

Spring 2015

Economics 235: Industrial Organization

This is an advanced undergraduate course studying the behavior and role of firms in the economy, with a focus on e-commerce and technology industries. We will discuss topics such as pricing and advertising, information goods, market power, collusion and cartel behavior, reputation, switching costs, mergers, innovation and patents, platform markets and network markets. Material will be a combination of economic theory, building on the mathematical models you learned in Econ 101, and case studies of specific firms or industries, including Amazon, Yelp and Microsoft. The goal is to provide a solid theoretical base to rigorously analyze firms and industries, discuss real-world applications of these formal models, identify distinct features of technology and e-commerce industries, and develop your analytical skills. Evaluation is through problem sets, exams, participation and a case-study term project.

1 Course Logistics

Instructors

Professor: Aislinn Bohren
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Office Hours: Monday 3:30-5:30pm

Teaching Assistant: Daniel Hauser
Email: dahauser@sas.upenn.edu
Office: 479 McNeil
Office Hours: Thursday, 1-3pm

Correspondence

Piazza: <https://piazza.com/upenn/spring2015/econ235>

Post all content-related questions about problem sets, projects and lecture on piazza. Course instructors will monitor, and occasionally post, on this forum. Piazza will also help instructors to identify areas of difficulty or interest for students and hone lecture to focus on these areas.

Email: Use for correspondence that is not appropriate for piazza. Emails will receive a response within 24 hours Monday through Friday. *Include Econ235 in the subject line.*

Class Schedule and Deadlines

Lecture: MW 2-3:30pm, McNeil 235 (*no class on 1/19, 3/9 and 3/11*).

Exams:

Midterm 1: Wednesday, March 4 (in class).

Midterm 2: Wednesday, April 22 (in class).

Case-Study Project:

Group and Firm Selection: Wednesday, February 4 by 2pm.

Proposal: due Wednesday, March 18 by 2pm (submit electronically).

Presentations: April 27 and 29 (in class).

Paper: due Tuesday, May 11 by 11am (submit electronically).

There are no weekly review sessions, but we will schedule a review session before each midterm.

Prerequisites

Econ 101; Math 104 & 114 or Math 115. Econ 103 is recommended. Econ 235 assumes that students have taken multivariate calculus and have basic knowledge of probability. A strong understanding of these mathematical tools is crucial to succeed in the course.

Course Policies

The [Economics Departmental Course Policies](#) outline rules about exam attendance, grading appeals, academic integrity, etc. You are responsible for familiarizing yourself with these policies. If you miss a midterm for an *excused* reason (as specified in the course policies), there will be one cumulative make-up midterm at the end of April.

2 Course Content

Text

Lynne Pepall, Dan Richards and George Norman, *Contemporary Industrial Organization: A Quantitative Approach*, 1st Edition (on reserve at van Pelt).

Case study readings can be bought as a course packet at a discounted student rate (<https://cb.hbsp.harvard.edu/cbmp/access/32370260>), or individually for \$7 on the HBS website.

Other readings will be available online or on JSTOR at no cost.

Course Material:

All course material will be posted on Canvas. Check regularly!

- Readings: I will assign a mix of readings from the textbook, case studies, academic journals, blogs and the news. This reading is required and students are responsible for understanding the material assigned.
- Lecture Slides and Handouts: Lecture will be a mix of slides, notes presented on the blackboard and discussion.
- Problem Sets will be assigned to develop problem solving skills. Frequent practice will build the skills you need to succeed on the exams.
- Sample Midterms

Please check your email settings on canvas to make sure you receive emails.

Course Requirements

Case Study Project: A main requirement for the class is a case-study term project. The paper portion of the project is due with no exceptions on Tuesday, May 11 at 11am. A shorter proposal of what your plan for the project is due Wednesday, March 18 before class. Students will present their projects during the last week of class. Details on what is expected for this project are provided in the handout “Case Study Project”.

Submit as pdf file to abohren@sas.upenn.edu AND dahauser@sas.upenn.edu.

Problem Sets: There will be 4-6 graded problem sets, available on canvas and due at the *beginning* of class on the due date. The assignments can be discussed with classmates, but should be written and submitted individually. Answers will typically be posted to canvas the day the problem set is due. As a result, late problem sets will not be accepted. I will select a subset of questions to grade on each assignment.

Submit hard copy in class or pdf file to dahauser@sas.upenn.edu.

Exams: There will be two in class midterms (3/4 and 4/22). The exams are closed book (closed everything). I will post a sample midterm about a week in advance. Midterm attendance is mandatory. Students who miss a midterm for an allowable reason must report their absence on the Course Absence Reporting (CAR) System.

Participation: Students will receive credit for participation, including:

- Lecture participation
- Class activities
- Piazza participation: Collaborate with classmates. Post any content-related questions you have and answer other students’ questions for participation credit; high quality answers will be weighted accordingly.

Grading Breakdown:

20%: Problem Sets
22.5%: Midterm 1
22.5%: Midterm 2
10%: Case Study Presentation
20%: Case Study Paper
5%: Participation

3 Course Topics

Below is a list of topics I would like to cover, in the approximate order you will see them. This may be adjusted over the course of the semester to account for time constraints and class interests. In terms of exams, you will *not be responsible* for material we do not cover.

1. Introduction
 - (a) What is a firm?
 - (b) Review: The firm's problem
 - (c) Review: Market structure
2. Goods, Industries and Competitive Strategy
 - (a) Types of Goods
 - (b) Competitive Advantage
 - (c) Information Goods
 - (d) E-Commerce Industries
3. Firm Strategies (for consumers)
 - (a) Price Discrimination
 - (b) Durable Goods and Dynamic Pricing
 - (c) Product Differentiation
 - (d) Advertising
4. Strategic Interaction (between firms)
 - (a) Review: Game Theory
 - (b) Oligopoly
 - (c) Collusion and Cartels
 - (d) Reputation
 - (e) Switching Costs and Lock-in
5. Contractual Relationships Between Firms
 - (a) Mergers
 - (b) Vertical Integration and Restraints
 - (c) Innovation and Patents
6. Technology Markets (as time allows)
 - (a) Network Markets
 - (b) Platform Markets
 - (c) The Sharing Economy
 - (d) Open Source, Crowdsourcing and Copyright
 - (e) Prediction Markets

Acknowledgements: I thank Simon Board for his input on the technology and e-commerce components of this course.