Course Overview:
In this course we will cover methods used for analyzing macroeconomic models. We will begin by focusing on solution methods for linear models. This class of models has a wide variety of uses in modern macroeconomics. Once we have covered the basics of the solution techniques we will apply the methods to the basic RBC model and some simple extensions. From here we will also cover some basic topics in dynamic programming. In addition to solution methods I will also cover material on filtering, price rigidities, international models, and financial market failures. Please let me know if there are additional topics in which you are particularly interested. If everyone agrees we can alter the choice of topics to fit your interests.

This course will be taught “Minnesota style” (as Sargent would say). That is, I am not an expert on most of the topics but I want to learn so I will be learning a lot of the material with you as the course proceeds.

You will be asked to do a good deal of work on the computer. The programming language I use is MATLAB. Although you are allowed to use any language you like (GAUSS, FORTRAN, C++, etc.) I will only give you assistance with MATLAB code. In addition to the computer work, I may ask you to write and analyze a basic model of your own or present a paper in class.

Text:
There is no official text for the course. The following is a list of books that are useful macro references.


Homework
At times I will assign homework. These may be in the form of computer assignments or model solutions. We may at times discuss different solution techniques and approaches offered by students in class (to highlight new ideas, common mistakes, etc.). Homework assignments will be “graded” very loosely (I’ll basically just make sure you did it). If you need additional motivation to do your homework at this point, you shouldn’t be in a Ph.D program.
Grading
Grades are based on homework, class participation, class presentations and any other work I assign.

TENTATIVE OUTLINE

I. Introduction


II. Data: Filtering and Detrending.

A. Business Cycle “Facts”


Barsky, Robert, Jonathan Parker and Gary Solon, 1994 “Measuring the Cyclical Behavior of Real Wages: How Important is Composition Bias?” Quarterly Journal of Economics, 109(1)

B. Detrending:


III. “Linear” Models

A. Solution Techniques

1.) Overview:


2.) Decoupling Eigenvalues


3.) Method of Undetermined Coefficients.


4.) AIM


B. Basic RBC Models

1.) Basic Growth Model (Cass Koopmans/ Ramsey)

2.) The Standard RBC Model


Romer, David. *Advanced Macroeconomics*. Chapter 4.


C. Modifications/ Applications:


i.) Indivisible Labor


ii.) Capital Adjustment Costs.

Romer, D. *Advanced Macroeconomics* Chapter 8

iii.) Variable Capital Utilization


iv.) International RBC Models


v.) Sunspots.

Farmer and Guo

Schmitt-Grohe JET 1997 -- four models of fluctuations due to self fulfilling expectations.
vi.) Heterogeneity


D. Money and Business Cycles

i.) Limited Participation Models


ii.) Sticky Stuff.


IV. Dynamic Programming.

- Chapter 1 in Sargent 1987 *Dynamic Macroeconomic Theory*
- Chapter 2 & 3 in Ljungqvist and Sargent 2000 *Recursive Macroeconomic Theory.*


V. Market Imperfections and Macroeconomics.

i.) Static Models


ii.) Dynamic Models

The Financial Accelerator


Dynamic Labor Market Imperfections.

Kimball, Miles. 1994 “Labor Market Dynamics when Unemployment is a Worker Discipline Device.” American Economic Review.


VI. Other Potential Topics.

- SS Policies
- Sunspot Equilibria
- The Fiscal Theory of the Price Level
- Search Theoretic Money
- Herding, Strategic Delay and Macro
- Other → Let me know!

Other useful Stuff:

QMRC web page http://ideas.uqam.ca/QMRBC/

This is Christian Zimmermans quantitative macro and RBC page it has a lot of good stuff.

“FRED” http://www.stls.frb.org/fred/

The St. Louis Federal Reserve data site. It has a lot of data that can be downloaded free.

*Federal Reserve Bank of Minneapolis Quarterly Review.*

This is a good source for good recent research in macro. You can sign up for their mailing list free at http://research.mpls.frb.fed.us/research/qr/qrinfo.html