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University of Pennsylvania Department of Economics
Econ 235: Industrial Organization
Fall 2018

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Lectures	Tuesday & Thursday 3:00-4:20 (McNeil 286-7).
Instructor	Deniz Selman (denizs@econ.upenn.edu) *Office Hours*: Tuesday 4:30-5:30 and by appointment (PCPE 541).
TA	TBA
Description	Industrial organization is a subfield of microeconomics devoted to the study of the structure of firms and markets and of their strategic interactions. The study of industrial organization adds to the perfectly competitive model by considering real-world frictions such as limited information, transaction costs, costs of adjusting prices, government actions, and barriers to entry by new firms to the market. It also considers how firms are organized, how they compete in such a world, and how they acquire and use market power. In this course we will study the fundamental topics in industrial organization such as market power, monopoly, price discrimination, nonlinear pricing, product differentiation, oligopoly, monopolistic competition, entry deterrence, capacity constraints, spatial competition, quality, and antitrust. Knowledge of intermediate microeconomics is essential, and basic game theory will be introduced and used to analyze applications.
Prerequisites	Econ 101* (Econ 103 is also recommended), Math 104, and either Math 114 or Math 115. *-Wharton students can satisfy the Econ 101 prerequisite with BEPP 250 **Honors** but not the regular BEPP 250. Credit cannot be received for both Econ 35 and Econ 235.
Lectures	I will primarily teach by writing on the blackboard. Students should attend and participate in class. Please make arrangements to borrow a friend's notes if you miss a lecture. In order to discourage classroom distractions, ***the use of laptops and other electronic devices is not permitted during lectures.*** If you have a special condition which makes this a difficulty for you, please let me know.
Textbook*	Lynne Pepall, L., D. Richards and G. Norman, ***Industrial Organization: Contemporary Theory and Empirical Applications***, Wiley, 5th Edition, 2014. *-The course will be self-contained and based on my own lecture notes, so the textbook serves only as ***suggested additional reading*** for those of you who find learn better from texts. The textbook is available on reserve at the Penn library.
Problem Sets	There will be six problem sets assigned and collected for grading during the semester. Problem sets will be posted on Canvas one week before the due date and due at the beginning of lecture (no later than 3:05 pm) on the following due dates: **(1) Tue 11 Sep. (2) Thu 20 Sep. (3) Thu 18 Oct. (4) Tue 30 Oct. (5) Tue 20 Nov. (6) Tue 4 Dec.** *No late problem sets will be accepted.* Your lowest problem set grade will be dropped and the average of the others will constitute the problem set portion of your grade. NOTE: Working on problem sets diligently is the most effective way to prepare you for quizzes and exams. I recommend you first work on your own and then meet to discuss the problems in groups. However, each student must turn in his or her own answers. Please write legibly and state which classmates you worked with on your submitted copy.
Quizzes	There will be three in-class quizzes held on the following dates: **(1) Tue 25 Sep. (2) Thu 1 Nov. (3) Thu 6 Dec.** NO MAKE-UP QUIZZES: *You will receive a zero for any quiz that you miss for any reason.* To accommodate students who must miss a quiz, your lowest quiz grade will be dropped and the average of the other two quizzes will constitute the quiz portion of your grade.

Exams   ***First Midterm Exam: Tuesday 2 October (in class, beginning at 3:05 pm sharp).***
Second Midterm Exam: Thursday 8 November (in class, beginning at 3:05 pm sharp).
Final Exam: Thursday 13 December (12:00 pm - 2:00 pm).
MAKE-UP POLICY FOR EXAMS: Only students who contact me *before* an exam *and* provide a written excuse will be eligible to take a make-up exam. Students who miss an exam and are not eligible to take a make-up exam will receive a grade of zero on that exam.

RE-GRADING POLICY: Students have one week from the day in which examinations and problem sets are returned to report errors in grading and/or to request that problems be re-graded. All such requests must be made in writing. If a student submits his/her exam for re-grading, then the student's entire exam will be re-graded with no guarantee of a higher total score.

OTHER POLICIES & PROCEDURES: Apart from these stated specifics regarding quizzes and exams above, this course complies with all departmental policies as posted on the departmental website at: http://economics.sas.upenn.edu/undergraduate-program/course-information/guidelines/policies.

Grading   Problem Sets (16%), Quizzes (12%), Two Midterm Exams (21% each), Final Exam (30%)

Course Outline *(tentative and time permitting)*

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Preliminaries	
Perfect Competition	Ch. 2
Market Power and Welfare	Ch. 3
Overview of the Theory of Firm	Ch. 4
Monopoly	
Durable Good Monopoly	Ch. 5
Price Discrimination: Linear and Nonlinear Pricing	Ch. 5-6
Strategic Interaction: Oligopoly Models	
Overview of Game Theory	
Cournot Model	Ch. 9
Bertrand Model	Ch. 10
Bertrand Model with Transportation Costs	
Dynamic Oligopoly Games and Collusion	Ch. 11, Ch. 14
Stackelberg Model	Ch. 11
Entry Deterrence: Dixit's Model	Ch. 12
Product Differentiation and Spatial Competition	
Monopolistic Competition	Ch. 7
Spatial Competition: Location Models (*Hotelling's Linear City, Salop's Circular City*)	Ch. 7