ECO2201 (Second Half)
Information Economics and Mechanism Design

University of Toronto, Winter 2022
Mondays / Wednesdays 2–4 PM, GE (Max Gluskin House) 100
`https://q.utoronto.ca/courses/250797`

Syllabus version: March 1, 2022

Gabriel Carroll, `gabriel.carroll@utoronto.ca`
Office hours: Tuesdays 4–6 PM, GE 306, or by appointment

TA: Billur Gorgulu, `billur.gorgulu@utoronto.ca`
Tutorials: Fridays 2–4 PM, location TBA
Office hours: TBA

Overview

This is the last portion of the microeconomic theory core sequence targeted at first-year PhD students. This part of the sequence focuses on asymmetric information and its consequences for economic outcomes, as well as on the design of incentives—two topics that turn out to be tightly connected. The goal is to ensure you will be familiar with the core vocabulary of economic concepts and workhorse mathematical models in this area, which have applications throughout every branch of economics.

This course assumes you have seen the previous material in the sequence (ECO2200 and the first half of ECO2201), and the mathematical background assumed is similar to the previous courses.

Orientation: The home base for the course is the Quercus webpage (listed at the top of this syllabus). This page will include links to all written materials.

Format: The nature of the subject matter calls for a mostly lecture-based format. Assuming no abrupt changes in the public health situation, lectures will be held in person.

I will post outlines of the lecture material on the course website ahead of class. These outlines will not be extremely detailed, but they may be useful to follow. (Please point

out any errors!) If anyone would like to volunteer to type up more detailed versions, as a public good, I can help coordinate if useful.

Health and safety: Everyone is expected to abide by University policies on vaccination, mask-wearing in indoor spaces, and other relevant requirements. More information is available at `http://utoronto.ca/utogether` .

Needless to say, if you are feeling unwell, please do not come to class. I plan to post recordings of lectures. These recordings are definitely not a perfect substitute for in-person attendance, but they should make it easier if you need to stay home (or simply if you are more comfortable staying home).

Textbooks: The most important official source for this class is the recent book

- Mailath (2019), *Modeling Strategic Behavior* ("M" below)

Another useful source is the still-classic

- Mas-Colell, Whinston, & Green (1995), *Microeconomic Theory* ("MWG")

In the course outline below, I have listed relevant sections of both books, but you may find it redundant to read both.

Some other books that cover portions of the relevant material and that you may find helpful:

- Jehle & Reny (2011), *Advanced Microeconomic Theory*, 3rd ed.

- Börgers (2015), *An Introduction to the Theory of Mechanism Design*

Each of these covers some, but not all, of what we will do in lecture. There are differences in style as well as subject matter; the Mailath book is most similar to the approach in this class. If you are wondering what material you will be expected to become familiar with, the lecture contents are the definitive answer.

Problem Sets: As in the first half of ECO2201, there will be problem sets posted weekly, generally by Wednesday evening. Solutions will be discussed in tutorial the following week, and the solution sets will be posted after the tutorial. Solutions are not graded, but you would do well to work through the problems carefully and write out your solutions as if you had to turn them in. Working together is encouraged.

Grading: There will be a final exam, to take place during the final exam period. This exam will be open-book and open-notes. The exam will be scheduled by the Economics graduate office; details will be forthcoming. Your grade in ECO2201 is the average of your exam grades for the two units.

Schedule of classes

The lectures will aim to adhere roughly to the schedule below, but expect some adjustments.

- 3/2: Adverse selection and disclosure

    - M: [no relevant reading]
    - MWG: sections 13.A–B

- 3/7, 3/9: Signaling

    - M: chapter 6
    - MWG: section 13.C, 13 appx A

- 3/14, 3/16, 3/21: Moral hazard

    - M: sections 13.1–3
    - MWG: sections 14.A–B, 14 appx A

- 3/23, 3/28: Screening

    - M: sections 10.1–3
    - MWG: sections 14.C, 13.D

- 3/30, 4/4, 4/6: Mechanism design

    - M: sections 11.2–3; chapter 12
    - MWG: chapter 23