

ECON 4070-001 TOPICS IN MICROECONOMICS

Instructor: Professor Scott James Savage

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Class time and location: T & TH 9.35am to 10.50am, LIBR S280

Course format

ECON 4070 is an in-person class. The classroom at LIBR S280 has enough capacity to accommodate the enrollment limit with appropriate social distancing. Please wear an appropriate mask to class.

Spring 2021 semester will begin in a fully remote instruction mode. Campus leadership will approve the resumption of in-person courses no earlier than Monday, February 15. In the meantime, look to the announcements section of Canvas and your email for zoom invitations to our weekly lectures.

Due to the unusual circumstances from COVID-19, I reserve the right to update and/or modify my course format and syllabus, if necessary, as conditions change, and additional information is produced by the University of Colorado. Please check the syllabus and Canvas regularly throughout the semester for potential changes. Thank you and stay safe.

Course Description

Topics in Microeconomics uses analytical techniques to examine optimal decision making with inter-dependence, uncertainty and imperfect information. Part I of the course reviews fundamental economic and mathematical concepts. Part II examines risk and information in the context of utility maximization. Part III investigates inefficiencies from imperfect information, such as adverse selection and moral hazard.

The course will ask advanced questions about the choices of firms, consumers and policy makers, and answers those questions through observation, theoretical modeling, and experiments. Theoretical models will be used to obtain intuitive insight on economic behavior and to conduct theoretical “experiments.” 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.

Objectives

Develop the economic tools learned in *ECON 3070 Intermediate Microeconomic Theory* to understand how agents make optimal decisions when facing uncertainty and imperfect information.

Use economic tools to gain greater understanding of the economics of finance and insurance markets, where risk and imperfect information play a key role.

Become comfortable using algebra, calculus, diagrams and excel spreadsheets to develop models that explain microeconomic questions.

Understand 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*. Completion of *ECON 4808 Introduction to Mathematical Economics*, or the equivalent, is desirable, but not necessary. Please note that the course meets a requirement for The Actuarial Studies Certificate Program. The course will be taught with some mathematical emphasis. Students should be familiar with microeconomic principles, algebra, calculus, optimization techniques and probability covered in prerequisite classes, and be comfortable expressing these concepts in short-answer questions in homework assignments and examinations.

You will also require a high-speed Internet connection, a printer and a scanner to complete this course.

Instruction Method

I will conduct in person classes on Tuesday and Thursday that will include lectures, problem-solving and answers to your questions. All class materials, e.g., lecture notes, homework, problem sets, solutions, etc. will be available through Canvas.

There will be no in-person office hours this semester. I will be available Wednesday 2.30pm to 5pm for questions by email and Zoom (if necessary).

Textbooks

There is no required textbook for this class. Appropriate readings will be indicated during lectures and in my notes provided on Canvas. Your textbook from *ECON 3070 Intermediate Microeconomic Theory* will prove extremely useful for many topics.

Alternatively, you may want to consider picking up a second-hand copy of *Microeconomics*, by David Besanko and Ronald Braeutigam, John Wiley & Sons and/or *Intermediate Microeconomics: A Modern Approach*, by Hal Varian, W.W. Norton and Company (any latter edition). Both books are available through closed reserve.

Class requirements

Attend classes on Tuesday and Thursday class from 9.35am to 10.50am. The critical thinking required for successful completion of this course may not come naturally for many students. In-class (and online) 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.

For safety and administration reasons, please sit in the same seat throughout the semester. I will take attendance for my administrative records, but there will be no formal penalty for non-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 socially-distant or online study groups to review and discuss lecture/reading material, homework assignments etc. However, you must submit individual work for grading. If you work with classmates on assignments, please list the names of these persons on the front page of your submitted assignment.

To successfully complete the class, each student should:

- (a) attend two 75-minute classes each week;
- (b) review and augment lecture notes after class;
- (c) be punctual, polite and respectfully engage in class discussion;
- (d) complete (a minimum of six out of seven) homework assignments;
- (e) complete one mid-term quiz;
- (f) complete one mid-term examination;
- (g) complete one final examination;
- (h) keep in touch with your Professor; and
- (i) carefully practice the University's health and safety measures .

Cellular phones, laptops, tablets and other devices. Personal use of these devices can distract my teaching and other student's learning. Please do not use your device to talk, text, go online, access social media, etc., in class. You may use your device for learning, e.g., electronic notes, photographs of the chalk board, etc., and to practice appropriate health and safety measures. However, if you use your device for personal activities that distract me or other students, I will ask you to leave the classroom immediately.

