

SCNC W3010
Science, Technology, and Society
Instructor: Jack McGourty, Ph.D. (jm723@columbia.edu)

COURSE DESCRIPTION

Science, Technology, and Society, *3pts*. This course surveys the history of technology, innovation, and social innovation in both modern industrial and emerging countries. By investigating the evolution and diffusion of technical and social innovation, students will learn how science and technology fit into the bigger picture; i.e. how they develop, and how they are related to social forces, cultural values, economic possibilities, and political influences.

For the Spring 2012 semester, this course introduces students to the main concepts and processes associated with the creation of new social policies, programs, ventures, and organizations. “Social innovation” is a complex term that embraces activities ranging from business ventures sponsored by nonprofits to socially responsible initiatives undertaken by corporations. This course will focus on the impact that social innovation has on emerging communities, presenting an overview of some of the key applied frameworks currently in use, while exploring best practice case studies in more depth.

The course has three objectives: To familiarize participants with the core ideas around social innovation, to provide insight into some of the operational practices and strategies employed by social innovators, and to work with real social innovators to document best practices and create resources required for effective social innovation in emerging communities. The ultimate learning goal is to allow students to see all the potential opportunities to participate and support global social innovation – from entrepreneur to policy maker to investor.

COURSE REQUIREMENTS

Course requirements are based on a combination of individual and team assignments. In general, there are three major assignment areas: 1) individual book critique, 2) team country, industry, & market analysis, and 3) team final social innovation ecosystem report. Students are expected to attend all classes, keep up with class readings, complete all assignments on time, and respond to midterm and final course evaluation surveys.

Book Critiques (35 points total): Students are required to read two books related to the topics in the class. The first book should relate to the country chosen by each student's team. The second book should relate to entrepreneurship and/or social innovation. Students on the same team should not read the same books.

Book Summary (10 points): Students will first write a short summary of their book detailing the opportunities and challenges of the country. This paper is limited to 3 pages and is due on February 29th.

Integrated Book Critique (25 points):

Students will then write a detailed book critique relating to social innovation and the country (the two books) they have chosen. These critiques should be detailed and written much like a review and analysis one would see in a major journal or publication such as *The New York Review of Books*. The purpose of the book critique is to provide a foundation of knowledge about the team's social innovation area and country, and therefore should guide the continuing research required for the team's deliverables. The book critique is limited to 7 pages and is due on March 28th. A list of recommended books will be posted online. Students can choose books not listed with approval from faculty.

Course Evaluation (5 points): Additionally, students will be required to complete two course evaluations (midterm and final).

Global Market Analysis (20 team points): The first team assignment will focus on researching a specific global region for competitive programs already in existence. Students will work in teams comprising of 4-5 members. Team rosters are due no later than Week #2 (January 25th). The document and brief presentation is due Week #5 (February 15th).

Final Social Innovation Ecosystem Report & Presentation (40 team points): The final team assignment is the preparation of a complete social venture plan with associated presentation for the designated global region the team has been assigned. Final plans and presentations are due Weeks 13-14.

The course syllabus, lectures, major assignment information, grades, and weekly readings can be found on Courseworks (<http://www.courseworks.columbia.edu>).

SESSION SUMMARIES

Weeks 1-2. During these foundational sessions, class objectives, syllabus, and assignments

Course Point Distribution Summary (100 points total)

Individual Assignments (40 pts):

- Book Summary (10 pts)
- Integrated Book Critique (25 pts)
- Two course evaluations (5 pts)

Team Assignments (60 pts):

- Global Market Analysis (20 pts)
- Social Innovation Ecosystem Report (40 pts)

will be reviewed in some detail. We will discuss why it is important to study social innovations, their development, and diffusion into society as a commercial, non-profit, or hybrid enterprise. We will explore and at times create a common glossary of terms and models that will drive the structure of the class. Key terms include social entrepreneurship, social innovation, micro-finance, and micro-consignment. We will also explore the process required to develop and implement a new social enterprise and how global entrepreneurs create ways to provide essential goods and services in developing communities.

Weeks 3-5. Opportunity identification leading to new social enterprises will be discussed. During these sessions, we will look at the importance of developing the proper strategy for a new social innovation and venture. Good strategy development and implementation practices will be explored through case studies and guest social innovators.

Weeks 6-8. Social entrepreneurship involves the creation of new ventures that produce both financial return as well as some specific social benefit. Sometimes social ventures are established where the primary purpose is social good with returns being reinvested back into the company. During this session, we will explore different types of these ventures and how they create the so-called triple bottom line for investors, society, and environment.

Weeks 9-10. Innovation is a result of a finite and defined set of managerial practices. Based on extensive multi-year investigations of innovation, researchers have found that world class innovative organizations have developed a management style that supports and encourages continuous innovation. These firms foster an environment that promotes specific individual behaviors that repeatedly lead to successful new products and processes. This innovative culture is based on the proper management of the relationships between strategy and organizational practices, systems, and procedures. This session reviews both the findings of an extensive series of research studies and the results of several industrial applications. In addition, the role of corporate responsibility and its relation to social enterprise will be explored. Social responsible behavior and its impact of financial performance will be explored.

Weeks 11-12. In these sessions, we will turn our attention to building clear financial models and workable paths towards sustainability and scalability of social enterprises. Sources of funding will be explored.

Weeks 13-14. In these final sessions, we will summarize the findings of our collective work. Students will present the final analyses of their selected emerging technology.

Required Reading:

- Bornstein, David. (2004). *How to Change the World: Social Entrepreneurs and the Power of New Ideas*. First Edition. Oxford University Press, USA.

Recommended Readings:

- Khanna, Tarun (2007). *Billions of Entrepreneurs: How China and India are Reshaping Their Futures and Yours*. Harvard Business School Press, Boston MA.
- Prahalad, C.K. (2009). *The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits*. Wharton School Publishing, PA. (Softcover edition)
- Dahle, Cheryl. "Social Capitalists." *Fast Company*. (December 19, 2007)
- http://www.fastcompany.com/magazine/78/social_intro.html
- Kristof, Nicholas; Sheryl WuDunn (2008). *Half the Sky: Turning Oppression into Opportunity for Women Worldwide*. First Edition. Knopf, New York, NY.
- Christensen, Clayton M., Heiner Baumann, et al. "Disruptive Innovation for Social Change." *Harvard Business Review* 84 (Dec. 2006).
- Dees, J. *The Meaning of Social Entrepreneurship*. Online: http://www.fuqua.duke.edu/centers/case/documents/dees_SE.pdf
- Dees, J. et al. (2002). *Strategic Tools for Social Entrepreneurs: Enhancing the Performance of Your Enterprising Nonprofit*. Wiley. Illustrated Edition.
- Elkington, J. (2008). *The Power of Unreasonable People: How Social Entrepreneurs Create Markets That Change the World*. Harvard Business School Press, Boston, MA. [Select case studies may be useful for individual sectors, or specific projects]
- Horsnell, A., Pepin, J. "Social Entrepreneurship Basics: How Your Nonprofit Can Enhance Capacity, Impact and Sustainability." *Front & Centre* (July 2002). Vol 9, No. 4.
- Reck, J., Wood, B. "What Works: Vodacom's Community Services Phone. Providing Telecommunications to Poor Communities in South Africa." *World Resources Institute*. (August 2003).
- Selwyn, N. "Reconsidering Political and Popular Understandings of the Digital Divide." *New Media & Society*. (2004). Vol. 6, No. 3: 341-362.
- Cordes E., Mair J. "Project Impact: The Affordable Hearing Aid Project." IESE Publishing, Ref. no: DG-1472-E (February, 2005). <http://www.caseplace.org/d.asp?d=1043>
- Schoen O., Mair J. "A New Model for the Pharmaceutical Industry: The Institute of OneWorld Health." IESE Publishing, Ref. DG-1480-E, (August, 2005). <http://www.iesep.com/%28um2yme55rwyhwx45hh5ywh45%29/fichaProducto.aspx?sigla=DG-1480-E>
- Drayton, B. "Engage People, Retire Things." *Innovations: Technology, Governance, Globalization*. (Fall 2009) Vol. 4, No. 4: 49-55. <http://www.mitpressjournals.org/toc/itgg/4/4?cookieSet=1>
- Mair, J., Mitchell, J. "Waste Concern: Turning a Problem into a Resource." *Harvard Business Review*. (Sept. 2006). <http://hbr.org/product/waste-concern-turning-a-problem-into-a-resource/an/IES176-PDF-ENG?Ntt=Johanna+Mair>
- Dees, G., Anderson, B. "Girls on the Run International." Center for the Advancement of Social Entrepreneurship. Fuqua School of Business (Jan. 2007).

- Dees, G., Anderson, B. "The Growth of Youth Build." Center for the Advancement of Social Entrepreneurship. Fuqua School of Business (Feb. 2004).
- Karnani, Aneel. "Microfinance Misses its Mark." *Stanford Social Innovation Review*. (Summer, 2007). 34-40.
- Van Kirk, G. "The MicroConsignment Model." *Innovations: Technology, Governance, Globalization*. (Forthcoming, 2010) Special Edition: 127-154.