ECON 4697-001 INDUSTRIAL ORGANIZATION & REGULATION

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Class time and location: MWF 3.35pm to 4.25pm, CLUB 4

Course Description

The course studies firm behavior in markets where the assumptions of perfect competition do not hold. The focus is on the firm's choice of price, quantity of output, quality, and location, and how public policy is used to promote competitive outcomes and control market power. The course comprises four parts: (i) introduction; (ii) price theory; (iii) oligopoly competition; and (iv) regulation and public policy.

Advanced questions are asked about the choices of firms, consumers and policy makers. Theory will be used to obtain insight on economic behavior and to conduct theoretical experiments with comparative statics analysis. In these experiments, the economic model will be shocked with an economic or policy "treatment" and the pre- and post-treatment equilibria results will be compared.

Learning objectives and outcomes

Use the economic tools learned in *ECON 3070 Intermediate Microeconomic Theory* to understand optimal decision making by firms and policy makers under conditions of imperfect competition.

Be comfortable using algebra, calculus and diagrams to model different kinds of interactions between firms, consumers, and policymakers.

Illustrate the causes and consequences of market failure in imperfectly competitive markets and suggest suitable public policy solutions.

Explain how pricing in imperfectly competitive markets can increase societal welfare and improve economic opportunities for marginalized communities.

Develop and use critical thinking, oral and written communication skills with classroom interactions, office hours, homework assignments, and examinations.

Demonstrate an understanding of the philosophy of economics. Identify errors in economic analysis in the popular press and the wider community.

Prerequisites

Available to students who have completed *ECON 3070 Intermediate Microeconomic*

Theory. You should be familiar with microeconomic principles, algebra, calculus, optimization techniques and probability covered in their prerequisite classes (*ECON 1088 Math Tools for Economists 2* and *ECON 3818 Intro to Economic Statistics & Computer Applications*). You should also be comfortable expressing these concepts in short-answer questions in homework assignments and examinations.

You will need access to a high-speed Internet connection, a printer and/or scanner to submit your homework and complete this course. For individual assistance, please see: https://oit.colorado.edu/services/learning-spaces-technology/student-printing-and-scanning/locations.

Instruction Mode and Office Hours

I will conduct in-person classes on Monday, Wednesday and Friday that will include lectures, quizzes, problems and answers to your questions. Lecture outlines and homework assignments will be available through Canvas.

I will be available for in-person consultations on Monday, Wednesday and Friday from 11.30am to 12.30pm or by appointment. Please visit my office or email your carefully written questions. Please wear respectable attire (e.g., casual or business casual) when visiting my office.

Your email should be somewhat formal and include an appropriate greeting (e.g., "Hello Professor Savage") and goodbye (e.g., "Regards, Scott"). Please identify the class you are in (e.g., "ECON 4697") and send your email during appropriate business hours (i.e., 8.30am to 5.30pm). Take your time and think carefully about what you want to ask me and read it over before you hit "send." Imagine that you are at your future place of employment, and you are corresponding with an important business associate, client, or manager that you would like to impress. Please do not make broad statements like "I cannot do question 4" or "I do not understand question 5." Be specific and tell me exactly what you understand and do not understand about the question you are working on, so I can help you.

Textbooks

There is no required textbook. Appropriate readings will be indicated in my lecture outlines and in class. *Introduction to Industrial Organization* by Luis Cabral (MIT Press), *Industrial Organization: Contemporary Theory and Empirical Applications* by Lynne Pepall, Dan Richards, and George Norman (John Wiley & Sons), and *Managerial Economics and Strategy*, by Jeffery Perloff and James Brander (Pearson Education Inc.) are useful supplementary textbooks.

Your textbook from *ECON 3070 Intermediate Microeconomic Theory* will also be helpful, for example, *Microeconomics* by David Besanko and Ronald Braeutigam (John Wiley & Sons), or *Intermediate Microeconomics: A Modern Approach* by Hal Varian (W.W. Norton and Company).

Class requirements

The critical thinking required for successful completion of this course may not come naturally. Careful note taking and classroom exposure to model building, group exercises, applied problems and solutions are great ways to become proficient in the application of microeconomic theory and the way economists think and solve problems. Please come to class to take notes and find a classmate to cover you if you miss class.

Craig and Savage (2014) show a strong correlation between attendance and final grades for undergraduate industrial organization students. See "Instructor Attire and Student Performance: Evidence from an Undergraduate Industrial Organization Experiment," *International Review of Economics Education*, 2014, 17, 55-65.

For safety and administration reasons, please try to sit in the same seat throughout the semester. I may take attendance for my administrative records, but there will be no formal grade for attendance.

Please inform me immediately if an unforeseen emergency, illness or safety concern impacts your performance. I can help, but I need to know your circumstances as soon as possible to consider suitable alternative arrangements.

Feel free to form study groups to review and discuss lecture/reading material, homework assignments etc. However, you must submit your own individual work for grading. If you work with classmates on assignments, please list the names of these persons on the front page of your individually submitted assignment.[1]

To successfully complete the class, each student should:

(a) attend three 50-minute classes each week;
(b) review and augment lecture notes after class;
(c) submit one practice homework;
(d) complete six homework assignments;
(e) complete eight quizzes;
(f) complete one mid-term examination;
(g) complete one final examination;
(h) cooperate with your classmates and your Professor; and
(i) practice the University's health and safety measures.

Cellular phones, laptops, tablets and other devices. You may use your devices for learning, e.g., electronic notetaking, photographs of the chalk board, etc., and to practice appropriate health and safety measures. Please do not use your device for calls, texts, social media and online activities, etc. during class. If you use your devices for activities that distract me or other students, I will call you out in class and/or ask you to leave the class immediately.

[1] More generally, follow the honor code when completing your assessments. My penalty for code violations may include expulsion from the class, along with referral to the university's honor code council.

If you are using a laptop or tablet computer to take notes during class, please sit in the last row or the far left or right columns of the classroom, so no classmates are sitting behind you.

Grading

There will be one practice homework submission, six homework assignments (with the lowest score dropped from the overall homework grade), eight quizzes (with the lowest score dropped from the overall quiz grade), one mid-term examination, and one final examination. The weights for these assessments are:

Practice homework submission	(1 × 9 %)	9 %
Homework assignments	(5 × 8 %)	40 %
Quizzes	(7 × 3 %)	21 %
Mid-term examination	(1 × 15 %)	15 %
Final examination	(1 × 15 %)	15 %

The practice homework submission will revise some fundamental microeconomic concepts required for this class and familiarize you with submitting your homework to the Canvas portal on time, and with the appropriate presentation style.

The homework assignments will consist of short-answer and problem-solving questions that require you to use diagrammatic, mathematical and written skills to *prove* your answers with appropriate logical steps. Homework presentation will count for 20 percent of each of your assignment grades, i.e., 5/25 points. Please present your mathematical and graphical answers clearly and smartly. Basic requirements for presentation include your name and homework heading, page numbers, appropriate labels for figures, graphs, tables, etc., clear and transparent economic and mathematical notation, and good grammar and flow. You may use a word processor and/or write neatly with a pen. Homework must be saved as a single pdf file and uploaded to Canvas before 5pm on the due date. Submissions at 5pm and after on the due date will incur a 25 percent penalty. Homework will *not* be accepted after 11.59pm on the due date.

Eight quizzes will be held in class during the semester. Each quiz will have about ten or so multiple-choice and/or true-false questions on a topic or topics we have recently covered. You must complete seven or more quizzes to potentially achieve the maximum grade of 21 for this assessment. If you complete six quizzes, the maximum grade you can potentially achieve is ten for this assessment. If you complete five of fewer quizzes you will receive zero for this assessment.

The mid-term and final examinations will comprise short-answer and problem-solving questions like the homework questions and class applications. You may need a basic non-programmable calculator during the examinations. I will let you know beforehand.

Make-up homework assignments, quizzes or examinations will only be given when there is a proven emergency, health or safety concern, or other unusual circumstance that are discussed with the instructor prior to submission/completion dates. If any issues hinder your performance in the class, please discuss with the instructor sooner than later. Any student that misses the quiz or mid-term exam due to a proven emergency or other circumstances may have their other assessments weighted up with instructor approval.

Important dates for assessment

Sep 2	Practice homework submission
Sep 16	Homework 1
Sep 30	Homework 2
Oct 7	Mid-term examination
Oct 14	Homework 3
Oct 28	Homework 4
Nov 11	Homework 5
Dec 2	Homework 6
Dec 9	Final examination[2]

The Department of Economics provides a free drop-in tutorial office which offers help on all core courses in the major. The Department also maintains a list of tutors available for private hire:

https://www.colorado.edu/economics/tutor-lab

https://www.colorado.edu/economics/private-tutor-list

Campus and department policies

The Department of Economics enforces prerequisites. Students without the appropriate prerequisite(s) may be administratively dropped.

Please read the campus and department policies at:

https://www.colorado.edu/economics/current-courses

Please read the required syllabus statements at:

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.colorado.edu%2Facademicaffairs%2Fmedia%2F463&wdOrigin=BROWSELINK

If you have any conflicts or questions about these policies, please visit my office hours to discuss within the first two weeks of the semester.

For example, if you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to me personally within the first two weeks of the semester. Or, for example, if you have religious obligations that conflict

[2] The final exam is on Wednesday, December 9 from 4.30 to 7pm. The exam schedule is available at https://www.colorado.edu/registrar/students/calendar/finals#ucb-accordion-id--7-content2.

with the scheduled exams, assignments or required attendance, please discuss with me personally within the first two weeks of the semester.

Lecture topics

The proposed lecture topics for industrial organization are:

1. Introduction to industrial organization
2. Monopoly pricing
3. Product positioning
4. Price discrimination I
5. Price discrimination II
6. Quantity competition
7. Price competition I
8. Price competition II
9. Collusion
10. Mergers