Grading

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

Homework assignments	$(6 \times 8.33\%)$	50 %
Mid-term quiz	$(1 \times 20 \%)$	20 %
Mid-term examination	$(1 \times 20 \%)$	20 %
Final examination	$(1 \times 10 \%)$	10 %

Homework will consist of short-answer and problem-solving questions that require you to use diagrammatic, mathematical and written skills to prove your answers (i.e., provide an appropriate method and/or logical steps). Homework presentation will count for 20 percent of each of your assignment grades. Please write your mathematical and graphical answers clearly and smartly. Basic requirements for presentation include 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 (see Canvas for an example solution). Homework must be saved as a single pdf file and uploaded to Canvas by 5pm on the due date. Submissions

after 5pm on the due date will incur a 25 percent penalty. No homework will be accepted after 11.59pm on the due date.

At this stage, the mid-term quiz, mid-term exam and final exam will be completed remotely. I will provide more specific details later in the semester as we approach these key dates. The mid-term quiz will be a multiple-choice questionnaire. The mid-term and final examinations will consist of short-answer and problem-solving questions similar to homework questions and class applications. You may need a basic non-programmable calculator and/or excel spreadsheet software to perform calculations during the quiz and 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.

All completed homework, exams and quizzes must be uploaded to Canvas as a single pdf file by their due dates.

Important dates for assessment

Jan 21	Homework 1
Feb 4	Homework 2
Feb 18	Homework 3
Mar 2	Mid-term examination
Mar 11	Homework 4
Mar 25	Homework 5
Mar 30	Mid-term quiz
Apr 15	Homework 6
Apr 27 (Tuesday)	Homework 7
May 3	Final examination

The Department of Economics typically provides a free drop-in tutorial office which helps many courses in the major. Details for these tutorials have yet to be announced. Please check in with me after the semester starts.

Campus and department policies

The Department of Economics enforces prerequisites. Students without the appropriate prerequisite(s) 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. For more information, see the policies on [classroom behavior](#) and the [Student Code of Conduct](#).

The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (including sexual assault, exploitation, harassment, dating or domestic violence, and stalking), discrimination, and harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be found on the [OIEC website](#).

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu; 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office website](#).

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

- maintain 6-foot distancing when possible;
- wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders;
- clean local work area;
- practice hand hygiene;
- follow public health orders, and
- if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert [CU Boulder Medical Services](#).

Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to [Student Conduct and Conflict Resolution](#). For more information, see the policies on [COVID-19 Health and Safety](#) and [classroom behavior](#) and the [Student Code of Conduct](#). If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the “Accommodation for Disabilities” statement on this syllabus.

Before returning to campus, all students must complete the [COVID-19 Student Health and Expectations Course](#). Before coming on to campus each day, all students are required to complete a [Daily Health Form](#).

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the [Health Questionnaire and Illness Reporting Form](#) remotely. In this class, please inform me as soon as possible if you may be absent due to illness or quarantine.

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be discussed and addressed. For this class, “timely” means during the first week of the semester. Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or injury, see [Temporary Medical Conditions](#) under the Students tab on the Disability Services website.

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please indicate by email, by the end of the first week, if there is a conflict. See the [campus policy regarding religious observances](#) for full details.

Class schedule, lectures, homework etc.

Proposed topics are provided in the table over the page. Please note that the outline of topics is subject to change during the semester depending on how fast we work through the proposed topics (and the extent to which we are adversely impacted by external factors). Any changes will be announced in class and online through Canvas.

Please check Canvas and the syllabus regularly for changes.

Lecture notes and videos, assignment questions and solutions, and additional materials will be available through Canvas.

Table 1. Proposed course outline

Week	Date	Topic
1.	Jan 14	Part I. Review - Introduction
2.	Jan 19, 21	- Game theory
3.	Jan 26, 28	- Game theory
4.	Feb 2, 4	- Utility maximization with certainty
5.	Feb 9, 11	Part II. Risk & Information - Uncertainty
6.	Feb 16, 18	- Uncertainty
7.	Feb 23, 25	- Insurance and diversification
8.	Mar 2 Mar 4	- <i>Mid-term examination</i> - Reading day
9.	Mar 9, 11	- Risky assets
10.	Mar 16, 18	- Risky assets
11.	Mar 23, 25	Part III. Imperfect Information - Adverse selection
12.	Mar 30 Apr 1	- <i>Mid-term quiz</i> - Reading day
13.	Apr 6, 8	- Adverse selection
14.	Apr 13, 15	- Moral hazard
15.	Apr 20, 22	- Moral hazard
16.	Apr 27, 29 May 3	- Review and conclude - <i>Final examination</i> ¹

¹ https://www.colorado.edu/registrar/students/calendar/finals#classes_that_meet_tuesdays_amp_thursdays-837.