Economics of Innovation

Kellogg School of Management
Northwestern University

MANAGERIAL ECONOMICS AND
COMPETITIVE STRATEGY
MECS 549

Fall Quarter, 2016
Wednesdays 3:30-6:30

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Economics of Innovation

Course Description
The course is an economic theory seminar. There will be lectures and class discussion. The course welcomes students from every department in Kellogg and the economics department. Economics of Innovation introduces theoretical models of invention and innovation. The course applies and extends concepts and frameworks from game theory, industrial organization, and contract theory. Topics include markets for technology, innovation, intellectual property (IP), patent licensing, incentives contracts for delegated research and development (R&D), R&D contests and tournaments, technology standards, Standard Setting Organizations (SSOs), and entrepreneurship. The course also gives an introductory coverage of new data bases in invention and innovation and reviews some of the extensive empirical analysis in innovation economics. Evaluation is based on a brief paper and the course provides a workshop on preparing the paper.

Course Requirements
1. Class attendance and participation in discussions is required. Students are expected to have read the material and be prepared when attending the course.

2. Background readings are optional

3. Lectures will be posted on CANVAS. Readings are selected journal articles and working papers. Some readings will be posted on line on CANVAS. Other readings in the syllabus are to be downloaded from www.jstor.org.

4. Research paper on a topic covered in the course. The paper must be double spaced and use size 12 font. The paper can be submitted as a pdf attachment.

The paper can serve as a basis for future dissertation topics. The paper should not represent work that has been or is being prepared to satisfy the requirements of another course. The paper cannot be joint work either with another student or a professor. The course will provide some guidance and instructions on how to choose a topic, how to conduct research, and how to prepare a research paper.

Kellogg Honor Code
All Kellogg honor code restrictions apply to individual papers and exams. The honor code will be discussed in class.

Kellogg Code of Classroom Etiquette
Students will abide by the Kellogg Code of Classroom Etiquette in every session of the course and in interaction with their fellow students and with the instructor.
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Course Outline

I. Introduction to Innovation Economics


Background readings:


II. Competitive Pressures and Incentives to Innovate

**Readings:**


**Background readings:**


Handbook of the Economics of Innovation, 2010, Bronwyn H. Hall and Nathan Rosenberg, eds., Volume 1, Volume 2, Elsevier, Amsterdam,
http://www.sciencedirect.com/science/handbooks/22108807/1


III. Innovative Complements and Substitutes

Readings:


Background readings:


**IV. Intellectual Property and Patent Licensing**

**Readings:**


**Background readings:**

Hegde, D., 2014, Tacit Knowledge and the Structure of License Contracts:


V. Technology Standards and Standards Organizations

Readings:


VI. Innovation and Coordination in Technology Adoption


Background Readings:

Joseph Farrell and Garth Saloner, 1985, Standardization, Compatibility, and Innovation, Rand Journal of Economics, 16, pp. 70-.


Michael L. Katz and Carl Shapiro, 1994, Systems Competition and Network Effects, Journal of Economic Perspectives, 8, pp. 93-.

Michael L. Katz and Carl Shapiro, 1985, Network Externalities, Competition, and Compatibility, American Economic Review, 75, June, pp-.


VII. Entrepreneurship and Creative Destruction


Background readings:


Theil, Peter, with Blake Masters, 2014, Zero to One: Notes on Startups, or How to Build the Future, Crown Business.


VIII. Contracts and Contests

VIII.A. Incentive Contracts for Invention

Readings:


Background readings:


**VIII.B Prizes for Invention: Tournaments, Contests, and Races**


**Background readings:**


**IX. International Trade and Innovation**
Readings:


Background Readings:


X. Conclusion: Famous Fables of Economics

Readings:


Background Readings:

