ECON 4697-001 INDUSTRIAL ORGANIZATION & REGULATION

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Office hours: MW 3-4pm or by appointment
Class time and location: MWF 1-1.50pm, ECON 117

Course Description
Industrial Organization & Regulation studies how the firm behaves in markets where the assumptions of perfect competition do not hold. The main focus is on the firm's choice of price, quantity of output and quality, and how public policy is used to promote competitive outcomes and control market power. The course comprises four parts. Part I introduces industrial organization and reviews some basic game theoretic concepts. Part II examines monopoly pricing and location decisions. Oligopoly behavior is studied in Part III. Part IV examines product differentiation and some of the empirical methods used to study industrial organization questions.

Objectives
Use the economic tools learned in *ECON 3070 Intermediate Microeconomic Theory* to understand the economics of firms and markets, and optimal decision making by firms and policy makers under conditions of imperfectly competitive markets.

Become comfortable using algebra, calculus and diagrams to model different kinds of firm interactions.

Continue to develop critical thinking, oral and written communication skills with class room participation, homework questions, quizzes and examinations.

Prerequisites
Available to students who have completed *ECON 3070 Intermediate Microeconomic Theory*. Students should be familiar with microeconomic principles, algebra, calculus, optimization techniques and statistics covered in prerequisite classes.

Textbooks
The textbook is *Introduction to Industrial Organization* by Luis Cabral, 2000, MIT Press, ISBN # 9 780262 032865 (used copies are fine). Your textbook from *ECON 3070 Intermediate Microeconomic Theory* will prove extremely useful for revising several of the introductory topics (e.g., *Microeconomics*, by David Besanko and Ronald Braeutigam, *Intermediate Microeconomics: A Modern Approach*, by Hal Varian).

Class requirements
The class meets Monday, Wednesday and Friday from 1 to 1.50pm. Please be aware that the critical thinking required for successful completion of this course may not come naturally for many students. In-class exposure to model building, group exercises, applied

problems and solutions is the best way to become proficient in the application of microeconomic theory and the way economists think and solve problems.

Feel free to form study groups to review and discuss lecture/reading material, homework assignments etc., but you must submit individual work for grading (note: if you work with a study group or individual class mates on assignments, please list the names of these persons on the front page of your submitted assignment).

Students should:
- (a)   attend three 50 minute classes per week;
- (b)   review and augment notes after lectures;
- (c)   complete (a minimum of four out of five) homework assignments;
- (d)   complete two quizzes;
- (e)   complete one mid-term examination; and
- (f)   complete one final examination

Students are expected to be punctual, polite and prepared to engage in discussion with the instructor and class mates. See http://colorado.edu/policies/classbehavior.html for University of Colorado polices on student classroom and course-related behavior.

Please turn off your mobile telephone device(s) before entering class and keep the device out of sight (pocket, bag, etc.) and out of mind. Students who do not conform to this rule will be asked to leave the class.

Grading

There will be five homework assignments (with the lowest score dropped from the overall grade), two quizzes, one mid-term examination and one final examination. The weightings for these assessments are:

Homework assignments	$(4 \times 7.5\,\%)$	30 %
Quizzes	$(2 \times 5\,\%)$	10 %
Mid-term exam	$(1 \times 30\,\%)$	30 %
Final exam	$(1 \times 30\,\%)$	30 %

Homework questions will consist of short-answer and problem solving questions that require students to use diagrammatic, mathematical and written skills to prove their answers (i.e., please provide an appropriate method and/or logical steps to prove your answer). The presentation of your homework solutions will count in your assignment grade. Please take the time to clearly and neatly write out mathematical and graphical answers. Basic requirements for presentation include: name on first page; staple pages; place page numbers on each page; clearly title and label any graphs, tables, etc.; and ensure mathematical notation is clearly legible and readable. An electronic word document helps to ensure neat presentation, but it is not necessary. Homework must be submitted before the beginning of the class lecture (i.e., within the first five minutes) on the due date. Late submissions will incur a 25 percent penalty. No homework will be accepted after the class on the due date.

The mid-term and final examinations will consist of short-answer and problem solving questions similar to homework questions and class applications. You will need a basic non-programmable calculator to perform calculations during the exams.

There will be no make-up homework assignments, quizzes or examinations unless there is a proven emergency or other unusual circumstances that have been discussed with the instructor prior to submission/completion dates. If you aware of any problems that may hinder your performance in the class please discuss with the instructor sooner than later. Any student that misses the mid-term examinations due to proven emergency or other circumstances may have their final exam weighted up with instructor approval.

The final examination is scheduled for December 14, 7.30-10pm. See http://registrar.colorado.edu/calendar/exam_sched_fall13.html.

Important dates for assessment

Sep 18	Homework 1
Oct 2	Homework 2
Oct 14	Mid-term examination
Oct 30	Homework 3
Nov 4	Quiz 1
Nov 13	Homework 4
Nov 18	Quiz 2
Dec 4	Homework 5
Dec 14	Final examination

Campus and department policies
The Department of Economics enforces prerequisites. Students without appropriate prerequisites may be administratively dropped.

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See polices at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships apply to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information

about the ODH, the above referenced policies and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode/.

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at http://www.colorado.edu/disabilityservices.

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please indicate by email, near the beginning of the semester, if there is a conflict. See full details at http://www.colorado.edu/policies/fac_relig.html.

Class schedule, lectures, homework etc.
Proposed topics are provided in the table below. Please note that the outline of topics is subject to change during the term depending on how fast we work through the proposed topics. All changes will be announced in class and online via the class website through Desire2Learn.

Please check the website and syllabus regularly for changes.

Class lecture handouts, assignment questions, solutions and additional reading materials will be made available when appropriate via the website.

Table 1. Proposed course outline

Week	Date	Topic
1.	Aug 26 Aug 28, 30	**Part I. Review** - Introduction - What is Industrial Organization (IO)?
2.	Sep 2 Sep 4 Sep 6	- *No class: Labor Day* - The firm - Game theory
3.	Sep 9, 11, 13	- Game theory
4.	Sep 16, 18 Sep 20	**Part II. Monopoly power** - Monopoly pricing - Regulation
5.	Sep 23, 25 Sep 27	- Regulation - Product positioning
6.	Sep 30; Oct 2, 4	- Product positioning
7.	Oct 7, 9, 11	- Price discrimination
8.	Oct 14 Oct 16, 18	- Mid-term exam - Versioning, tie-in sales
9.	Oct 21, 23, 25	**Part III. Oligopoly** - Price Competition
10.	Oct 28, 30; Nov 1	- Quantity competition
11.	Nov 4 Nov 6, 8	- Quiz 1 - Collusive behavior
12.	Nov 11, 13, 15	**Part IV. Empirical IO** - Market structure & market power
13.	Nov 18 Nov 20, 22	- Quiz 2 - Product differentiation
14.	Nov 25, 27, 29	- *No classes: Fall break & Thanksgiving*
15.	Dec 2, 4, 6	- Product differentiation
16.	Dec 9, 11, 13 Dec 14	- Topic to be determined - Final examination