This subject is designed to provide a working knowledge of the analytical tools of industrial economics that bear most directly on the strategic decisions that firms must make. The kinds of decisions that will be of interest to us include: pricing and output; advertising; investment in new production capacity; the introduction of new products, brands, and quality variations; investments in R&D; and the use of patents. Throughout the course, our emphasis will be on industry structure, its relationship with the way firms interact strategically, and its implications for market power. The analysis of industry structure, strategic interactions among rival sellers, and strategies for entering an industry, or for deterring entry or controlling its impact, will be covered with a mix of theory and case material.

Students taking this course should have a good background in microeconomics — specifically, course 15.010 or its equivalent. In addition, some background in finance (course 15.401 or the equivalent) is strongly recommended.

No textbook will be assigned for this course. However, a set of readings and cases should be purchased from Copy Technology Center, which is in the basement of the Sloan Building. From time to time we will post additional readings on Stellar.

Grading in the course will be based on four different aspects of your performance:

- **Classroom participation** (28% of grade) — All students are expected to have read the assigned materials, to attend class, and to participate actively in class discussions.

- **Strategic oligopoly game** (15% of grade) — You and your teammate will be graded on your performance, measured by your cumulative profits, in this semester-long game. Your performance will be evaluated relative to the overall average performance of both sections of 15.013, not the performance of your industry.

- **Exercises** (32% of grade) — We will assign 9 written “exercises” over the course of the semester. You are only required to turn in 8 of these exercises. (If you do all 9, we will drop the lowest grade.) You may do these exercises individually or in groups of up to three students.

- **Final exam** (25% of grade) — This will be an in-class exam.
Class Attendance: Students are expected to attend all classes, and to arrive in class promptly. Students are also expected to have done the required reading and be prepared to participate actively in class discussion. I will begin most classes by “cold calling” on two or three students.

Laptop Computers: Given the importance of classroom participation, we ask that you do not open your laptop computer during class. There are only two exceptions to this rule: (1) presentations and discussions of exercises, where spreadsheets or other results are on your computer; (2) students with special needs (e.g., handwriting difficulties), who get permission in advance to use their computers. The same rules apply to iPads, PDAs, smartphones, etc.

Group Work: You are expected to participate fully in any exercise or other assignment that has your name on it. It is absolutely unacceptable to “rotate” assignments among members of a group, or to take credit for an assignment in which you were not substantially involved. You may allocate the work needed to complete an assignment (e.g., one person does the internet research, another develops a spreadsheet model, etc.), but every member of the group must be substantially involved in the assignment.

DATES TO REMEMBER

Monday, September 10  
Please submit via the template on Stellar a short (1- or 2-paragraph) “biography” describing your background and interests. Include a photograph, and the phonetic spelling of your name.

Wednesday, September 12  
Exercise 1 is due. In addition, you should turn in a note on your choice of partner for the strategic oligopoly game.

Monday, September 24  
Trial Play of Strategic Oligopoly Game. (Submit by 5:00pm.)

Wednesday, September 26  
NO CLASS, Yom Kippur.

Monday, October 1  
First real play of Strategic Oligopoly Game

Monday, October 8  
NO CLASS, Columbus Day. However, game play must be submitted by 5:00pm.

Monday, October 22  
NO CLASS, SIP week. However, game play must still be submitted by 5:00pm.

Wednesday, October 24  
NO CLASS, SIP week

Monday, November 12  
NO CLASS, Veterans Day. However, game play is due by 5:00pm.

Monday, December 10  
FINAL EXAM (90 minutes, in-class).

Wednesday, December 12  
Debriefing, and results of strategy game. Discussion of additional topics as time permits.
TENTATIVE OUTLINE

Sept 5 Wed  Introduction: Sources and Uses of Market Power. Overview of the course. Market structure, market power and the value of the firm. Strategic decisions that affect market structure and market power. Competing in the market versus competing for the market.


Read: R. Pindyck & D. Rubinfeld, Microeconomics, Section 15.8.

Turn in brief biography and photo via Stellar/Google form. Be prepared to answer questions on learning curve and oil well problem.


Read: R. Pindyck & D. Rubinfeld, Microeconomics, Section 11.6.
Readings on beer (in course package and on Stellar).
Lecture Notes on Market Definition and Concentration.

Exercise 1 due.
Hand in choice of game partner.


