GS/ECON5430 A: Industrial Organization

Fall 2024

Dates: Sep. 4, 2024 to Dec. 20, 2024
Time: M 11:30 am to 2:30 pm
Location: McLaughlin College 215
EClass Webpage: http://eclass.yorku.ca/

Instructor: Jun Zhao
Email: zhaoj11@yorku.ca

Office Hours: by appointment only
Note: All time is Canada/US eastern time if not otherwise specified

Course Descriptions and Prerequisite

Study of the various types of industry structure, conduct, and performance; business strategies; and policy alternatives. Emphasizes case studies from the major types of industry.

Theoretical Industrial Organization (IO) has made substantial progress since the early 1970s, and has become a central element of the culture of microeconomics. IO economists study firm behavior and its consequences in settings where the assumptions of perfect competition do not hold, i.e., where we can no longer just think about the intersection of demand and supply curves. Example topics include the pricing and marketing strategies to increase profits; strategic behavior of firms and the effects of interactions between firms; problems that can arise when firms coordinate on anti-competitive strategies or when consumers behave sub-optimality; and public policy responses to firm behavior, including antitrust laws and regulation. The primary tools of IO are consumer and producer theory, (constrained) optimization/calculus, and especially game theory. Studying IO is an ideal lead-in to careers in antitrust/litigation or strategy consulting, marketing, corporate finance or corporate law, and public policy.

Familiarity with linear algebra, differentiation and basic game theory are required to do well in the course.

The goal of this course is to provide students with a thorough understanding of the main issues in IO. By the end of the course, students should be able to think about how markets work in a systematic and logical way, which would help them in any kind of business or policy analysis role. Students should also be able to analyze empirical markets they participate in.

Textbooks and Supplements

The following textbooks will be used for the course. Although the latest edition is listed, any recent edition may be used. The lecture notes will be self-content, but you are recommended to obtain eBook of the suggested textbook.

We will make use of eClass to post lecture notes and other supplemental materials. The lecture note will be posted before we begin a topic of discussion. There will be in-class exercises (no credit) and a review session before the final exam.

Suggested textbook:

Industrial Organization: Contemporary Theory and Empirical Applications, 5th Edition, by Lynne Pepall, Dan Richards, George Norman. 2014, Wiley. (PRN)

Supplements:

1. *Introduction to Industrial Organization*, by Luis Cabral. 2000, MIT Press. (LC)

2. *Industrial Organization: A Strategic Approach*, by Jeffery Church and Roger Wave. 2000. (CW)

Other useful books:

1. *The Theory of Industrial Organization*, by Jean Tirole. 1988, MIT.

2. *Industrial Organization: Theory and Applications*, by Oz Shy. 1995, MIT Press.

Evaluations

You will be graded on a number of different activities:

1. Bi-weekly group assignments (30%). You should submit the assignments in groups. In the first class, you are expected to form groups with three or four people. For example, if there are 17 students in the class, you can form three groups with 3, 3, 3, 4 and 4 people respectively. Each assignment contains several problems, and you should discuss and coordinate among group members to submit **only one** copy.

The final grade of each assignment contains two parts: assignment grade, and team work grade. For the assignment itself, **each one is graded out of 7 possible points**. Note that 6 is reserved for truly excellent work (thorough, well-written, displaying excellent understanding of the material) and not simply getting the answers right. Problem sets will be posted in eClass on Mondays, and are due Mondays two weeks later in-class, or at the time of start of class via eClass or email. Point scores: 0 = not handed in on time/no effort; 1 = handed in, but missing questions; 2 = handed in, poor; 3 = handed in, acceptable; 4 = handed in, above average; 5 = handed in, good; 6 = handed in, excellent. Each group will receive only ONE assignment grade, applicable to all group members.

For the team work grade, you will receive an individual group assignment evaluation form after each assignment is due, which asks for your peer evaluation of other group members.

There are six questions about group member's effort and performance in completing each assignment, each one of which is worth 4 points, leading to a total points of 24. **It is important to make sure you fill the form yourself without sharing to other people and email it directly back to me.** Otherwise you may undergo a discounted assignment grade.

Your final grade of each assignment will then be
Group Assignment Grade + Average of Your Peer Evaluation Grade. (The highest grade will be 30.)

2. A final take-home exam (30%). After the last class, I will distribute a cumulative final exam in the form of take-home test. You have **24 hours** to finish the exam at home, and you need to submit it on time via email or you can simply put it in my mail box. During the exam day, I will only answer clarification questions via email regarding the exam. **Remember, do not show your tests directly to your classmates and let them correct your mistakes! They have no responsibilities! It is more appropriate and beneficial if you can discuss the questions together, rather than taking advantage of other people.** Should I receive any emails or reports of harassment, I will report it to the school and you may fail the class.

