

ECON 4697-001 INDUSTRIAL ORGANIZATION & REGULATION

Instructor: Associate Professor Scott Savage

Office: ECON 11 (south-west corner of basement in economics building)

Address: Department of Economics, 256 UCB, Boulder, Colorado 80309-0256

Email: scott.savage@colorado.edu Phone: 303-735-1165 Fax: 303-492-8960

Office hours: MWF 12.03-1.03pm or by appointment

Class time and location: MWF 11-11.50am, ECON 117

Class website: *CULearn*, see <https://culearn.colorado.edu/>

Personal website: <http://www.colorado.edu/Economics/people/faculty/savage.html>

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 reviews principles of microeconomics and introduces some basic game theoretic concepts. Part II examines monopoly pricing and location decisions. Oligopoly behavior and empirical industrial organization methods are studied in Part III, while Part IV examines product differentiation.

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 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 required 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 11 to 11.50am. Although there is no grade for attendance, attendance and class participation will be duly noted. A sign-in sheet will be circulated during each class, and it is your responsibility to make sure that you have signed in by the end of class.

Please be aware that the critical thinking required for successful completion of this course may not come naturally for many students. 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 4 out of 5) homework assignments;
- (d) complete two mid-term examinations; and
- (e) 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 policies on student classroom and course-related behavior

Grading

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

Homework assignments	$(4 \times 7.5 \%)$	30 %
Mid-term exam	$(2 \times 20 \%)$	40 %
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.

The mid-term and final examinations will consist of short-answer and problem solving questions similar to homework questions and class applications.

There will be no make-up homework assignments or mid-term examination unless there is a proven emergency or other unusual circumstances that have been discussed with the instructor prior to submission/completion dates. If you are 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 May 4, 7.30-10.30pm. See http://registrar.colorado.edu/calendar/exam_sched_spring11.html.

Important dates for assessment

Feb 11	Homework 1
Feb 21	Mid-term exam I
Feb 25	Homework 2
Mar 18	Homework 3
Apr 1	Mid-term exam II
April 8	Homework 4
April 22	Homework 5
May 4	Final examination

Campus policies

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 policies 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 CULearn, <https://culearn.colorado.edu/>. Please check CULearn and syllabus regularly for changes. Class lecture handouts, assignment questions, solutions and additional reading materials will be made available when appropriate via CULearn.

Table 1. Proposed course outline

Week	Date	Topic
1.	Jan 10 Jan 12, 14	Part I. Review - Introduction - What is Industrial Organization (IO)?
2.	Jan 17 Jan 19, 21	- <i>No class: Martin Luther King Day</i> - What is Industrial Organization (IO)?
3.	Jan 24, 26 Jan 28	- Principles of microeconomics - The firm
4.	Jan 31, Feb 2, 4	- Game theory
5.	Feb 7, 9 Feb 11	Part II. Monopoly - Monopoly pricing - Regulation
6.	Feb 14 Feb 16, 18	- Regulation - Product positioning
7.	Feb 21 Feb 23, 25	- <i>Mid-term exam I</i> - Product positioning
8.	Feb 28, Mar 2, 4	- Price discrimination, non-linear pricing
9.	Mar 7, 9, 11	- Versioning, tie-in sales
10.	Mar 14, 16, 18	Part III. Oligopoly - Price Competition
11.	Mar 21, 23, 25	- <i>No classes: Spring break</i>
12.	Mar 28, 30 Apr 1	- Quantity competition - <i>Mid-term exam II</i>
13.	Apr 4 Apr 6, 8	- Quantity competition - Collusive behavior
14.	Apr 11 Apr 13, 15	- Collusive behavior - Empirical IO: Market structure & market power
15.	Apr 18, 20, 22	Part IV. Product differentiation - Horizontal product differentiation
16.	Apr 25, 27, 29	- Vertical product differentiation
17.	May 4	- <i>Final examination</i>