



ARIZONA STATE UNIVERSITY

GENERAL STUDIES COURSE PROPOSAL COVER FORM

Course information:

Copy and paste current course information from Class Search/Course Catalog.

College/School (Select One) Department The School for the Future of Innovation in Society
Prefix FIS Number 308 Title Politics, Markets, and Innovation Units: 3

Is this a cross-listed course? No If yes, please identify course(s)

Is this a shared course? No If so, list all academic units offering this course

Note- For courses that are crosslisted and/or shared, a letter of support from the chair/director of each department that offers the course is required for each designation requested.

Is this a permanent numbered course with topics? No

If yes, all topics under this permanent numbered course must be taught in a manner that meets the criteria for the approved designation(s). It is the responsibility of the chair/director to ensure that all faculty teaching the course are aware of the General Studies designation(s) and adhere to the above guidelines. Chair/Director Initials (Required)

Course description: See attached

Requested designation:

Social-Behavioral Sciences-SB

Note- a separate proposal is required for each designation.

Mandatory Review: (Choose one)

Eligibility:

Permanent numbered courses must have completed the university's review and approval process. For the rules governing approval of omnibus courses, contact Phyllis.Lucie@asu.edu.

Submission deadlines dates are as follow:

For Fall 2016 Effective Date: October 1, 2015

For Spring 2017 Effective Date: March 10, 2016

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.

Checklists for general studies designations:

Complete and attach the appropriate checklist

- Literacy and Critical Inquiry core courses (L)
Mathematics core courses (MA)
Computer/statistics/quantitative applications core courses (CS)
Humanities, Arts and Design core courses (HU)
Social-Behavioral Sciences core courses (SB)
Natural Sciences core courses (SO/SG)
Cultural Diversity in the United States courses (C)
Global Awareness courses (G)
Historical Awareness courses (H)

A complete proposal should include:

- Signed course proposal cover form
Criteria checklist for General Studies designation(s) being requested
Course catalog description
Sample syllabus for the course
Copy of table of contents from the textbook and list of required readings/books

It is respectfully requested that proposals are submitted electronically with all files compiled into one PDF.

Contact information:

Name Jameson Wetmore E-mail Jameson.Wetmore@asu.edu Phone 480-727-0750

Department Chair/Director approval: (Required)

Chair/Director name (Typed): David Guston Date: 3/4/16

Chair/Director (Signature): [Signature]

Arizona State University Criteria Checklist for
SOCIAL-BEHAVIORAL SCIENCES [SB]

Rationale and Objectives

Social-behavioral sciences use distinctive scientific methods of inquiry and generate empirical knowledge about human behavior, within society and across cultural groups. Courses in this area address the challenge of understanding the diverse natures of individuals and cultural groups who live together in a complex and evolving world.

In both private and public sectors, people rely on social scientific findings to consider and assess the social consequences of both large-scale and group economic, technological, scientific, political, ecological and cultural change. Social scientists' observations about human interactions with the broader society and their unique perspectives on human events make an important contribution to civic dialogue.

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

Revised April 2014

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

ASU--[SB] CRITERIA					
A SOCIAL-BEHAVIORAL SCIENCES [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="1" style="width: 100%; border-collapse: collapse;"> <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; text-align: center;">Economics & Political Science</td> </tr> </table>	<ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY 	Economics & Political Science	Syllabus
<ul style="list-style-type: none"> • ANTHROPOLOGY • ECONOMICS • CULTURAL GEOGRAPHY • HISTORY 	Economics & Political Science				
<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). 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:			
		• Courses with primarily 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	General Studies Designation
FIS	308	Politics, Markets, and Innovation	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 checklist)	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. Course is designed to advance basic understanding and knowledge about human interaction.	Throughout this course students will study human interactions in governments, businesses, and citizens as it relates to the promotion, adoption, and regulation of science-based technological innovations.	Syllabus Pages 1-4 Course Description, Course Objectives: Students will compare economic theories of innovation, and will anticipate futures using foresight methods. Week 2 Economic Theories of Innovation: This module will focus on theories of innovation. Week 3 The Role of Government: This module will cover the role of governments in promoting and regulating science-based technological innovations. Week 4 The Role of Industry: This module will cover the role of firms in developing and marketing innovation and the influence of the private sector on regulation and policy making. Week 5 The Role of Universities: This module will cover the role of universities in innovation. Week 6 The Role of Citizens: This module will cover the roll of citizens in shaping the societal embedding of innovation.
2. Course content emphasizes the study of social behavior such as that found in: Economics & Political Science	This course emphasizes the study of economics in science-based technological innovations.	Weeks 1 and 2 emphasize classical readings in economic theory and political science (i.e. Karl Marx and Adam Smith)
3A. Course emphasizes: the distinct knowledge base of the social and behavioral sciences.	Approaches include political economy, economics, public policy, politics and sociology to demonstrate different insights into innovation in society.	The readings throughout the course represent these disciplines. In the Group Project, students use concepts from multiple disciplines to analyze how governments, firms, and citizens act and interact.

