Industrial Organization
01:220:441:H6
Summer 2017

Instructor: Hassan Nosratabadi
Class Meeting: Tuesday/Thursday 6:00pm-100:00pm
Class Location: Scott Hall 216, CAC
Office: To be announced
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- **Course Description**
  This is an upper level economics elective course. For most parts, it involves discussion of the theory of the firm; so a wide spectrum of topics in the mentioned area will be covered. This includes, but not restricted to, monopoly, oligopoly, price and product differentiation, and monopolistic competition. Game theory is the predominant tool that we use to develop relevant theories. As a result, and as it should be expected, mathematics is the "tool" we use. Needless to say, such tool needs to be accompanied with the right economic intuition.

- **Learning Outcomes**
  This course teaches you the way the theory of industrial organization tries to explain questions about the market structure, especially those regarding firm's behavior. At the end of this course you should be able to explain why firms set their prices the way they do in different market environments, how they decide on their levels of the production, and questions of the same nature.

- **Lecture Notes and Textbook**
  This course is based on the lectures that I give in class, so make sure to prepare notes. There are textbooks that can be used as supplemental sources though. A textbook which is proper for the subjects we talk about is *Modern Industrial Organization*, by Dennis W. Carlton, Jeffrey M. Perloff (**ISBN-10: 0321180232**). This is a good book in terms of case studies and general understanding of the theory of I.O. and is easy to read. I have placed an order of this book at university library. *The Theory of Industrial Organization*, by Jean Tirole (**ISBN: 9780262200714**) is another well-known book for a upper level course in industrial organization. It gives a comprehensive discussion of theory of the firm with a rigorous mathematical framework. The order of the material in the course, more or less, comes from Tirole's book. The level of math to be used will vary based on the topic. I will be specific about the topics where a higher level of math is required in the class.

- **Course Evaluation**
  Your grade will be assigned based on your performance in midterm and final exams and problem sets.

  - **Midterm Exam**: Midterm exam will cover relatively half of the materials in the course. It will be on Thursday, July 27th.
  - **Final Exam**: Final exam for this course is **cumulative** by the nature of the course. It will be on Tuesday, August 15th regular class time. Note that this date is set by the office of registrar and therefore is not flexible to changes.
  - **Problem Sets**: I expect to give 4-5 problem sets. Every set of problems will be usually due a week after the day it is given. I will upload them on sakai website. The lowest score in the problem set will be dropped. Late submission of each problem set will cause students to lose %15 of the grade for that set. Of course students will not get any credit for submission after solutions are posted.

Note 1: **NO EARLY FINAL EXAMS**. So be prepared to take the exam on the day shown in syllabus.

Note 2: The structure of the exams are simple. You will see some questions regarding the concepts that you have seen in the class. Theses questions are normally, but not restricted to, multiple-choice or true-false types. The rest of the question will need some mathematical argument.

Note 3: Both exams are closed book and closed notes. Indeed, you will not need them. Calculators are also not allowed, nor needed.

The weights for the exams and problem sets are as follows:

Midterm Exam	%30
Final Exam	%45
Problem Sets	%25

Note 4: Your grade and standing in the class are the factors that determine your final letter grade. However, the following table closely represents the relation between numeric and letter grades. (*g* stands for "grade")

Range (Out of 100)	Letter Grade
$g \geq 90$	A
$85 \leq g < 90$	B+
$80 \leq g < 85$	B
$75 \leq g < 80$	C+
$70 \leq g < 75$	C
$60 \leq g < 70$	D
$g < 60$	F

- **Office Hours**

  Time will be announced. I would highly recommend that you set an appointment if you can not use these specified time. This can be done by email.

- **Important Dates**

  Session III, H Sections Period: July 10$^{\text{th}}$ - August 16$^{\text{th}}$

  - Last day to drop without a "W" grade and %100 refund: **July 7$^{\text{th}}$**
  - Last day to drop with a "W" grade and %50 refund: **July 24$^{\text{th}}$**
  - Last day to drop with a "W" grade and no refund: **August 9$^{\text{th}}$**

- **Prerequisites**
  Prerequisites for this course are:

  - Intermediate Microeconomic Analysis: 01:220:320
  - Econometrics: 01:220:322

  This course will require student to use math, mainly calculus. The level of math to be used in the class is not higher than what you have seen in Calculus I.

  Note 1: Students are not only welcome, but encouraged to let me know and ask for help if they have problem understanding the mathematics of the course.
  Note 2: It is important to know that for the purpose of this course math is not sophisticated. It just needs practice. If you try your best, math would not be an issue for you.

- **Make Up Exam**
  All students are required to take the exams on the day mentioned. If for some emergency reasons a student can not take the exam, she should let me know as soon possible.

- **Class Attendance**
  Students need to attend classes. Note that there are a lot of materials we need to cover for this course and they are linked by their nature. It would be really hard to catch up with the course materials if you miss a class and don't study by yourself too. My observation is that constant attendance benefits students in a great deal.

  Note: If you expect to miss more than one or two classes because of illness or a family emergency, please use the university absence reporting website http://sims.rutgers.edu/ssra to indicate the date and reason for your absence. An email is automatically sent to me.

- **Student Conduct**
  Don't Cheat. Ask Questions If You Need Help. Also, do not use your phone in the class time to avoid distracting the instructor. Finally, be aware of university's policy regarding student conduct. More information can be found at:
  http://studentconduct.rutgers.edu/files/documents/UCSC_2013.pdf

- **Academic Integrity**
  Please be aware of university's policy regarding academic integrity. This is of so much importance in Rutgers. More information can be found at:
  http://academicintegrity.rutgers.edu/files/documents/AI_Policy_9_01_2011.pdf

- **Tentative Course Outline**: (**CP**: Carlton & Perloff, **T**: Tirole)

Week #	Topics	Chapters
WEEK 1	Introduction, The Theory of the Firm, Monopoly	**CP & T:** Introduction **T:** 4
WEEK 2	Product Selection, Quality Choice and Advertising, Price Discrimination, Vertical Integration	**CP:** 9,12,14 **T:** 2,3,4

WEEK 3	Short-run Price Competition, Dynamic Price Competition, **Midterm Exam**	**CP**: 10,11 **T**: 5,6
WEEK 4	Tacit Collusion, Informational Lags, Market Concentration and Fluctuations	**CP:** 14 **T**: 2
WEEK 5	Product Differentiation: Ice-cream Vendors Game, Hotelling Model Entry, Accommodation and Exit	**CP**: 9 **T**: 3
WEEK 6	**Final Exam**	-

Note: There might be some changes to the outline above based on the time constraint and the amount of course materials left to be taught.

- **Student-Wellness Services:**

  - Just In Case Web App, for a mental health crisis for you are a friend: http://codu.co/cee05e
  - Counseling, ADAP & Psychiatric Services (CAPS), for non-emergency psychological health issues: (848) 932-7884 - 17 Senior Street, New Brunswick, NJ 08901 http://www.rhscaps.rutgers.edu
  - Violence Prevention & Victim Assistance (VPVA):(848) 932-1181 - 3 Bartlett Street, New Brunswick, NJ 08901: http://www.vpva.rutgers.edu
  - Disability Services: (848) 445-6800 - Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 https://ods.rutgers.edu
  - Scarlet Listeners, for confidential peer counseling and referral hotline: (732) 247-5555 - http://www.scarletlisteners.com