Syllabus for

GENERAL ECONOMIC THEORY: MACROECONOMICS
ECON 510a (second half)

Course Objectives: The purpose of the second part of Econ 510a is to introduce students to modern macroeconomic theory with special emphasis on dynamic general equilibrium models of the macroeconomy. The course will teach students the key tools and central models of modern dynamic macroeconomics and use them to study growth, business cycles, asset pricing, and fiscal policy.

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Course web site: http://www.econ.yale.edu/smith/econ510a
Office hours: Thursdays from 10AM–noon, or by appointment

Class Meetings: Lectures take place on Mondays and Wednesdays from 10:30AM to 11:50AM in Room 16 (27 Hillhouse). The teaching assistant Carolina Silva (whose email address is carolina.silva@yale.edu) will hold weekly sessions to review the course material and to go over the answers to the homework assignments. The exam for this part of the course takes place on Wednesday, December 14 from 10AM–1PM in Room A002 at 77 Prospect Street.

Grading: Weekly homework assignments will constitute 10% of your grade and the two exams (one for each half of the course) will constitute 90% of your grade.

Readings: The readings for the course are drawn primarily from two sets of lecture notes, one by Per Krusell and one by Stephen Williamson (both sets of notes are available on the course web site). Other textbooks which students may find useful include: Advanced Macroeconomics by David Romer; Lectures on Macroeconomics by Olivier Blanchard and Stanley Fischer; Recursive Methods in Economic Dynamics by Nancy Stokey and Robert Lucas with Edward Prescott; Recursive Macroeconomic Theory (Second Edition) by Lars Ljungqvist
and Thomas Sargent; and Frontiers of Business Cycle Research (edited by Thomas Cooley). Journal articles will also be assigned occasionally.

**COURSE OUTLINE**

The course is built around methods, and the different macroeconomic topics play the role of applications of the methods. Although the course does discuss macroeconomic data, the main emphasis is on developing and applying the methods. The lecture enumeration below is approximate.

1  The neoclassical growth model

This section introduces the basic modern macroeconomic framework. It develops dynamic equilibrium analysis of two kinds (sequential and recursive equilibria), discusses market structures, looks at steady states and dynamics of the basic one-sector growth model, and studies the welfare properties of equilibria. Two demographic structures will be studied: the dynastic model (one infinitely-lived consumer) and the overlapping-generations (OG) model.

1.1  The dynastic model

- **Lecture 1**: Introduction to competitive equilibria and the welfare theorems. (Read Chapter 1 in Williamson.)

- **Lecture 2**: The Solow-Swan model. Steady states and dynamics in the neoclassical growth model. Linearization techniques for characterizing local dynamics. (Read Chapters 1–4 in Krusell, some of which is review of material covered in the first half of Econ 510a.)

- **Lectures 3 and 4**: Sequential and recursive formulations of competitive equilibrium in the neoclassical growth model. (Read Chapter 5 in Krusell.)

- **Lectures 5 and 6**: Uncertainty and market structures. (Read Chapter 6 in Krusell; Sections 8.1–8.6 and 8.8–8.9 of Chapter 8 in Ljungqvist and Sargent are also useful.)

1.2  The OG model

- **Lectures 7 and 8**: The basic structure without production. Competitive equilibria and their welfare properties. The neoclassical growth model with OG demographics.
Welfare properties. Dynamic inefficiency. (Read Chapter 7 in Krusell; Chapters 2 and 9 in Williamson and Chapter 3 in Blanchard and Fischer are also useful.)

2 Growth

- Lectures 9 and 10: Growth facts and theories. Solow’s growth model, the neoclassical growth model with exogenous technological change, and endogenous growth models. (Read Chapter 8 in Krusell; Introduction to Economic Growth by Charles Jones is also useful.)

3 Business cycles

- Lecture 11: Business cycle facts. Real business cycle analysis. (Read Chapter 11 in Krusell.)

4 Asset pricing

- Lecture 12: The Lucas tree model and the equity premium puzzle with some suggested solutions. (Read Chapter 9 in Krusell.)

5 Fiscal policy

- Lectures 13: Ricardian equivalence propositions. Optimal taxation of capital and labor under commitment. (Read Chapter 10 in Krusell.)