Social And Behavioral Sciences [SB]

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<p>4. Course illustrates use of social and behavioral science perspectives and data.</p>	<p>The study of politics, markets, and innovation will utilize articles and assignments that present data and analysis from social and behavioral research.</p>	<p>Short assignments will include new articles and studies for applying concepts. The final project will include research results based on social and behavioral data and data analysis.</p>
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FIS 308 - Politics, Markets and Innovation Course description: Studies the roles that governments, markets and other factors play in promoting, disseminating and regulating science-based technological innovation. Includes examining the theoretical literature on factors that structure markets and shape diffusion, as well as case studies that illustrate the processes and mechanisms that govern innovations in society. In addition to studying the role of governments, firms and universities, also considers the role of publics as consumers who adopt innovations but also as citizens who may be skeptical of them. Includes case studies in agriculture, health care, biotechnology and digital rights.

**Politics, Markets, and Innovation
FIS 308**

Prof. Erik Fisher

Efisher1@asu.edu 480-965-9744

Office: Interdisciplinary B, Room 366

Office Hours: TR 2:00-3:00 or by appointment

Course description: In this course, students study how interactions among governments, firms and citizens shape the promotion, adoption, and regulation of science-based technological innovations. This will include surveying social behavioral theories that seek to explain the diffusion of innovations through society, the economic factors that structure markets, and the political dynamics that can alter expectations and investments. Course material will be illustrated by case studies in agriculture, healthcare, nanotechnology and digital rights. Students will develop a socio-technical scenario that applies course material to an emerging innovation of their choice in order to anticipate how political and economic processes and mechanisms could shape the outcomes of that innovation in the future.

Commented [EF1]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Course objectives and learning outcomes: Students will apply research, critical thinking, and communication skills including:

- **Identify** the role of political economy in shaping innovation, including process by which technologies change society and by which society changes technology, and major historical periods as demarcated by technologies.
- **Compare** economic theories of innovation, the role of different actors, and local and global forces that shape innovation.
- **Anticipate** futures using foresight methods to assess emerging trends in the politics of innovation, scrutinize competing visions of the future, and anticipate the political and social interactions that can make different innovation futures possible.
- **Assess** possible governance mechanisms including public policy, marketing strategies, and citizen engagement in innovation.
- **Evaluate** the political economy of an emerging technology in terms of access, equity, and adoption.

Commented [EF2]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Commented [EF3]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Course Requirements: Students will come to class prepared to answer questions posed by the lecture and to discuss the assigned readings, often in small group settings. They will also be required to complete short assignments including identifying relevant news stories that pertain to the subject of the class. Students will produce a final project in which they will apply conceptual material from the class to a case study of their choosing that illustrates and anticipates the role of governments, firms, and citizens in structuring a national, regional or international market for a future or emerging innovation. Finally, students will take two exams consisting of multiple choice, true/false, and short written responses. A breakdown follows:

Short assignments	20%
First Exam	20%
Second Exam	20%
Group Project	20%

<u>Group Presentation</u>	<u>20%</u>
Total	= 100%

Short Assignments. Students will be required to complete two forms of short assignments: in-class assignments, which will consist of group research and discussion or individual research, and homework assignments, which consist of writing up the results of the research and discussions that were started in class. For instance, before or after a class lecture, students may be asked to break into small groups in order to discuss how the assigned reading relates to a central question or topic that pertains to the intersection of politics, markets and innovation. Or, they may be asked to identify relevant news stories and apply concepts learned in class in order to analyze the content of the news story. Or, using techniques learned in class, they may be given examples of emerging technologies and asked to anticipate different political and/or economic developments that could occur as those technologies become socially embedded.

