GR6211: Microeconomic Analysis I Part I

Fall 2019

Columbia University

<u>**Contact Details**</u>

Professor: Mark Dean

Email: mark.dean@columbia.edu

Classes: Tuesday and Thursday 2:40pm-3:55pm 503 Hamilton Hall (though may run late)

Office Hours: Tuesday 10.00pm-12.00pm, or by appointment (Room 1031 IAB)

Website: http://www.columbia.edu/~md3405

Courseworks: https://courseworks2.columbia.edu/courses/82772

Teaching Assistant: Duarte Gonçalves

Email: duarte.goncalves@columbia.edu

Recitation: Monday 6.10pm-8.00pm (Room TBD)

Office Hours: Wednesday 7.00pm-8.00pm (Room TBD)

<u>**Course Description**</u>

G6211 is the first semester course in the microeconomics sequence for the PhD program. It consists of two halves: Choice Theory (first half) and a second half which will cover General Equilibrium, Social Choice, and an Introduction to Game Theory. I will teach the first half while the second half will be taught by Professor Evan Sadler.

The choice theory portion of the class will focus on the fundamental models of behavior which underlie most economic analysis. The majority of the course will focus on consumer behavior. We will begin by studying the relationship between utility maximization, preference maximization and choice, before moving on to study the properties of demand functions, which relate parameters of the consumer's problem to their choices. We will then digress briefly to discuss producer theory and provide analogous results in this domain. We will conclude the study of choice behavior with a look at choice under uncertainty.

Prerequisites

This graduate economics class is intended for the first-year students in PhD programs in Economics. Students from other programs must obtain permission from me in order to enroll in the class.

Assessment

Assessment for the first part of the course will consist of two elements: homeworks (20%) and a final (80%)

Homeworks

There will problems sets (almost) every week. You are encouraged to work with your classmates in solving them, but I request each of you to write up and turn in your own answers. Of course if you don't work hard on problem sets in your own right you are likely to find it very difficult to do well your exams. Solutions to the problems will be posted on the course website. Each homework will be graded from 0 – 10. Late homeworks will not be accepted or graded. However, your lowest mark across the homeworks will be discounted, so you get one free pass.

Final

In addition to homeworks, there will be a final exam that will take place in class on Thursday 17th October.

Course Materials

By and large, the course will be based on slides/lecture notes, which I will make available online.

The course will most closely resemble *Rubinstein, A. (2005). Lecture Notes in Microeconomic Theory: The Economic Agent.* This is available for free download at http://arielrubinstein.tau.ac.il/books.html. I strongly recommend that you download it, not least because I will be setting some homework exercises from there.

While it is not required, I would strongly recommend you get hold of *Mas-Colell, A., Whinston, M. D., & Green, J. R. (2006). Microeconomic theory.* This will be useful for all 4 parts of the microeconomic sequence and for the rest of your economics career.

For people who are particularly interested in the materiel for this section of the course I would also recommend *Kreps (1988), Notes on the Theory of Choice* and *Ok, E. (2004) Real Analysis with Economic Applications.*

Course Policies

Regrading

Corrected assignments and exams will be available in the class mailbox at most seven days after the deadline or the date of the test. Students then have at most seven days to introduce a complaint

regarding a grade (that means exactly two weeks after the deadline or the date of the test or assignment submission). I deal personally with all complaints. Requests must be placed in my mailbox on the 11th floor of IAB. I expect them to be specific and motivated. This means that you must include a copy of the question(s) that need(s) to be re-graded, a copy of your answer(s) and the relevant section of the answer key, and an explanation as to why the question(s) need(s) to be re-graded. If I find the request motivated, then I will re-grade the question(s) myself (which may possibly result in a lower grade if I find it justified). My decision is final. Please do not use either my or the TAs' office hours to complain about grades.

Academic Dishonesty

As members of an academic community, each of us has a responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity, and cheating on exams is a very serious violation. Any suspected case of cheating will be reported to the university, and students who breach their intellectual responsibility in this regard should anticipate being asked to leave Columbia.

Class Conduct

Cell phone use is not allowed. Laptops are fine for taking notes (not that I would recommend it), but please respect your classmates and instructor by limiting yourself to class-related activities. Though you may be a phenomenal multi-tasker, using a laptop for purposes other than taking notes is distracting to those around you

Topics

1. Choice, Preference and Utility

   a. Introduction to representation theorems

   b. Choices as preference maximization

   c. Preference maximization as utility maximization

   d. Extensions: infinite spaces and incomplete data

   e. Choice from budget sets

   f. Empirical Evidence

   g. Stochastic choice

2. Demand Functions

   a. Utility maximization

   b. Cost minimization

   c. Duality

3. Producer Theory

    a. Single input case

    b. Multi input case

4. Decision Making Under Risk

    a. Expected utility theory

    b. The Independence axiom

    c. Risk vs Uncertainty

    d. Subjective Expected Utility