

Macroeconomics II

This course will be an introduction to the techniques and the applications of dynamic general equilibrium models. In the first part of the course we will cover basic methods of dynamic programming in both deterministic and stochastic environments. We will then apply these tools to study various economic applications, including labor markets, business cycles and monetary policy. Basic knowledge of MATLAB will be required to solve some of the problem sets.

The main references for this course are:

Stokey, Nancy L. and Robert E. Lucas Jr. with Edward C. Prescott, 1989, Recursive Methods in Economic Dynamics, Cambridge MA, Harvard University Press (hereafter called SLP)

Ljungqvist, Lars and Thomas J. Sargent, 2004, Recursive macroeconomic theory, Cambridge, MA, The MIT Press. (hereafter called LS)

The lectures will be held on Mondays and Wednesdays at 12:30pm-1:45pm in NH 2111. I will have office hours on Mondays and Wednesdays from 9:30 to 10:30 in NH 3052. I can also be contacted by email at mkapicka@econ.ucsb.edu.

The teaching assistant for this class will be Jesse Zinn (zinn@econ.ucsb.edu). TA sessions will meet on Wednesdays 2-2:50 in NH 2112.

There will be 5 problem sets, a midterm on May 4 and a final on Tuesday June 8. The grades will be determined by the problem sets (25%), the midterm (25%) and the final (50%). You can download the problem sets, as well as other class material at

<http://econ.ucsb.edu/~mkapicka/E204b.html>

Course outline

1. Introduction to Dynamic Programming

- Basic concepts.
 - SLP Chapters 2.1 and 3, LS Chapter 2 pp. 85-92
- Principle of optimality, Properties of Value function.
 - SLP Chapter 4.1-4.2
- Stochastic Dynamic Programming - overview.
 - SLP Chapter 2.2, LS Chapter 2 pp. 92-94.

2. Competitive Equilibrium Concepts

- Sequence concepts
 - SLP Chapter 2.3, LS Chapter 8
- Recursive competitive equilibrium
 - SLP Chapter 2.3
 - Prescott, Edward C. and Rajnish Mehra, "Recursive Competitive Equilibrium: The Case of Homogeneous Households". *Econometrica*, Vol. 48, No. 6. (Sep., 1980), pp. 1365-1379.

3. Application: Real Business Cycles

- Prescott, Edward C., "Theory Ahead of Business Cycle Measurement", *Federal Reserve Bank of Minneapolis Quarterly Review*, Fall 1986, Vol. 10 No. 4.
- Cooley, Thomas F. and Edward C. Prescott, "Economic Growth and Business Cycles", in: *Frontiers of Business Cycle Research*, Thomas F. Cooley (editor), Princeton, NJ, Princeton University Press, 1995.
- Cooley, Thomas F. and Hansen, Gary, "The Inflation Tax in a Real Business Cycle Model". *American Economic Review* 79, pp.733-748.
- Hansen, Gary, "Indivisible Labor and the Business Cycle". *Journal of Monetary Economics*, 16, (1985), pp. 309-327.

- King, Robert G. and Sergio T. Rebelo, "Resuscitating Real Business Cycles". in John Taylor and Michael Woodford (eds.) Handbook of Macroeconomics, North-Holland, 927-1007, 2000.
- Cochrane, John, " Solving RBC models by solving systems of first order conditions", mimeo, University of Chicago (2001).
- Cole, Hal and Lee Ohanian, "New Deal Policies and the Persistence of the Great Depression", mimeo, UCLA (2003).
- Chari, V.V., Patrick Kehoe and Ellen McGrattan, "Business Cycle Accounting", Federal Reserve Bank of Minneapolis Staff Report 328.

4. Application: Labor Search

- Lucas, Robert E. Jr, and Edward. C. Prescott, "Equilibrium search and unemployment", Journal of Economic Theory 7 (1974), pp.188-209.
- Alvarez and Veracierto, "Labor Market Policies in an Equilibrium Search Model", NBER Macroeconomics Annual 14. (1999), pp. 265-304
- Ljungqvist Lars and Thomas J. Sargent, "The European Unemployment Dilemma". The Journal of Political Economy, Vol. 106, No. 3. (Jun., 1998), pp. 514-550.
- LS Chapter 13