Syllabus

Organization and Overview

This course provides an introduction to modern macroeconomics, with a special emphasis on macroeconomic modeling of household behavior and household heterogeneity. The first day provides an overview of the course and gives an introduction to dynamic programming techniques. We continue by discussing the permanent income hypothesis as an introduction to macroeconomic models featuring incomplete markets and income risk. A number of applications of the incomplete-markets framework will be discussed. On Thursday and Friday, we will discuss models where market incompleteness arises from endogenous participation constraints. The final lectures on Friday will give an overview of recent applications of the type of models discussed in class at the current research frontier, with a special focus on models of monetary policy in heterogeneous-agent environments.

The daily schedule will be:

- **9:00–10:30** First Lecture
- **10:30–11:00** Coffee Break
- **11:00–12:30** Second Lecture
- **12:30–14:00** Lunch
- **14:00–15:30** Problem Sets
- **15:30–16:00** Coffee Break
- **16:00–17:30** Discussion of Problem Sets and Review
- **17:30–19:00** Free Time
- **19:00** Dinner

Please note that the course will start on Sunday, September 19, in the evening with a welcome meeting at 19:00 followed by dinner. On Friday, instead of problem sets there will be a final review session from 14:00 to 15:00.
Technology and Software

It is recommended that students bring a laptop to the course with software that can be used to carry out numerical computations, ideally MATLAB. Knowledge of computational methods will not be tested in the final exam, but computation is an essential part of modern macroeconomics, and there will be a discussion of computational methods with some examples.

Readings and Course Materials

The main text for the course is Ljungqvist and Sargent:


Registered students will be provided with lecture notes and additional readings for topics not covered in Ljungqvist and Sargent ahead of the course.

Prerequisites

The course material is self-contained but assumes familiarity with standard microeconomics and macroeconomics at the advanced undergraduate level. Being comfortable with multi-variable calculus and mathematical optimization is particularly important.

Dynamic programming will be introduced in the course, but given the fast pacing it is recommended that students who have not seen any dynamic programming before read about some of the basics ahead of time to get a basic understanding of the main concepts. This can be done by reviewing Chapters 1 and 3 of the textbook (LS).

It is also important to have a basic understanding of the fundamentals of general equilibrium (which is usually covered in advanced micro at the undergraduate level). The first sections of Chapter 8 in the textbook (up to 8.5.3) provide a useful review of this material.

Enrolled students will be provided additional lectures notes that review these basics ahead of the class.
Recommended Background Readings

The following list contains the seminal journal articles and current research papers on which much of the material in the course is based. These are not required readings, but recommended readings in particular for those who plan to work in macroeconomics in their own dissertation research.