CMGT 515
Innovation and the Information Economy

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ASC 332E
Office Hours: by appointment

Course Description:
This is a graduate level course that is intended to provide a comprehensive understanding of the origins, dynamics and impacts of innovation from an economic perspective with a focus on media and communication industries. In the first part of the course, after historical account of innovation dynamics, we will cover the economic, technological, institutional and personal underpinnings of innovation and entrepreneurship. We will also analyze the innovation dynamics fueled by the Information and Communication Technology (ICT) revolution that has caused a transformation from an industrial economy to an information economy. This transformation unleashed a wave of combinatorial innovations and set off a technology boom as innovators challenged the legacy businesses and worked through the possibilities leading to economies of scale, competition and growth. Concurrently, the ICT revolution allowed new and legacy businesses to acquire and exert more market power leading to price discrimination, lock-in, switching costs, and welfare losses. In the second part of the course, having covered the economic fundamentals of innovation, we will go on to analyze the impact of the economic transformation on the managerial and entrepreneurial approaches to innovation. This course is designed to equip the students with the essential skills and entrepreneurialism that will enable them to discern, comprehend and confront the major economic dynamics that underlie the combinatorial innovation wave of today and tomorrow.

Course Objectives:
The objective of this course is to support the Annenberg School for Communication & Journalism in its effort to promote economic literacy, critical thinking and entrepreneurialism. Successful completion of this course should result in the following learning outcomes:
1) Confidence in interacting with the economic terms and ideas found in the analysis of Innovations.
2) Understanding of the fundamental economic forces that have become ever more critical in the Information Economy following the ICT revolution.
3) Ability to intelligently observe and explain the functioning of contemporary markets, industries and the economy as a whole.

Course Materials:
Main Texts:
The Oxford Handbook of Innovation. (2005) Fagerberg, Mowery and Nelson

Recommended Texts:
Articles and excerpts from additional books will be assigned throughout the course for critical analysis and discussion and will be available on the class website. An appendix containing the list of books that appear on this syllabus can be found at the end of this document.
Assessment:
The final grade in this course will be based on eight short (less than 2000 words) writing assignments including 2 book reviews (5% each, 40% total), one individual or group case study presentation (10%), one midterm (20%) and a final (30%).

Academic Integrity Policy:
The Annenberg School for Communication & Journalism is committed to upholding the University’s Academic Integrity code as detailed in the SCampus Guide. It is the policy of the School for Communication to report all violations of the code. Any serious violation or pattern of violations of the Academic Integrity Code will result in the student’s expulsion from the Communication major or minor, or from the graduate program.

Academic Accommodations
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early as possible in the semester. DSP is located in STU 301, and is open 8.30am-5.00pm, Monday through Friday. The phone number for DSP is (213)-740-0776.

Topics to be Covered:

Week 1. Introduction: ICT revolution, and Combinatorial Innovations

In class screening: Shift Happens
Innovation perspectives: Innovation in Products, Processes, People and Technology
Innovation and Entrepreneurship

Readings:
* Wired for Innovation CH 1 “Technology, innovation and productivity in the information age”
* Innovation, Entrepreneurship and Technological Change CH2 “The Entrepreneur as Innovator”

Week 2. Definition, History and Measurement of Innovation

Definitions of and challenges in measuring inventions, innovations and technological change.
Institutions and innovation, a historical perspective.
The role of ICT revolution in the acceleration of innovation

Readings:
* Innovation and Incentives CH1 Institutions: A Brief Excursion through History
* Oxford Handbook of Innovation CH1 Innovation – A guide to the literature
* Oxford Handbook of Innovation CH6 Measuring innovation
* Oxford Handbook of Innovation CH13 Innovation Throughout Time
* Wired for Innovation CH 2-3
  Technology Growth and Development CH 3 The Process of Invention and Innovation
  The Gifts of Athena: Historical Origins of the Knowledge Economy
Week 3-4. Economic Fundamentals

Fundamentals of a Market Economy
Demand, Supply and Price System
Competition, Monopoly and Market Power
Market Failures: Externalities and Public Goods

Readings:
* Media Economics: Applying Economics to New and Traditional Media CH 1-8,13

Audio:
Economic Problem: http://www-scf.usc.edu/~ebayrak/teaching/EP.mp3
Opportunity Cost: http://www-scf.usc.edu/~ebayrak/teaching/OC.mp3
Market Economy: http://www-scf.usc.edu/~ebayrak/teaching/MarketEconomy.mp3

Week 5. Public Good Nature of Knowledge and Information Goods

Nonexcludability, nonrivalry, public goods and market failures therein.
Remedies to market failures; public sponsorship, IP, auctions, prizes, contests.
Investing in Knowledge

Readings:
* Innovation and Incentives CH2 Investing in Knowledge

Week 6-7. An Introduction to Intellectual Property for Non-Lawyers

Patents, copyrights, trademarks
Optimal design of intellectual property
Intellectual property and antitrust

Readings:
* Innovation and Incentives CH3 A Primer on Intellectual Property
* Innovation and Incentives CH4 On the Optimal Design of Intellectual Property
* Innovation and Incentives CH6 Licensing, Joint ventures and Competition Policy
* Innovation and Incentives CH7 Litigation and Enforcement
* Against Intellectual Monopoly
* Digital Economics CH 9 Intellectual Property Rights
* Digital Economics CH 9 Antitrust
* Oxford Handbook of Innovation CH10 Innovation and Intellectual Property Rights
* The Economics of Information Technology: An Introduction Part 2 Intellectual Property, Competition and Information Technology

Week 8. Review and Midterm
Week 9. The ICT Revolution and Innovation

Economic internalization on new technologies, and financial speculation
The new economy: from industrial goods to gadgets, from substantive goods to digits.
Cumulative innovators and combinatorial innovations

Readings:
* Digital Economics CH 1,2
* Innovation and Incentives: CH 5 Standing on the Shoulder of Giants
* Wired for Innovation CH 6 Incentives for Innovation in the Information Economy

Week 10-11. Understanding the New Economy: Enablers of and Obstacles to Innovation

Market Power, price discrimination, bundling, switching costs, lock in
Computer mediated transactions, network externalities, cooperation, compatibility

Readings:
* Information Rules: A Strategic Guide to the Network Economy
* Innovation and Incentives CH10 Networks and Network Effects
* Digital Economics CH5 Network Effects
* Oxford Handbook of Innovation CH3 Networks of Innovators
* The Economics of Information Technology: An Introduction Part 1 Competition and Market Power

Week 12. Zero Pricing, The Long Tail, Open Source, Commons: Peculiarities of the New Economy

Readings:
* The Long Tail, Chris Anderson http://www.wired.com/wired/archive/12.10/tail_pr.html
* Free! Why $0.00 Is the Future of Business Chris Anderson http://www.wired.com/techbiz/it/magazine/16-03/ff_free
* Democratizing Innovation
* Free Culture: How Big Media Uses Technology and the Law to Lock Down Creativity

Week 13. Strategic Management of Innovation

The innovative manager, the innovative firm, the innovative industry
Innovation today: a private-public partnership

Readings:
* Innovation and Incentives CH 8 Innovation Today: A Private-Public Partnership
* Oxford Handbook of Innovation CH5 Organizational Innovation
* Oxford Handbook of Innovation CH9 Finance and Innovation
* Wired for Innovation CH4 Business Practices that Enhance Productivity
Week 14. Innovation and Growth

Innovation, economic growth and catching up.
Innovation in the global economy
Science and technology policy

Readings:
* Oxford Handbook of Innovation Part IV CH 18-22
* Innovation and Incentives CH11 Innovation in the Global Economy
The Lever of Riches: Technological Creativity and Economic Progress. CH1

Week 15. Presentations

Appendix: Book List:

Strongly Suggested
- Innovation and Incentives (2004) Suzanne Scotchmer
- Wired for Innovation: How Information Technology is Reshaping the Economy (2009) Brynjolfsson and Saunders
- The Innovator’s Solution (2003) Christensen and Raynor
- The Innovator’s Dilemma (2003) Clayton M. Christensen
- Seeing What’s Next (2004) Christensen, Anthony and Roth
- Against Intellectual Monopoly (2007) Boldrin and Levine

Optional
- The Lever of Riches: Technological Creativity and Economic Progress. (1990) Joel Mokyr
- Innovation, Entrepreneurship and technological Change. (2007) Link and Siegel
- Perspectives on Innovation (2007) Malerba and Brusoni
- Democratizing Innovation (2005) Eric Von Hippel
- Non technological and Non-economic Innovations (2009) Steffen Roth
- Conquering Innovation Fatigue (2009) Lindsay, Perkins and Karanjkar
- The Future of Innovation (2009) Stamm and Trifilova
- Technology, Growth and Development: An Induced Innovation Perspective (2001) Vernon W. Ruttan
• Ten Rules for Strategic Innovators: From Idea to Execution (2005) Vijay Govindarajan, Chris Trimble
• Blue Ocean Strategy: How to Create Uncontested Market Space and Make Competition Irrelevant (2005) W. Chan Kim, Renée Mauborgne
• Opening Up Education: The Collective Advancement of Education through Open Technology, Open Content, and Open Knowledge (2008) Toru Iiyoshi, M. S. Vijay Kumar, and John Seely Brown