



ARIZONA STATE UNIVERSITY

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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 9/17/09

- 1. ACADEMIC UNIT: Engineering Dean's Office
2. COURSE PROPOSED: FSE 294 Global Engineering and Organization 3
3. CONTACT PERSON: Name: Ann Zell Phone: 5-8931
Mail Code: 8109 E-Mail: ann.zell@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. (Please submit one designation per proposal)

Core Areas

Awareness Areas

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

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

- 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.

Students will be exposed to the impact of engineering on shaping the economy, culture, social behavior and gain understanding of social and behavioral sciences and the challenges presented by technology/ innovation.

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

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

Ann Zell
Chair/Director (Print or Type)

Chair/Director (Signature)

Date: _____

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. | | | |
| YE S | 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 sect 4,5,6 Steger text chapters 3,4,5 Ghemawat text chapters 4,5 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Course content emphasizes the study of social behavior such as that found in: | Syllabus sect 3,4,5 Steger text chapters 4,5 Ghemawat text chapters 6,7 |
| | | <ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY | |



ASU--[SB] CRITERIA

| | | | |
|-------------------------------------|--------------------------|--|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <p>3. Course emphasizes:</p> <p>a. the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological). OR</p> <p>b. the distinct methods of inquiry of the social and behavioral sciences (e.g., ethnography, historical analysis).</p> | <p>Syllabus secti 3,4 Steger text chapters 3,4,7 Ghemawat text chapters 1,2,3</p> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <p>4. Course illustrates use of social and behavioral science perspectives and data.</p> | <p>Syllabus sect 3,4, 5 Steger text chapters 3,4,5,6,7 and Ghemawat text chapters 4,5,6,7,8</p> |
| | | <p>THE FOLLOWING TYPES OF COURSES ARE EXCLUDED FROM THE [SB] AREA EVEN THOUGH THEY MIGHT GIVE SOME CONSIDERATION TO SOCIAL AND BEHAVIORAL SCIENCE CONCERNS:</p> | |
| | | <ul style="list-style-type: none"> • Courses with primarily fine arts, humanities, literary, or philosophical content. | |
| | | <ul style="list-style-type: none"> • Courses with primarily natural or physical science content. | |
| | | <ul style="list-style-type: none"> • Courses with predominantly applied orientation for professional skills or training purposes. | |
| | | <ul style="list-style-type: none"> • Courses emphasizing primarily oral, quantitative, or written skills. | |

| Course Prefix | Number | Title | Designation |
|---------------|--------|-------------------------------|-------------|
| FSE | 294 | Global Engineering: Australia | 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) |
|-------------------------------|---|--|
| 1 | Students will be exposed to the impact of engineering on shaping the culture and social fabric. They will also participate in team projects and learn about group dynamics, team roles and human interaction. | Section 4 Course Objectives, Section 5 Major topics covered, Section 6 Presentation - Team Project |
| 2 + 4 | The course emphasizes the impact of engineering both at a local and global scale on shaping the economy, culture and social behavior. | Sections 3, 4 and 5, Textbook, Course Objectives and Major topics covered |
| 3 | Students will gain an understanding of the knowledge base of social and behavioral sciences and the challenges and opportunities presented by technology and innovation at both the local and global scale. | Sections 3 and 4, Textbook and Course Objectives |



ARIZONA STATE UNIVERSITY

**FSE 294: Global Engineering and Organization
Course Syllabus – Summer 2010, Australia**



1. Description

The course will expose students to the concepts of global engineering, global citizenship and the impact of engineering on shaping the economy, culture and social fabric. It will empower and engage students to think actively about how individual awareness and engineering interests relate to the global grand challenges faced by the world. A particular emphasis will be placed on the study of industry, engineering and technology in Australian cities. This will be achieved through case studies and visits to sites in Melbourne, Sydney and Adelaide.

2. Prerequisites

N/A

3. Textbook And Other Material:

Readings include books and a number of articles and case studies drawn from a variety of different industries and countries.

Required texts:

Globalization: A Very Short Introduction (Very Short Introductions), Manfred B. Steger, (Paperback), Oxford University Press, 2003. (\$10 on amazon.com)

Redefining Global Strategy: Crossing Borders in a World Where Differences Still Matter, Pankaj Ghemawat, Harvard Business School Press, 2007. (\$20 on amazon.com)

Optional:

High Noon: Twenty Global Problems, Twenty Years to Solve Them (Paperback), Jean-Francois Rischard, Perseus Books Group, 2002.

4. Course Objectives

- Appreciation of various cultures: language, communication styles, cultural norms, historic backgrounds, business practices (group dynamics, time concept, etc.)
- Awareness of the role of engineering in the global society.
- Knowledge of global engineering challenges.
- The ability to use and manage technology effectively, efficiently, and sustainably to solve problems anywhere in the world.
- The ability to use innovative and entrepreneurial thinking to create new solutions to problems in other cultures.
- Appreciation of the impact of engineering on shaping the local and global economy, culture and social fabric

5. Major topics covered

Students will be introduced to the notion of global engineering and the global nature of design, manufacturing and production. The National Academy of Engineering grand challenges (energy, food, water, health informatics, etc.) will be discussed. Issues related to communication, cultural sensitivity and global citizenship will be discussed. The changing face of engineering and topics such as global teaming, outsourcing and insourcing will be introduced.

In the second part, the course will focus on:

- identifying and taking advantage of opportunities presented in a dynamic global engineering environment at the level of the country and industry.
- firm-level strategic choices regarding where to engage in which activities
- challenges of integrating the multiple perspectives, functions, and interests that constitute the multinational firm.
- impact of industry and on shaping the regional culture and social fabric

Case studies will analyze how companies from various industries, such as IT, healthcare, construction, automotive, have adroitly managed cross-border differences - as well as how other well-known companies have failed at this challenge.

6. Grading

- Written Assignments: 40%
- Group Project Presentation: 40%
- Class Participation: 20%
- Bonus: developing plan for continuing your international education: 5%

Assignments

Two short papers (maximum 3 pages double spaced, 12 point font) on 2 of the following 3 topics, focused on a firm/industry/country of choice:

Rev. 1/94, 4/95, 7/98, 4/00, 1/02, 10/08

1. Assess changes in the global scope of your industry and the competitive positioning of your firm's home country
2. Assess the way your firm is organized internationally in order to exploit global (or regional) advantages yet remain responsive to local conditions
3. Assess the cultural and social impact of your industry/firm at the local, regional and global level.

Presentation – Team Project

At the end of the term, every member of the class will focus on a real world case setting to explore the interaction among various engineering, business and region/country challenges and the possible responses to them. Sample cases: Wonthaggi desalination plant (vicinity of Melbourne, Australia); Eureka Tower (tallest residential building in the world, Melbourne, Australia). Visits to these local engineering projects will be arranged. Working in groups of 4-5, students will be asked to view the situation from the perspective of different stakeholders including various roles within the company, some of the countries involved, NGOs, and banks.

Class Participation

Active student participation in class discussions is expected. Prior preparation of the cases and assigned readings are essential as this background is presumed in the lectures and case discussions. Class participation will be judged in two parts:

- Individual participation and discussion (10%)
- Group postings to blog (10%)

A blog will be set up for the class to host out-of-class comments and discussions. Every student is expected to participate in a self-formed group of 4-5, and may participate as individuals as well. Each group will need to submit comments on at least four cases over the term. These contributions are expected to add value by focusing on an interesting aspect of the case (further analysis of developments, application of a specific framework or tool to one or more of the questions). Individual contributions to the blog, which should build on the group postings and class discussion, will also be valued as part of individual class participation.

Communication skills

Excellent communication skills are vital to the success of any engineer in a global setting. Students will be given the opportunity to communicate using public speaking, interpersonal communication skills, writing, and teaming skills.

7. **Instructor:** Valentin Dinu, Ph.D., Department of Biomedical Informatics, ASU, <http://www.dinulab.org>, valentin.dinu@asu.edu