Exams. Students will take two in-class exams, consisting of a mixture of approximately 100 multiple choice, true/false, and short answer questions each. The exams are designed to test student retention and comprehension of the reading and lecture material. They are also designed to engage students in critical thinking skills including the ability to identify and distinguish concepts and to logically relate concepts to one another.

Group Project. Throughout the semester, students will work in groups of 2-3 to plan, research and write up a final project. The final project will consist of a combination of the historical market and political conditions for an innovation case study of their choosing; contemporary scientific and technological developments that could alter that innovation; and three future scenarios in which innovation, politics and markets interact to produce distinctly different, yet plausible outcomes. Students will apply conceptual material from the class to illustrate how governments, firms, and citizens can each play a role in bringing about each of the three scenarios and to identify key governance mechanisms—including research funding, technology assessment, regulation and public participation—that could in theory influence how scenarios develop and how policy outcomes materialize.

Barrett students interested in adding an **honors contract** to the class should contact the instructor in the first week of classes.

Grading Scale:

A-/ A/ A+	90.0-92.4/ 92.5-97.9/ 98-100	Excellent
B- /B/ B+	80.0-82.4/ 82.5-87.4/ 87.5-89.9	Good
C/ C+	70.0-77.4/ 77.5-79.9	Average
D	60.0-69.9	Passing
E	<60	Failure
XE		Failure due to Academic Dishonesty

[Note: in order to receive University Distribution requirement credit you must earn at least a “C.”]

Course Calendar by week:

Week 1 - Introduction: The Political Economy of Innovation

This introductory module will lay out key concepts, issues and questions about the relationships among governments, markets, and innovations including: the nature, value, and politics of innovation; factors that structure markets and shape diffusion; and the processes and mechanisms that govern innovations in society, from investments in basic science to policies that seek to promote and regulate their use.

Colin Macilwain, "Science economics: What science is really worth," *Nature* 465: 682-684 (2010).

Everett Rogers, *Diffusion of Innovations (third edition)*. New York: Free Press, 1983. (selections).

Daniel Sarewitz, "Pas de Trois: Science, Technology and the Marketplace," *Frontiers of Illusion: Science, Technology and the Politics of Progress* pp. 117-140. Temple University Press: Philadelphia. 1996.

Hayden, Erika Check. "Synthetic-biology firms shift focus." *Nature* 505.7485 (2014): 598-598.
Rayner, Steve. "The novelty trap: why does institutional learning about new technologies seem so difficult?." *Industry and Higher Education* 18.6 (2004): 349-355.

Commented [EF4]: 4. Course illustrates use of social and behavioral science perspectives and data.

Week 2 - Economic Theories of Innovation

This module will focus on understanding and comparing core ideas in the major economic theories of innovation. It will assess how technological innovation is explained by classical economics (division of labor, production, value, capital, investment, the invisible hand, the role of government), Marxist theory (production, labor, alienation), and quasi-evolutionary economics (technological paradigms, technological trajectories); it will also review the historical conditions that enabled the social science of economics to become a major cognitive influence in how modern societies are organized and governed.

Adam Smith, *The Wealth of Nations*. Ed. Andrew S. Skinner. Vol. 3. New York, NY: Prometheus Books, 1991. (selections)

Karl Marx, *Das Capital*. DC Books, 2008. (selections)

Arie Rip and Rene Kemp, 1998. "Technological Change," Battelle Press, pp. 327-399.

Karl Polanyi, 1957. "Political Economy and the Discovery of Society," *The Great Transformation*. Boston: Beacon Press, pp. 111-129.

Commented [EF5]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

2. Course content emphasizes the study of social behavior such as that found in economics

Commented [EF6]: 2. Course content emphasizes the study of social behavior such as that found in economics

3.a. Course emphasizes:
the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological).

