This course is the first of a two-semester sequence in Ph.D. level macroeconomics. The goal of this course is to introduce students to modern macroeconomic theory. It will focus on modern theories of short-run fluctuations and monetary economics. The course will also cover methods to solve and evaluate relevant models.

The basic reference for the course is


This text is available from amazon.com. The Ljungqvist-Sargent book is oriented toward models and methods for solving and analyzing them, and this course will share this emphasis. Students may also wish to have on their bookshelf a good undergraduate intermediate macroeconomics text and


The readings focus on material that you are expected to become familiar with. This list is not anything like a full bibliography of interesting work on the topics covered or on macroeconomics in general. Ljungqvist and Sargent’s book, as well as the Romer text, contain many suggestions for further reading, as do the assigned papers. Much of the omitted material in these books is useful too, but there is a limit to what one can expect to do in one semester.

The course requires an extensive mathematics background. At least three semesters of calculus and one semester of linear algebra are required. The computer program, Matlab, will also be used throughout the semester. The course is designed for IBS doctoral students, but some MA and undergraduates may wish to take the course. It is expected, though not required, that students will be taking the companion course in microeconomics (Econ 301a) concurrently.

My contact information is:

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The teaching fellow for this course is Daniela Kolusheva (danielak@brandeis.edu).
The home page for this course is http://people.brandeis.edu/~ghall/econ303/. Announcements, problem sets, computer programs, and additional handouts will be posted on this page. You are encouraged to check the web page regularly.

If you are student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

There will be regular problem sets and two examinations. While you are encouraged to discuss and work on the problems with others, you are expected to answer problems on your own. Resist the temptation to simply copy someone else’s answer. This is worse than useless as it is not only a violation of Brandeis University rules but also will lull you into a false sense that you understand the material. More generally, you are expected to be familiar with and to follow the University’s policies on academic integrity (see http://www.brandeis.edu/studentlife/sdc/ai). Instances of alleged dishonesty will be forwarded to the Office of Campus Life for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University.

The course grade will be based on the problem sets (10 percent), a midterm examination (40 percent), and a final examination (50 percent).

Reading List

1. Macroeconomic Facts, an Overview, and Important Tool I: Time Series Analysis
   * Ljungqvist-Sargent, chapter 2.1-2.4

2. Building the Workhorse Model I: Solow Growth Model
   * Romer, chapter 1.

3. Building the Workhorse Model II: Intertemporal Choice
   * Ljungqvist-Sargent, chapter 1.
   * Romer, chapter 2A, 7.
   * additional readings to be determined

4. Important Tool II: Dynamic Programming
   * Ljungqvist-Sargent, chapters 3 and 4.
5. Real Business Cycle Theory

(a) Facts and the Basics

- Ljungqvist and Sargent, chapter 5.
- Romer, chapter 4.

(b) Factor Utilization and Welfare Costs


6. Asset Pricing

- Ljungqvist-Sargent, chapters 7, 10.
- Romer, section 7.5.
- Barro, Robert (2005) “Rare Disasters and Asset Markets in the Twentieth Century” Harvard University working paper.

7. Monetary Facts and an Overview

8. Adding Money to the Workhorse Model: Cash-in-Advance


9. Models with Incomplete Markets

(a) Heterogeneity in Endowments: Various Equilibrium Concepts

- Primary Reading
  - Ljungqvist-Sargent, chapters 7, 18.
- Secondary Reading

(b) Uninsurable Individual Risks

- Primary Reading
  - Ljungqvist-Sargent, chapter 14
- Secondary Reading

10. Unemployment: Search and Matching

- Primary Reading
  - Ljungqvist-Sargent, chapters 5, 19.
- Secondary Reading
  - Romer section 9.8.

11. Fiscal and Monetary Policy

(a) Ricardian Equivalence

• Ljungqvist-Sargent, chapter 10
• Romer, chapter 11.1 to 11.4

(b) Coordinating Fiscal and Monetary Policy

• Ljungqvist-Sargent, chapter 24
• Friedman, Milton (1959) *A Program for Monetary Stability* New York.

12. Discretionary Policy and Time Inconsistency

(a) The Basic Insight

• Romer, chapter 10
(b) A More Rigorous Approach

- Ljungqvist and Sargent, chapter 22 and sections 24.6-24.8