

Bernard Lebrun
E-mail: blebrun@yorku.ca
Office hours: T-F: 3:00-4:00

**GS/ECON 5430 3.0MW: INDUSTRIAL ORGANIZATION
Winter 2017**

Course Description:

Industrial organization is the study of markets and their participants. It studies the interactions between firms and their competitors, suppliers, and customers. For example, it analyzes the structure of firms, their choices of products, their procurement and selling practices, their investments, their attempts to modify markets, their decisions to enter or leave particular industries, and their incentives to collude.

In this course, we will review some of the techniques of theoretical industrial organization by going through parts of oligopoly theory and the theory of mechanism design.

Lecture Schedule:

Time: Tuesday 11:30 am - 2:30 pm
Location: VH-1018

Notes: I will post course notes and relevant references on the course Moodle site.

Textbooks: Much of the course notes will be based on the original research papers. I will also refer to books. For oligopoly theory, I will often refer to the textbooks below:

X. Vives, 1999: *Oligopoly Pricing*, MIT Press
J. Tirole, 1988: *The Theory of Industrial Organization*, M.I.T. Press

e-copies of these two books are accessible on the library Website. A main reference in auction theory and the theory of mechanism design will be:

V. Krishna, 2010: *Auction Theory*, Academic Press.

I will place a copy of this last book at the Scott Library reserve.

Additional References:

Industrial organization:

- P. Belleflamme and M. Peitz (2015): *Industrial Organization: Markets and Strategies*, Cambridge University Press.
- S. Martin (2002): *Advanced industrial organization*, Blackwell
- D. Carlton and J. Perloff (2000): *Modern Industrial Organization*, Harper and Collins
- F. M. Sherer and Ross (1990): *Industrial Market Structure and Economic Performance*, Houghton Mifflin
- Schmalensee and R.D. Willig, Ed., (1989): *Handbook of Industrial Organization*, Volumes 1, 2, North-Holland
- J. Friedman (1983): *Oligopoly Theory*, Cambridge University Press
- O. Shy (1995): *Industrial Organization*, MIT Press.

Theory of auctions and mechanism design:

- P. Milgrom (2004): *Putting Auction Theory to Work*, Cambridge University Press
- T. Börgers (2015): *An Introduction to the Theory of Mechanism Design*, Oxford University Press.

Microeconomics:

Mas-Colell, M. D. Whinston, and J. R. Green (1995): *Microeconomic Theory*, Oxford University Press

Game Theory:

- D. Fudenberg and J. Tirole (1992): *Game Theory*, MIT Press
- M.J. Osborne and A. Rubinstein (1994): *A Course in Game Theory*, MIT Press
- M. Maschler, E. Solan, and S. Zamir (2014): *Game Theory*, Cambridge University Press

Tentative Course Outline:

Oligopoly Theory:

Cournot Model of Oligopoly

Definition

Existence

Uniqueness

Stability

Dominance Solvability

Comparative Statics

Welfare and Concentration

Endogeneous Entry

Example of a “Limit Result”

Bertrand Model of Oligopoly

Definition and First Existence Results

- Bertrand Games with Constant Marginal Costs
- Bertrand Games with Increasing Marginal Costs
- Bertrand Games with Avoidable Fixed Costs
- Bertrand-Edgeworth Model of Oligopoly
 - Exogeneous Costs Functions
 - Endogeneous Costs Functions
- Bertrand and Cournot Models with Differentiated Products
- Supply Function Model of Oligopoly
- Two-Stage Models and Strategic Behavior
 - Stackelberg Model and Limit Pricing
 - The Dixit Model
- Taxonomy of Strategic Behavior

Theory of Auctions and Mechanism Design:

- Examples of auctions and mechanisms
- Nonlinear pricing
- Bilateral Trade
- Optimal auctions and mechanisms
- Efficient auctions and mechanisms
- Vickrey-Clarke-Groves mechanism.

Grading:

There will be one midterm examination and one final examination. You will also be required to write a report on two published research papers. These different components will be given the following weights in the computation of your total mark for the course:

Mark on midterm: 20% if higher than mark on final; 0% if lower than mark on final;
Mark on final: 40% if lower than mark on midterm; 60% if higher than mark on midterm;
Mark on report: 40%.

Your report must be about two research papers. One of them must have been published no earlier than the year 2000 and must refer to the other paper. Their topics must be related in some way to the course material. In your report, you must present the papers' results and their places in the literature. In addition, you must explain informally the main ideas of the proof of these results.

You may obviously look for your papers in journals dedicated to industrial organization. However, many less specialized economics journals publish papers related to our course material. I will post more information to guide your choice on the course Website. **I have to approve your choice of papers before you start writing your report.** The report is due on the date of the final examination.

The mid-term will be held in class time on Tuesday February 28. There will be no make-up midterm examination. The final will be held during the examination period from April 7 to April 24. The University will announce its precise date, time, and place.