Commented [EF7]: 3.a. Course emphasizes:
the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological).

Commented [EF8]: 2. Course content emphasizes the study of social behavior such as that found in economics

Commented [EF9]: 3.a. Course emphasizes:
the distinct knowledge base of the social and behavioral sciences (e.g., sociological anthropological).

Commented [EF10]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Week 3 - The Role of Government

This module will cover key topics in the interactive role of governments in promoting and regulating science-based technological innovations including budgets, policies, market interventions, intellectual property rights, technology assessment, and state goals associated with innovation including jobs, legitimacy, national security, and economic competitiveness.

A. Hunter Dupree, 1986. "First attempts to form a policy," *Science in the Federal Government*, Johns Hopkins University Press, pp. 1-19.

Homer A. Neal, Tobin L. Smith, and Jennifer B. McCormick, "Overview of U.S. Science Policy," in *Beyond Sputnik: U.S. Science Policy in the Twenty-First Century*, pp. 3-92.

Barry Bozeman, "When Efficient Markets May Not Do." *Public Administration Review* 62(2): 145-161 (2002).

Juan Lucena, "Japanese Technology Threatens America: Making Scientists and Engineers for Economic Competitiveness," in *Defending the Nation: U.S. Policy Making to Create Scientists and Engineers from Sputnik to the 'War Against Terrorism'*. University Press of America: Lanham, MD, 2005.

Week 4 – The Role of Industry

Topics under this module will include the interactive role of firms in developing and marketing innovation, including corporate investments into research and development and the influence of the private sector on regulation and policy making.

Commented [EF11]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Charles E. Lindblom and Edward J. Woodhouse, "The Position of Business in Policy Making," in *The Policy-Making Process*. Englewood Cliffs, NJ: Prentice Hall, 1993, third edition. 90-103.

Jon Gertner, *The Idea Factory: Bell Labs and the Great Age of American Innovation*. Penguin Press, 2012 (selections).

Steven Lev, *In The Plex: How Google Thinks, Works, and Shapes Our Lives*, Simon and Schuster, 2011 (selections).

Trevor Pinch, "Giving Birth to New Users: How the Minimoog Was Sold to Rock and Roll," in N. Oudshoorn and T. Pinch, eds., *How Users Matter: The Co-construction of Users and Technology*, MIT Press, 2003: 247-270.

Alexander Linden and Jackie Fenn. "Understanding Gartner's hype cycles." *Strategic Analysis Report N^o R-20-1971*. Gartner, Inc. (2003).

Week 5 – The Role of Universities

This module will cover the interactive role of the university in responding to calls for research, innovation and training, including topics such as research policy, basic research, knowledge production, entrepreneurial science, technology transfer, and midstream modulation.

Commented [EF12]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

E. Mansfield, 1991. "Academic Research and Industrial Innovation." *Research Policy* 20: 1-12.

Michael Polanyi, 1962. "The Republic of Science: Its Political and Economic Theory." *Minerva* 1: 54-73.

Donald Stokes, *Pasteur's Quadrant: Basic Science and Technological Innovation*, Brookings: 1997 (selections).

Bruno Latour and Steve Woolgar, 1979. "Cycles of Credit," in *Laboratory Life: The Social Construction of Scientific Facts*. Beverly Hills: Sage, pp. 187-230.

Arie Rip, 1994. "The Republic of Science in the 1990s." *Higher Education* 28:3-23.

Erik Fisher, Roop L. Mahajan and Carl Mitcham. "Midstream modulation of technology: governance from within." *Bulletin of Science, Technology & Society* 26.6 (2006): 485-496.

Commented [EF13]: 2. Course content emphasizes the study of social behavior such as that found in economics

Week 6 – The Role of Citizens

This module will cover the interactive role of civil society—both as consumers who adopt innovations and as citizens who may be critical of them—in shaping the societal embedding of

innovation. Topics include political controversies over science and technology (including historical examples such as the Luddites in 19th Century England), public understanding of science, participatory design, and the role of non-governmental organizations.

Commented [EF14]: 1. Course is designed to advance basic understanding and knowledge about human interaction.