Read: Notes on Internet Economics and Market Structure.
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<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
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<tr>
<td></td>
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<td>Read: Apple Inc.: iPods and iTunes. [Ivey Case #9B05M046]</td>
<td>Readings on Internet music stores: in course package and Stellar.</td>
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<td>Exercise 2 due.</td>
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<td>Read: “WebMD (A).” [HBS Case #9-701-007]</td>
<td>“WebMD (B).” [HBS Case #9-701-133]</td>
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<td>Readings on WebMD: in course package and Stellar.</td>
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<td>Trial play of Strategic Oligopoly Game. Submit by 5:00 pm.</td>
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<td>Sept 26 Wed</td>
<td>NO CLASS. (Yom Kippur)</td>
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<td>Read: Lecture Notes on Vertical Structure, Sections 1, 3 and 4.</td>
<td>Pindyck &amp; Rubinfeld, Review Section 11.4.</td>
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<td>Exercise 3 due.</td>
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<td>First real play of Strategic Oligopoly Game. Submit by 5:00 pm.</td>
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<td>Read: Lecture Notes on Game Theory, Sections 1—4. (Section 5 optional.)</td>
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Oct 8  Mon  NO CLASS. (Columbus Day.) However, game play is due by 5:00 pm.

Oct 10  Wed  The Strategic Value and Use of Information. Decision making with asymmetric information, and the role of uncertainty. Does better information make a firm better off? Learning from nature and learning from others: oil, real estate, and R&D. Informational cascades and “wisdom after the fact.” Rational versus irrational bubbles. The 2008-2009 credit freeze.


Oct 15  Mon  Entry Decisions under Uncertainty. Analyzing and predicting the behavior of new entrants. Learning from an entrant. The option to invest and the value of waiting. The disposable diaper industry. Diapers as an “experience good.” Should Kao invest early in premium diapers?


*Exercise 4 due.*


Read: Lecture Notes on Entry and Reaction to Entry.

Oct 22  Mon  No Class. (SIP week.)
However, play of strategic oligopoly game is due by 5:00pm.

Oct 24  Wed  No Class. (SIP week.)


*Exercise 5 due.*
**Oct 31  Wed**  

Read:  Lecture Notes on Game Theory, Section 5. 
Readings on Commercial Aircraft Industry (course package and Stellar).

**Nov 5  Mon**  

*Exercise 6 due.*

**Nov 7  Wed**  

Read:  Pindyck & Rubinfeld, review Section 11.5. 
Lecture Notes on Bundling and Brand Proliferation: Sections 1-2.

**Nov 12  Mon**  
NO CLASS. (Veterans Day.) *However, game play is due by 5:00 pm.*

**Nov 14  Wed**  
Deterrence via Bundling and Brand Proliferation (continued). Discussion of attribute space and its use in economic analysis. Local competition among brands in attribute space. Choosing the attributes for new brands. Brand proliferation, entry deterrence, and market power. Analysis of the breakfast cereal industry.

Read:  Lecture Notes on Bundling and Brand Proliferation (complete).  
“The Ready-to-Eat Breakfast Cereal Industry in 1994 (A).”  
[HBS Case #9-795-191]

*Exercise 7 due.*

**Nov 19  Mon**  


Read: “Capital One Financial Corporation.” [HBS Case # N9-700-124]

Exercise 8 due.


Read: Lecture Notes on Pricing

Dec 3  Mon  R&D, Patenting, and Licensing. Implications of R&D and innovation for industry evolution and market structure. The race to innovate. Making the R&D investment decision: strategic and non-strategic aspects. Patents as options. Sleeping patents and the decision to adopt a new innovation. Licensing decisions. The use of licensing to gain market power.

Read: Lecture Notes on R&D and Patent Licensing.

Exercise 9 due.
Last play of Strategic Oligopoly Game. Submit by 5:00 pm.
Dec 5  Wed  R&D, Patenting, and Licensing (continued). Continued discussion of R&D and patent licensing decisions. Licensing to raise prices vs. licensing to lower prices. Intel in computer processors. Complementary patents: cross-licensing versus the formation of “patent pools.”

Read:  Lecture Notes on R&D and Patent Licensing.
“Economics of Patent Pools”

Dec 10  Mon  FINAL EXAM. (Closed-book, but you can bring an 8.5 x 11” sheet of paper with notes, formulas, etc. on both sides.)

Dec 12  Wed  Wrap-Up Class. Results of strategic oligopoly game – meet your competitors! General discussion of topics related to course.