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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Class Meetings: Lectures take place on Mondays and Wednesdays from 10:30AM to 11:50AM in Room B8 (28 Hillhouse). The teaching assistant Marnix Amand (whose email address is marnix.amand@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 Monday, December 18.

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: A set of lecture notes on macroeconomics by Per Krusell (available on the course web site) constitute the main set of readings for the course. Other resources which students may find useful include: Notes on Macroeconomic Theory by Stephen Williamson (available on the course web site); 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; Frontiers of Business Cycle Research (edited by Thomas Cooley).
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 (all readings refer to the lecture notes by Per Krusell). Journal articles (drawn from the references at the end of each chapter in the lecture notes) will also be assigned occasionally.

Week 1 (Oct. 23 and 25)

1. Introduction.
   Read Chapters 1 and 2.

2. Review of dynamic programming; transversality and no-Ponzi-game conditions.
   Read Chapter 3.

3. Steady states and dynamics in the optimal growth model; linearization of Euler equations.
   Read Chapter 4.

Week 2 (Oct. 30 and Nov. 1)

1. Competitive equilibrium in dynamic models; date-0, sequential, and recursive competitive equilibria; competitive equilibrium in the neoclassical growth model.
   Read Chapter 5.

2. Welfare theorems in the neoclassical growth model.
   Read Sections 7.2.1 and 7.2.2 in Chapter 7.

Week 3 (Nov. 6 and 8)

1. Uncertainty in dynamic equilibrium models; discrete-state Markov chains; linearization with uncertainty; date-0, sequential, and recursive competitive equilibria under uncertainty; Arrow securities; invariant distributions in dynamic models.
   Read Chapter 6.
Week 4 (Nov. 13 and 15)

1. Growth facts and theories; exogenous and endogenous growth models ($Ak$ models, Romer’s externality model, Lucas’s model of human capital accumulation).
   Read Chapter 8 (except Section 8.3.4).

2. Real business cycles; growth accounting; calibration and simulation; indivisible labor.
   Read Chapter 11.

Week 5 (Nov. 27 and 29)

1. Asset pricing; stochastic discount factor; equity-premium puzzle and various solutions.
   Read Chapter 9.

2. Diamond overlapping-generations model; dynamic inefficiency.
   Read pp. 120–123 in Chapter 7.

Week 6 (Dec. 4 and 6)

1. Economic policy (Ricardian equivalence, optimal distortionary taxation, Ramsey problems).
   Read Chapter 10.

2. General equilibrium models of inequality
   Read:
