



CE 195 – Innovation and Technology

Instructors:

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1st Semester SY2006-2007

Course Description

Though technology plays a very important role in our lives, we seldom reflect on how technology develops or even on how it develops. This course is aimed at students as future technologists, the focus is on strategic thinking and the role of innovation in changing the technical landscape. We address questions like: what makes something hot, how new technologies have developed, what makes for technology into a business success, and how do successful technologies lead to whole new industries? This course surveys themes like technology and society, creation of new technology companies based on new ideas, and global competitiveness. We will need to understand the technical basis of new developments but our objective is to understand the global context of technology development as well.

The course is intended as a capstone course that develops a strategic overview of technology and applying this knowledge to the Philippine scene. This course complements their students' skills in science and engineering disciplines. Being aimed for young technologists at the start of their careers it is supposed to be a fun course rich with student presentations, discussion and interesting reading. The instructor or guest speaker will oftentimes just catalyze student discussion. This class could make learning and investigating new ideas, summarizing new ideas, and judging the potential impact, an integral part of their lifelong learning.

The competitive landscape is changing rapidly, today focused R&D and product development teams in developing companies can compete globally. The origins of the “flattening” of the competitive environment will be a major focus of the class lectures and student presentations. Our efforts will be to understand how these forces affect the Philippines. We will study the strategic role that intellectual property – patenting, licensing, and trade secrets – plays in securing for entrepreneurs their intellectual equity.

Course Objectives

The course will develop skills in strategic thinking about technology and society.

The course will hone student's presentation skills, especially in making concise and insightful presentations on technical topics.

This course will develop information gathering, information analysis, and critical thinking skills that will prove useful in your future careers.

Course Topics

Survey of Hot Technologies- What makes them Hot, How were they developed.

Hot New Ideas – Student presentations on hot new technical breakthroughs.

The New Global Competitiveness Environment – The World is Flat.

Knowledge Based Assets – Adding Value at Every Step through Innovation.

Prerequisite: This course is open to upper division engineering and science students participating in thesis projects.

Readings, Information sources, and Seminars:

Readings from a variety of sources serve as the course materials.

Materials downloaded from a variety of sources will be made available to the students. These materials have been obtained from sources like the *New York Times*, *The Economist*, *Scientific American*, *Technology Review Magazine*, *IEEE Spectrum*, *Physics Today*, and the *Wall Street Journal*.

Readings in Technology and Society will also be provided, in most cases as soft copy. Excerpts of the new book, *The World is Flat*, by Thomas Friedman will be used as a handout for the topics of Global Technologies and Competitiveness. Readings from other books will be provided - *The Tipping Point*, *Blink*, and the *Flight of the Creative Class*.

Course Requirements

Meeting deadline for presentation is of great importance in evaluating student. Students are required to make four presentations to the class and to participate in meaningful class discussions of presentations. In most cases, the presentations and proposals are Power Point slides (5 charts max – 5 minutes max). Not meeting deadlines will result in a significant lowering of the high grade that students start with. Position or reaction papers to Invited speakers will also be required. The grading scheme is based on class presentations, class presentations and reaction papers. Students who can integrate class ideas into their thesis proposals thereby deriving maximum benefit from the course.