Fern Wickson et al., 2010. "Who or What is 'The Public'?" *Nature Nanotechnology* 5: 757-758.
Ronald Kline, "Resisting Consumer Technology in Rural America: The Telephone and Electrification," in *How Users Matter: The Co-construction of Users and Technology*, N. Oudshoorn and T. Pinch, eds., MIT Press, 2003: 51-66.

Commented [EF15]: 4. Course illustrates use of social and behavioral science perspectives and data.

Johan Schot and Adri Albert de la Bruheze, "The Mediated Design of Products, Consumption and Consumers in the Twentieth Century," in *How Users Matter: The Co-construction of Users and Technology*, N. Oudshoorn and T. Pinch, eds., MIT Press, 2003: 229-246.

Marris, Claire. "Public views on GMOs: deconstructing the myths." *EMBO reports* 2.7 (2001): 545-548.

Wynne, Brian. "Creating public alienation: expert cultures of risk and ethics on GMOs." *Science as culture* 10.4 (2001): 445-481.

Film: *The Yes Men Fix the World*.

* EXAM 1 DUE *

Week 7 – Technology Assessment

This module will examine core social science concepts, methods and perspectives that have been applied by government and sponsored research organizations to assess new and emerging technologies in order to advise science and technology policy making, regulation and innovation programs, both in the US and internationally.

Commented [EF16]: 4. Course illustrates use of social and behavioral science perspectives and data.

Collingridge, D. 1980. "The Dilemma of Control." In *The Social Control of Technology*, St. Martin's Press: New York. 13-22.

Herdman, Roger C., and James E. Jensen. "The OTA story: The agency perspective." *Technological Forecasting and Social Change* 54.2 (1997): 131-143.

Guston, David H., and Daniel Sarewitz. "Real-time technology assessment." *Technology in society* 24.1 (2002): 93-109.

Rip, Arie, and Haico Te Kulve. "Constructive technology assessment and socio-technical scenarios." *Presenting Futures*. Springer Netherlands, 2008. 49-70.

Te Kulve, Haico, and Arie Rip. "Constructing productive engagement: Pre-engagement tools for emerging technologies." *Science and engineering ethics* 17.4 (2011): 699-714.

White, Lynn. "Technology assessment from the stance of a medieval historian." *Technological Forecasting and Social Change* 6 (1974): 359-369.

Commented [EF17]: 4. Course illustrates use of social and behavioral science perspectives and data.

Week 8 – Case Study: Agriculture

This module will apply course concepts and material to the historically central case of agricultural innovation in the US and internationally, especially in connection with "green revolutions."

David B. Grigg, "The Agricultural Revolution in Western Europe," in *Understanding Green Revolutions*, Bayliss-Smith and Wanmali, Eds., Cambridge University Press, 1984: 1-17.

Barbara Harriss, "Agrarian Change and the Merchant State in Tamil Nadu," in *Understanding Green Revolutions*, Bayliss-Smith and Wanmali, Eds., Cambridge University Press, 1984: 53-83.

Robert Chambers, "Beyond the Green Revolution: A Selective Essay," in *Understanding Green Revolutions*, Bayliss-Smith and Wanmali, Eds., Cambridge University Press, 1984: 362-379.

Film: Aaron Woolf, director, *King Corn*. 2007.

Week 9 – Case study: Intellectual Property Rights in the Digital Age

This module will apply course concepts and material to the case of digital property rights in the US.

Ayn Rand, "Patents and Copyrights" in Rand, ed. *Capitalism: The Unknown Ideal*, New York: New American Library, 1966, pp. 126–128.

Adam Moore, "Intellectual Property", *The Stanford Encyclopedia of Philosophy*, Summer 2011 Edition, Edward N. Zalta, ed., URL = <http://plato.stanford.edu/archives/sum2011/entries/intellectual-property/>.

H.R. 3261 – Stop Online Piracy Act; House Judiciary Committee; October 26, 2011.

Video: Lawrence Lessig, "Laws that choke creativity," TED Talk, 2007.

Week 10 – Case Study: Healthcare

This module will apply course concepts and material to the case of healthcare innovation, including pharmaceuticals research, development and testing as well as the advent of personalized medicine.

Omachonu, Vincent K., and Norman G. Einspruch. "Innovation in healthcare delivery systems: A conceptual framework." *The Innovation Journal: The Public Sector Innovation Journal* 15.1 (2010): 1-20.

Jonathan Northrup et al., "The pharmaceutical sector: Rebooted and reinvigorated," in *The Business of Healthcare Innovation*, Lawton R. Burns (Ed.), Cambridge University Press, 2012: 32-115.

Herzlinger, Regina E. "Why innovation in health care is so hard." *Harvard business review* 84.5 (2006): 58.

Epstein, Steven. *Impure science: AIDS, activism, and the politics of knowledge*. Vol. 7. Univ of California Press, 1996. (Selections)

Fisher, Erik, et al. "Responsible healthcare innovation: anticipatory governance of nanodiagnosics for theranostics medicine." *Expert Review of Molecular Diagnostics* 12(8):(2012): 857-870.

Week 11 – Case Study: Nanotechnology

This module will apply course concepts and material to the case of nanotechnology policy, controversy, and the related rise of "responsible innovation" in the US and internationally.

Kennedy, Joseph. "Nanotechnology: the future is coming sooner than you think." *Presenting*

Futures. Springer Netherlands, 2008. 1-21.
 ETC Group, *The Big Down: From Genomes to Atoms*, 2003.
 Bill Joy, "Why the Future Doesn't Need Us." *Wired* April 4, 2000.
 Krupp, Fred, and Chad Holliday. "Let's get nanotech right." *Wall Street Journal* 14 (2005): B2.
 Erik Fisher and Roop L. Mahajan. "Contradictory intent? US federal legislation on integrating societal concerns into nanotechnology research and development." *Science and Public Policy* 33.1 (2006): 5-16.
 David Guston, "Innovation Policy: Not Just a Jumbo Shrimp," *Nature* 454: 940-41 (2008).

Week 12 – International Innovation

This module looks at differences across national innovation systems as well as diffusion, transfer and trade across national borders.

Yagnaswami Sundara Rajan "Shaping the National Innovation System: The Indian Perspective," in Dutta, Soumitra (Ed.) *The global innovation index 2012*, INSEAD and WIPO: 2012, pp. 131-139.
 Popp, David. "International innovation and diffusion of air pollution control technologies: the effects of NOX and SO 2 regulation in the US, Japan, and Germany." *Journal of Environmental Economics and Management* 51.1 (2006): 46-71.
 Tellis, Gerard J., Jaideep C. Prabhu, and Rajesh K. Chandy. "Radical innovation across nations: The preeminence of corporate culture." *Journal of Marketing* 73.1 (2009): 3-23.
 Dosi, Giovanni, Keith Pavitt, and Luc Soete. "The economics of technical change and international trade." *LEM Book Series* (1990). (Selections)

Commented [EF18]: 2. Course content emphasizes the study of social behavior such as that found in economics

Commented [EF19]: 2. Course content emphasizes the study of social behavior such as that found in economics

* EXAM 2 DUE *

Week 13 – Group presentations

Week 14 – Group presentations

* GROUP PROJECTS DUE *

This syllabus is subject to change. It is your responsibility to read e-mail updates from the instructor as well as check the blackboard site for alterations made as events occur.

Incompletes: A mark of "I" (incomplete) can be given by the instructor when you are otherwise doing acceptable work but are unable to complete the course because of illness or other conditions beyond your control. You are required to arrange with the instructor for the completion of the course requirements. The arrangement must be recorded using the form at <http://students.asu.edu/forms/incomplete-grade-request>. Students should be proactive and discuss this with their instructor and TA before the end of the semester. Students who do not complete this form before the end of the semester cannot be given an incomplete and will be awarded a grade based on the work they have completed.

Late Assignments: Late assignments will be accepted but will have 1 letter grade deducted each day they are late.

Grade Appeals: ASU has formal and informal channels to appeal a grade. If you wish to appeal any grading decisions, please see: <http://catalog.asu.edu/appeal>

Student Standards: Students are required to read and act in accordance with university and Arizona Board of Regents policies, including: The ABOR Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: <http://www.azregents.edu/policymanual/default.aspx>

Professionalism in the Classroom: While learning happens throughout ASU, the classroom is a particularly important focal point. Students are asked to contribute to a collegial atmosphere where ideas can be exchanged, discussed, and debated freely by avoiding disruptions through their own behavior and the distractions of their technology. Disruptive, threatening or violent behavior will be dealt with according to the policies in the Student Services Manual, [SSM 104-02](#). Students wishing to record lectures electronically must first get permission from the instructor.

It is impossible to learn from your fellow students when you or they are not there. As such attendance is required in this course. Should you have to miss a class, contact your instructor as far in advance as possible. Depending on the nature of the absence the instructor may elect to deduct points from your overall grade. Absences can be excused for religious observances or practices that are in accord with [ACD 304-04](#) or university sanctioned events/activities that are in accord with [ACD 304-02](#).

Academic Integrity: Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see <http://provost.asu.edu/academicintegrity>.

If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, school, and/or dean. Academic dishonesty includes borrowing ideas without proper citation, copying others' work (including information posted on the internet), and failing to turn in your own work for group projects. Please be aware that if you follow an argument closely, even if it is not directly quoted, you must provide a citation to the publication, including the author, date, and page number. If you directly quote a source, you must use quotation marks and provide the same sort of citation for each quoted sentence or phrase. You may discuss assignments with other students, however, all writing that you turn in must be done independently. If you have any doubt about whether the form of cooperation you contemplate is acceptable, ask the TA or the instructor in advance of turning in an assignment. Please be aware that the work of all students submitted electronically can be scanned using SafeAssignment, which compares them against everything posted on the internet, online article/paper databases, newspapers and magazines, and papers submitted by other students. Turning in an assignment (all or in part) that you completed for a previous class is considered self-plagiarism and falls under these guidelines. Any infractions of self-plagiarism are subject to the same penalties as copying someone else's work without proper citations. Students

who have taken this class previously and would like to use the work from previous assignments should contact the instructor for permission to do so.

Prohibition of Commercial Note Taking Services: In accordance with [ACD 304-06 Commercial Note Taking Services](#), written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the note taker's name as well as the instructor's name, the course number, and the date.

Student Support and Disability Accommodations: In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities. [Qualified students with disabilities may be eligible to receive academic support services and accommodations](#). Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are [responsible for requesting accommodations and providing qualifying documentation](#) to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities. Qualified students who wish to request an accommodation for a disability should contact their campus DRC at: <http://www.asu.edu/studentaffairs/ed/drc/>. If you are a student in need of special arrangements we will do all we can to help, based on the recommendations of these services. For the sake of equity for all students, we cannot make any accommodations without formal guidance from these services.

Sexual Violence and Harassment: Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at <http://sexualviolenceprevention.asu.edu/faqs/students>.

Drop and Add Dates/Withdrawals: Please refer to the [academic calendar](#) on the deadlines to drop/withdraw from this course. Consult with your advisor and notify your instructor if you are going to drop/withdraw this course. If you are considering a withdrawal, review the following policies: [Withdrawal from Classes](#), [Medical/Compassionate Withdrawal](#).

Email Communications

All email communication for this class will be done through your ASU email account and the blackboard site. You should be in the habit of checking your ASU email regularly as you will not only receive important information about your class(es), but other important university updates and information. You are solely responsible for reading and responding if necessary to any information communicated via email. For help with your email go to: http://help.asu.edu/sims/selfhelp/SelfHelpHome.seam?dept_pk=822 and file a help desk ticket by clicking on "My Help Center."

Campus Resources: As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability

resources, career and internship help and many opportunities to get involved in student clubs and organizations.

Tutoring: <https://tutoring.asu.edu/tutoring>

Counseling Services: <http://students.asu.edu/counseling>

Financial Aid: <http://students.asu.edu/financialaid>

Major/Career Exploration: <https://cls.asu.edu/majorexploration>

Career Services: <http://students.asu.edu/career>

Student Organizations: <http://www.asu.edu/studentaffairs/mu/clubs/>

FIS 308 Politics, Markets, and Innovation List of Required Readings

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