

**ECON-4140**  
**STRUCTURE OF INDUSTRY:**  
**COMPETITION, INNOVATION, ENTREPRENEURSHIP, POLICY**

Prof. Ken Simons, Fall 2009

**OBJECTIVES:**

This course will help you understand and analyze the nature and dynamics of competition and how firms formulate competitive strategies. Strategies involve allocation of resources in pursuit of specific goals and objectives, notably, profit maximization. Strategic decisions must account for the prevailing competitive and external environments and for the resources available to management. Effective strategy formulation also requires analysis of competitors, technologies, markets, and other factors specific to the firm and its industry. Special attention will be devoted to strategy and policy related to engineering- and science-intensive industries. A component of the course includes some material that may aid potential entrepreneurs.

Analysis of industries demands intensive empirical work. Empirical skills and practical application will stem from a group project, in which you analyze aspects of competition regarding a particular industry. For example projects might explore strategic opportunities in the oil industry, entrepreneurial entry and competition in the early automobile industry, the evolving structure of food product industries, or the evolving patent landscape in solid-state lighting. Several sessions on empirical methods will provide support for the project.

A critical component of this course is spirited, informed class discussion. Examples and evidence will be used to illustrate key theories and concepts, but the issues raised are sometimes difficult to define, and the proposed resolution of these issues may be even less clear. Still, it is important that we attempt to classify and resolve these issues, even when there is not necessarily a “correct” solution to the problem. The quality of the course depends, to a large extent, on your input. If you are prepared to challenge the instructor and your classmates, the class will be a rewarding and enriching learning experience. To facilitate class discussion, short quizzes will be given at the beginning of each session for which advance reading is required.

**GRADING:**

The final course grade will be computed in the following manner:

Quizzes on Advance Readings	20%
Tests (two, each counting 15%)	30%
Group Project Presentation and Report	50%

Quizzes (short answer and/or multiple choice) will occur briefly at the start of class whenever an advance reading is indicated. Tests (short answer and/or multiple choice) on the first and second halves of the course are scheduled for October 15 and November 23.\* Separate sheets describe the Group Project Presentation and Report, which is normally a study of an industry. Project presentations will be scheduled near the end of term, and written project reports are due by 4 p.m. on the last day of classes, December 11.

Quiz and test results will be made available as the semester progresses. The lowest two quiz grades will be dropped to allow for necessary absences. However, attendance is generally required and may affect your grades. Final grade appeals are only granted in cases of administrative error, but if you think there has been an error submit your appeal to Prof. Simons (if rejected students are allowed to appeal in writing to the Economics Department Chair within five Institute business days). Intellectual dishonesty, specifically cheating on quizzes or tests or plagiarism, will generally result in a Fail grade in the course and referral to the Dean of Students' office for possible further action.

**TEXT:**

David Besanko, David Dranove, Mark Shanley, and Scott Schaefer (2009). Economics of Strategy, 5<sup>th</sup> edition, New York, John Wiley (henceforth abbreviated as BDS). The 4<sup>th</sup> edition is okay to save money, but there are differences and you may want to borrow someone's 5<sup>th</sup> edition occasionally.

Additional papers will be handed out in class or made available electronically.

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\* The second test may include a small amount of material from the first half of the course.

## TENTATIVE CLASS SCHEDULE:

<u>Date</u>	<u>Topic</u>	<u>Read in Advance*</u>
8/31	Administrative Details/Review of Economic Concepts/Simulation 1	(BDS-Ch 1 [Primer])
9/3	Economies of Scale and Scope	BDS-Ch 2 [2]
9/10	Vertical Boundaries and Vertical Integration	BDS-Ch 5 and 6 [3 and 4]
9/14	Empirics: About the Projects and Library Research	–
9/17	Diversification	BDS-Ch 7 [5]
9/21	Empirics: Project Choice, Compiling Data on Firms	–
9/24	Competitors and Competition	BDS-Ch 8 [6]
9/28	Empirics: Measuring Cost & Quality Competition	article (read part)**
10/1	Industry Dynamics and Shakeouts	handout***
10/5	Participatory Simulation: Experiencing Industry Competition NB: Bring a laptop computer; quiz after simulation	–
10/8	Strategic Commitment	BDS-Ch 9 [7]
10/13	Dynamics of Pricing Rivalry	BDS-Ch 10 [8]
10/15	Test I & Empirics: Company Databases	–
10/19	Entry and Exit	BDS-Ch 11 [9]
10/22	Empirics: Statistical Analysis of Exit	–
10/26	Industry Analysis	BDS-Ch 12 [10]
10/29	Entrepreneurship: Brief Introduction to Issues	handout TBA
11/2	Strategic Positioning for Competitive Advantage	BDS-Ch 13 [11]
11/5	Empirics: tba	–
11/9	Sustaining Competitive Advantage	BDS-Ch 14 [12]
11/12	Empirics: tba	–
11/16	Origins of Competitive Advantage: Innovation, Evolution, and Environment	BDS-Ch 15 [13]
11/19	Sustaining Economic Growth through Technological Advance	–
11/23	Test II & Group Projects I	
11/30	Group Projects II	
12/3	Group Projects III	
12/7	Group Projects IV	
12/10	Group Projects V	

\*The chapter in the 4<sup>th</sup> edition of the textbook is the small number in square brackets.

\*\*On 9/28 the class will be grouped into four teams, each presenting empirical evidence on one of four industries and relating the evidence to the points of discussion in section 7 of the article. Each group has up to 20 minutes' presentation time. Instead of an advance quiz, the grade for this class will be based on the presentations. The same evaluation procedure will be used as for the final projects. Read sections 1-2 and 7-8 of the paper, plus your group's section on automobiles (3), automobile tires (4), televisions (5), or penicillin (6). The article is: Steven Klepper and Kenneth L. Simons, "Technological Extinctions of Industrial Firms: An Inquiry into their Nature and Causes," *Industrial and Corporate Change*, vol. 6 no. 2, 1997, pp. 379-460.

\*\*\*The handout to read for 10/1 is titled "Notes on Industry Dynamics and Shakeouts."

**TEACHING TEAM:**

Prof. Kenneth L. Simons: email [simonk@rpi.edu](mailto:simonk@rpi.edu), 276-3296, room Sage 3407. Office hours: anytime, just stop by, or sign up for a slot Mondays 12:30-1:30 or 4:15-5:15. You sign up outside my office to guarantee a slot in the Monday times (if you do not sign up by 11:50 or 3:50 for the forthcoming office hours block then occasionally I might make other arrangements so occasionally will not be in). TA Liliana Martinez: email [martil@rpi.edu](mailto:martil@rpi.edu), room Sage 3602, office hours – please email beforehand – Wednesday 4-5pm and Thursday 10-12am, or by appointment.

Prof. Kenneth L. Simons is a leading industrial economist with considerable research and applied experience. He has taught economics for over a decade at the University of London (1995-2003) and RPI (2003 to date). As an undergraduate at MIT he was a teaching assistant for MBA, PhD, and executive courses in system dynamics. He also developed and formally taught small-group courses in chemistry and differential equations to MIT undergraduates. He received MIT's most prestigious award to undergraduates, the Karl Taylor Compton Prize, for his contribution to education at MIT (the award is given for service and contributions to the university; another recipient is RPI's President Shirley Jackson). His research is primarily in industrial organization and technological change, areas in which he has numerous publications and papers (see <http://www.rpi.edu/~simonk>). He has been Chairman of the Network of Industrial Economists, and his research on industry and technology dynamics is funded by the Kauffman Foundation and the National Science Foundation.

Liliana Martinez is a graduate student at RPI in the Ecological Economics program. She received her BS from the University of Texas in San Antonio in Mathematics and her Masters in Applied Mathematics from RPI. She has worked as a teaching assistant for advanced economics courses at RPI and has extensive experience tutoring individual students. Her research interests are microfinance and entrepreneurship.