science as a body of knowledge, set of practices, specific methods, and how these differ from other human enterprises and activities. It is an introduction to the classic issues in the philosophy of science: the nature of scientific explanation, the confirmation of scientific theories, theories of truth, the distinction between science and metaphysics, the structure and status observation statements, and the "unity of science" thesis. Special topics in the philosophy of biology -- evolutionary vs. teleological explanations, natural selection, natural kinds, random mutation, etc. -- will also be examined.

**The following issues will be treated in the course:** What is the philosophy of science?; The nature of scientific explanations; The critique of "narrow inductionism" and positivism; The confirmation of scientific theories; The nature of scientific truth; Realism, Skepticism, Idealism, and Holism; Conventionalism and the Duhem-Quine Thesis; Observation and Cognition; How theory-laden is perception?; The demarcation between science and metaphysics; The received view and the sociology of knowledge; Kuhn's legacy; The philosophy of biology, physics, and bios; and the philosophy of psychology.

**Course Learning Goals:**

- Ability to identify major themes in scientific exploration
- Understand the nature of scientific "truth" as a social construct
- Conceptual understanding of the cumulative nature of scientific understanding
- Ability to define developments in biology in terms of their historical impacts and meaning

**Required Materials:**

Solman, Merrilee et. al.: Introduction to the Philosophy of Science (Prentice Hall, Englewood Cliffs, New Jersey 1992).

Gilles, Donald: Philosophy Of Science In The Twentieth Century: Four Central Themes (Blackwell Publishers, Oxford, England 1993).

Xeroxed Materials:

**Grading:** Students will be evaluated on the basis of class participation, three midterm examinations and a final, comprehensive examination.

Class Participation, seminar presentations and discussion=15%

Midterm examinations 4 @ 15% each=60%

Final Examination 1 @ 25=25%

A+=98-100%

A=93-97%

A-=90-92%

B+=88-89%

B=83-87%

B-=80-82%

C+=78-79%

C=70-77%

D=60-69%

E=59% 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.

**Criteria for Grading:**

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.

**Topical Outline:**

Week 1-INTRODUCTION: WHAT IS THE PHILOSOPHY OF SCIENCE?

Week 2-THE NATURE OF SCIENTIFIC EXPLANATIONS: THE CRITIQUE OF "NARROW INDUCTIVISM" AND POSITIVISM

Weeks 3-4-THE CONFIRMATION OF SCIENTIFIC THEORIES

Week 4-5-THE NATURE OF SCIENTIFIC TRUTH: REALISM, SKEPTICISM, IDEALISM AND HOLISM

Weeks 6-7 -CONVENTIONALISM AND THE DUHEM-QUINE THESIS:

Weeks 8-9-OBSERVATION AND COGNITION: HOW THEORY-LADEN IS PERCEPTION?

Week 10:THE DEMARCATION BETWEEN SCIENCE AND METAPHYSICS

Week 11-12- THE RECEIVED VIEW AND THE SOCIOLOGY OF KNOWLEDGE: KUHN'S LEGACY

Week 13-THE PHILOSOPHY OF BIOLOGY: PHYSIS AND BIOS

Week 14-THE PHILOSOPHY OF PSYCHOLOGY

**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](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](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.

<b>ASU--[SB] CRITERIA</b>					
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		
<b>X</b>	<input type="checkbox"/>	1. Course is designed to advance basic understanding and knowledge about human interaction.	Syllabus		
<b>X</b>	<input type="checkbox"/>	2. Course content emphasizes the study of social behavior such as that found in: <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>• ANTHROPOLOGY</li> <li>• ECONOMICS</li> <li>• CULTURAL GEOGRAPHY</li> <li>• HISTORY</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>• LINGUISTICS</li> <li>• POLITICAL SCIENCE</li> <li>• SOCIAL PSYCHOLOGY</li> <li>• SOCIOLOGY</li> </ul> </td> </tr> </table>	<ul style="list-style-type: none"> <li>• ANTHROPOLOGY</li> <li>• ECONOMICS</li> <li>• CULTURAL GEOGRAPHY</li> <li>• HISTORY</li> </ul>	<ul style="list-style-type: none"> <li>• LINGUISTICS</li> <li>• POLITICAL SCIENCE</li> <li>• SOCIAL PSYCHOLOGY</li> <li>• SOCIOLOGY</li> </ul>	Syllabus
<ul style="list-style-type: none"> <li>• ANTHROPOLOGY</li> <li>• ECONOMICS</li> <li>• CULTURAL GEOGRAPHY</li> <li>• HISTORY</li> </ul>	<ul style="list-style-type: none"> <li>• LINGUISTICS</li> <li>• POLITICAL SCIENCE</li> <li>• SOCIAL PSYCHOLOGY</li> <li>• SOCIOLOGY</li> </ul>				
<b>X</b>	<input type="checkbox"/>	3. Course emphasizes: a. the distinct knowledge base of the social and behavioral sciences (c.g., sociological anthropological). <b>OR</b> b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis).	Syllabus		
<b>X</b>	<input type="checkbox"/>	4. Course illustrates use of social and behavioral science perspectives and data.	Syllabus		
		<b>THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS:</b>			
		• 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	302	PHILOSOPHY OF SCIENCE AND TECHNOLOGY	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)
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 course is designed to lay the basic foundation for understanding science as a social construct. In this regard, the course focuses on the nature of scientific explanation, the confirmation of scientific theories, theories of truth, the distinction between science and metaphysics, and the structure and status of observation. This is core social science material.	The learning outcomes in this course require that students gain a basic understanding of the major themes in scientific exploration, the nature of scientific truth, and a conceptual understanding of the cumulative nature of scientific knowledge. To accomplish this, this course must bridge the difference between science and other forms of knowing in the study of human behavior.
Course emphasizes both the distinct knowledge of the social and behavioral sciences and the distinct methods of inquiry of the social and behavioral sciences.	The course emphasizes the difference between human knowledge accumulated through the scientific reasoning and other forms of knowing.	Page 3 of the syllabus lays out the relevant topics. These topics include the difference between science and metaphysics, the nature of the sociology of knowledge, and the philosophy of psychology. In weeks 4-5, the material deals with the nature of realism, skepticism, idealism, and holism.
Course illustrates use of social and behavioral science perspectives and data.	The course relies on accumulated literature predicated upon practical and theoretical evidence in the social sciences.	The topical outline on the syllabus clearly indicates discussions of topics such as inductivism and positivism, and the nature of scientific truth. These topics are treated using social science data and other forms of evidence.