Course Outline and Reading List

This course covers deterministic and stochastic models of economic growth. These dynamic models are used to conduct business cycle analysis and to discuss government fiscal and monetary policies. Background in dynamic optimization is helpful but not required.

All the blue items are the required readings. You need to print them out by yourself.

There is no required textbook. The following books are recommended for general reference:


The following articles are for general discussions:


Evaluation Criterion

The evaluation is based on a final exam (50%), a set of homework (20%), paper presentation (20%, 45 minutes for each student) and participation in class discussion (10%). The exam will be open-book. Selection Criteria for a paper to be used for presentation (1. 2013 or more recent; 2. related to the topics covered; 3. a Google citation above 50.) Please download the article to your cloud drive and send the link to the TA. Section G contains some of the selections by my previous students.

Topics and Readings

An Introduction and Math Preparation

- Major Development in Macroeconomics
- Chapter 17
- Heuristic Derivation of Hamiltonian Approach

A. Growth Theory (3 weeks)
A.1 Classics


A.2 Endogenous Growth: One-Sector Model

- Chapter 18
- Backward Shooting: Mathcad Program
- Chapter 19
- Chapter 20


A.3 Endogenous Growth: Two-Sector Model


- Notes on Romer 1990


A.4 Fiscal Policies in Endogenous Growth Models


A.5. Structural Change and Economic Growth


- Acemoglu’s presentation of KRX and his paper on Non-Balanced Growth

B. Empirics of Growth (1 week)

B.1 Growth Regression and Convergence Debate

N. Gregory Mankiw, David Romer, and David Weil, “A Contribution to the Empirics of Economic Growth,”

- Note on MRW, The derivation of item 20 in the Note on MRW

Note on Bernanke and Gurkaynak

B.2. Growth Accounting


B.3. Finance and Growth


B.4. Law and Development


C. Real Business Cycle Models (2 weeks)

C.1. Classics

Introduction to RBC and An example of the use of HP Filter
Wang Pengfei's Example

C.2. Refinements

Note on King and Rebelo
C 3 Self-Fulfilling Prophecies


D. Consumption Behavior (1 week)


E. Asset Pricing (1 week)


F. Time Inconsistency of Government Policies (2 weeks)

F.1. Classics


F.2 Discrete Time Models

F.3. Continuous Time Models

Note on Lansing JPubE 1999

G. Influential Articles Selected by Students
- Song, Storesletten, and Zilibotti: "Growing like China" AER 2011
- Wachter, Jessica, Can Time-Varying Risk of Rare Disasters Explain Aggregate Stock Market Volatility?
- Mark Gertler and Peter Karadi, "A Model of Unconventional Monetary Policy," JME 2010
- Xavier Gabaix, "Variable Rare Disasters: An Exactly Solved Framework for Ten Puzzles in Macro-Finance," QJE 2009
- Brunnermeier and Sannikov, "A Macroeconomic Model with a Financial Sector", AER 2013
- Daron Acemoglu, Philippe Aghion, Leonardo Bursztyn, and David Hemous "The Environment and Directed Technical Change" NBER 2009
- Margaret S. McMillan and Dani Rodrik, "Globalization, structural change and productivity growth" NBER, 2011
- Fatih Guvenen, A Parsimonious Macroeconomic Model for Asset Pricing, Econometrica (Vol. 77, No. 6, November 2009, pp. 1711-1750)