

Cleveland State University
College of Business Administration
PROGRESSIVE--Summer 2007

Course: Management of Innovation and Technology

Section: 980

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Course Description

Product development is vital for company's sustainability in the markets. In the U.S. most CEOs rate innovation as "very critical" to future business success although most consider a "true innovation" to be a very challenging endeavor. In this course we will learn about the management issues associated with innovation. Specifically, basic principles and methods regarding new product development, the characteristics of disruptive and sustaining technologies, protecting new ideas, and the human side of managing technologies will be covered. Several related cases in innovation management will be discussed to show students how technological innovation is integrated into the corporate planning process in both high-tech and low-tech industries.

Texts

- *Strategic Management of Technological Innovation*, Melissa A. Schilling, Second Edition, McGraw-Hill, 2008. (ISBN: 978-0-07-321058-2)

- *Professor created eBook* by PRIMIS online.

Course Evaluation:

Case Assignment: Students are expected to form groups. An ideal size of a group is 5 although I might be okay with a group of four. I will provide guidelines about case preparation and presentation. Each group will submit a report and will give a short presentation. The details will be provided later in the term.

Reading Assignments: Each week we will cover chapters from the textbook, readings from the PRIMIS as well as the readings distributed in the first day of class. Students are expected to read these assignments and be prepared to discuss them in the class. Since most learning will take place in class, I strongly encourage you to attend classes. In the end of every class session we will be watching a video about great inventors/innovative companies of our time. Since DVDs scratch very easily I will not be able to lend them to you in case you miss a class.

Grading: all exams are in essay format.

Mid Term Exam	30%
Case Presentation & Report	30%
Final Exam	30%
Participation	10%

Extra point opportunities: You can earn up to 40% of your final exam by doing one or more of the following activities:

- Visit **Inventors Hall of Fame** in Akron (bring me your receipt) and answer the following two questions (20%) on no more than one page:
 - o **Which of the invention(s) at the museum you think has the most impact to our lives today? Why?**
 - o **What trends and changes did you notice over the years regarding the nature of innovations and inventors?**

- Arrange for an R&D manager to be a guest speaker (10%)

- Arrange for an inventor (or patent holder) to be a guest speaker (10%)

Week	Topic	Chapters in Shilling book/ handouts	Readings in eBook
1	<p>Introduction</p> <ul style="list-style-type: none"> • US Statistics, Current trends • Innovation vs. Invention • Sources of Innovation <p>Core Competencies, strategy and Innovation</p> <p>Video: Steam Boat</p>	<ul style="list-style-type: none"> • Chap. 1, 2 • Chap. 6 • <i>Patterns of Industrial Innovation</i>(William Abernathy and James Utterback) 	<ul style="list-style-type: none"> • <i>What is Strategy?</i> (Michael Porter) • <i>The Core Competence of the Corporation</i> (C.K. Prahalad and Gary Hamel)
2	<p>Types and Patterns of Innovation</p> <ul style="list-style-type: none"> • Incremental vs. Radical • Product vs. Process • Competence enhancing vs. Competence destroying • Architectural vs. Component • Disruptive vs. Sustaining <p>Video: Barbie</p>	<ul style="list-style-type: none"> • Chap.3 • <i>Exploring the Limits of the Technology S-Curve. Part II: Architectural Technologies</i> (Clayton Christensen) • <i>3M Post-it-Notes: A Managed or Accidental Innovation</i>, Nayak and Ketteringham 	
3	<p>Models of Innovation</p> <ul style="list-style-type: none"> • Christensen's theory • Abernathy-Clark model • Henderson-Clark model • Value-added Chain • Roberts and Berry model <p>Video: Opportunity and Threat</p>	<ul style="list-style-type: none"> • Models of Innovation • <i>Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms</i>(Rebecca Henderson and Kim B. Clark) • <i>Value Networks and the Impetus to Change</i> (Christensen) 	<ul style="list-style-type: none"> • <i>Meeting the Challenge of Disruptive Change</i>(Clayton Christensen and Michael Overdorf)
4	<p>Finding Markets for New Products</p> <ul style="list-style-type: none"> • Discovery Driven Planning • Technology Adoption Life Cycle • Intended vs. Emergent Strategy Making Process <p>Video: CNN</p>	<ul style="list-style-type: none"> • Chap. 5 • Chapter 13 • <i>Crossing the Chasm-and Beyond</i>(Geoffrey A. Moore) 	<ul style="list-style-type: none"> • <i>Discovery-Driven Planning</i>(Rita Gunther McGrath and Ian C. MacMillan) • <i>Note on Lead User Research</i>(Stefan Thomke and Ashok Nimgade)

5	EXAM 1 Video: IBM		
6	Managing the New Product Development Projects <ul style="list-style-type: none"> • Software Development • Stage Gate Process • Quality Function Deployment • Aggregate Project Plan 	<ul style="list-style-type: none"> • Chap.7 • Chap. 11 • <i>Communication between Engineering and Production: A Critical Factor</i>(H.E.Riggs) 	<ul style="list-style-type: none"> • <i>Creating Project Plans to Focus Product Development</i>(Steven Wheelwright and Kim B. Clark) • <i>Note on New Drug Development in the United States</i>(Stefan Thomke and Ashok Nimgade)
7	Protecting Innovation <ul style="list-style-type: none"> • Patents, Copyrights, Trademarks Video: Patents and Copyrights	<ul style="list-style-type: none"> • Chap. 9 	<ul style="list-style-type: none"> • <i>Finding the Balance: Intellectual Property in the Digital Age</i> (Philip Meza and Robert Burgelman)
8	Human Resources Management <ul style="list-style-type: none"> • Creativity • Why Doctors aren't curing ulcers • NPD team development 	<ul style="list-style-type: none"> • Chap. 12 • <i>Managing Creative Professionals</i>, Albert Shapero • <i>How to manage geeks</i> (R. Mitchell) • <i>Virtual teams: technology and the workplace of the future</i> (Townsend, DeMarie, Hendrickson) 	
9	Group Presentations		
10	FINAL exam		