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: ECSTBSB

XC: Maria Allison
    Bridget Alcott
    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
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 Focuses on the nature and implications of science as a body of knowledge, set of
description: 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:

https://az.transfer.org/cgi-bin/WebObjects/acs.wao/13/wo/tmw2SsR3xycyDeTaKNo... 10/21/2008
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)

Date: 10/30/2008

Chair/Director (Signature)

Rev. 1/94, 4/95, 7/98, 4/00, 1/02
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
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:

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:**

**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-LADED 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) and the Arizona Board of Regents Policy Manual (http://www.abor.asu.edu/1_the_regents/policymanual/chap5/chapter_v.htm#C.20CODE%20)
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.

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

<table>
<thead>
<tr>
<th>Criteria (from check sheet)</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>
<tbody>
<tr>
<td>Course is designed to advance basic understanding and knowledge about human interaction and emphasizing the study of social behavior such as found in anthropology, economics, cultural geography, history, political science, social psychology, and sociology.</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Course emphasizes both the distinct knowledge of the social and behavioral sciences and the distinct methods of inquiry of the social and behavioral sciences.</td>
<td>The course emphasizes the difference between human knowledge accumulated through the scientific reasoning and other forms of knowing.</td>
<td>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.</td>
</tr>
<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 in the social sciences.</td>
<td>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.</td>
</tr>
</tbody>
</table>