3. Class presentation, participation, and discussion (30% + 10%). Each one of you is expected to present an empirical IO paper in the class, after I finish the theoretical part of one course. Usually, each class will have two person presenting, but depending on the process, sometimes three can present in the same class. You can choose your preferred topic and paper from a list of references (will be posted in eClass). The length of the presentation is **30 min**. Note that you need to both prepare the presentation and **produce a one page handout** for the class summarizing the main points in the paper prior to your presentation. You should also tell the class what style you want regarding Q&A for your presentation: they can ask questions if they have any, or all questions shall be answered at the end.

The person who presents one paper should read the paper in much details. The presentation should focus on the main points: i.e., what is the main question?; what is the data?; what is the main hypothesis tested and how is it tested?; what is the paper's conclusion?; did you find the paper convincing, or did you think of alternative interpretations of the data, or a better place to test the theory? **But you are highly encouraged to be creative and constructive in your presentation!** Go beyond summarizing the paper—critically engage with its ideas, methods, and conclusions. Think about how to make the content engaging, whether through visual aids, interactive elements, or thought-provoking questions. Your goal is to help your audience understand the paper deeply and see its relevance in a broader context.

The rest of the class is expected to read at least **the abstract, introduction, data and background (if any), and conclusion** of each paper presented in advance. **It is required that the audience should actively participate by asking questions**

and discussing the content of the paper during others' presentations!

Recommendation Letter

Any student seeking a recommendation letter for their application to Ph.D. programs in Economics must meet one of the following criteria:

1. Being ranked in the top 10% of the class.

2. Alternatively, preparing a proposal aligning with both your own interests and my research expertise (Empirical IO, Microeconometrics, or Political Economy). The proposal should be no longer than 3 pages. Additionally, engaging in at least 3 discussions with me about the proposed project is required.

Grading Scheme

The letter grade system is the fundamental system of assessment of course performance in graduate programs at York University. Percentages will be used as a means of reporting grades on individual pieces of work, the following conversion table is to be used in converting percentage grades to letter grades.

Grade	**Per Cent Range**	**Description**
A+	90-100	Exceptional
A	85-89	Excellent
A-	80-84	High
B+	75-79	High Satisfactory
B	70-74	Satisfactory
C	60-69	Conditional
F	0-59	Failure
I	N/A	Incomplete

Note: For a full description of York grading system for graduate courses, see https://www.yorku.ca/gradstudies/students/current-students/regulations/graduate-courses-and-grading/.

Schedules

Note: PRN = Pepall, Richards, and Normam; LC = Luis Cabral; CW = Church and Wave.

1. Introduction and Examples; Review of Pricing and Welfare
PRN 1 LC 1 & 3 CW 1, 2.1, & 3.4

2. Review of Game Theory and Empirics
LC 4 CW 7 & 9

3. Monopoly: Monopoly Pricing (Multi-product pricing; double marginalization and vertical pricing)
PRN 2.1, 16, & 17 LC 5.1 & 11 CW 2 & 22

4. Monopoly: Price Discrimination
PRN 5, 6, & 8 LC 10 CW 5

5. Monopoly: Durable Goods Pricing
PRN 2.3 & 2.4 CW 4.3

6. Monopoly: Product Quality and Advertising
PRN 19 LC 13 CW 6 & 17

7. Monopoly: Adverse Selection, Moral Hazard, and Insurance Markets
CW 6

8. Oligopoly: Quantity and Price Competition (Cournot and Bertrand)
PRN 9 & 10 LC 7 CW 8

9. Oligopoly: Dynamic Models
PRN 11 LC 10.3, 10.4, & 13.2

10. Oligopoly: (Horizontal and Vertical) Product Differentiation
PRN 10 LC 12 CW 11

11. Oligopoly: Strategic Firm Behavior
(Deterrence and predation) PRN 12 LC 15 CW 13-16 & 20-21

12. Oligopoly: Market Power and Market Structure
PRN 19 LC 9.1 CW 4.1, 4.4, 8.2, & 12.1

13. R&D
PRN 20 & 21 LC 16 CW 18

14. Auctions
PRN 23

15. Regulation of Monopolies
CW 24-26 LC 5.2 & 5.3

16. Antitrust: Mergers
PRN 15 LC 15.3 CW 23

17. Antitrust: Collusion
PRN 14 LC 8 CW 10.1, 10.5, & 10.7

18. Empirical Industrial Organization
CW 12.2 & 19.3

Late Assignment

In general, late work will not be accepted. Students should contact the instructor if special circumstances prevent them from meeting a deadline.

Important Course Information for Students

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents):
http://secretariat.info.yorku.ca/files/CourseInformationForStudentsAugust2012.pdf .

- Senate Policy on Academic Honesty and the Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation

Course Add/Drop Deadlines

https://registrar.yorku.ca/enrol/dates/su20. Policy and guidelines on withdrawn from courses: http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/. Application for deferred examination:
http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/.