DEPARTMENT OF ECONOMICS
MACROECONOMIC ANALYSIS AND POLICY

Spring 2005

Professor: Caroline Betts
Office Hours: Wednesday 1.30 pm – 3.00pm, or by appointment
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COURSE GOALS AND OVERVIEW

The course provides a foundation in modern inter-temporal macroeconomic theory – the study of how aggregate economies behave over time when the individual economic agents which inhabit these economies are forward looking, and form expectations about the future path of the economy. We study the behavior of such economies both over long time horizons – in determining the sources of long-run economic growth – and over short time horizons – in determining the sources of short-run business cycle fluctuations around the long-run trend of the economy.

We begin by examining the empirical regularities, or "facts", concerning economic growth, and business cycle fluctuations, both for the US economy and in an international context. We then examine theoretical models of economic growth, and of business cycles, where aggregate behavior is driven by the solutions to the dynamic optimization problems of many, forward looking, competitive individual economic agents. We also examine recent theories of Great Depressions throughout history. In so doing, we introduce the two workhorse models which are used in the macroeconomics profession to investigate growth and business cycles, as well as many policy issues: the infinite horizon representative agent model, and the overlapping generations model. We conclude by investigating some models of monetary and fiscal policy.

There will be two lectures per week, and regular TA discussion sessions to review assignment material.

EVALUATION

Students will complete six assignments throughout the semester which will be graded and returned. Answers will either be provided in TA discussion sessions or in answer guides that will be made available on my website. In addition there will be a midterm

examination, on **Thursday March 3rd** in class time, and a final examination which is held on Tuesday May 3rd, from 2.00pm – 4.00pm.

The exact breakdown of the evaluation of each student's work in the course is as follows:

Assignments (six)   :   30%
Midterm   :   30%
Final Exam   :   40%

No exceptions will be made to this grading scheme.

TEXTBOOKS AND READINGS

The required textbook for the course is that by Paul Romer, *Advanced Macroeconomics.* I will also reference material from the graduate level textbook by Maurice Obstfeld and Kenneth Rogoff, *Foundations of International Macroeconomics*, from time to time, and I will provide copies of the readings that I reference from this book. Other readings will be assigned, and copies or online references provided as necessary. A couple of readings from Thomas Cooley's edited *Frontiers of Business Cycle Research* will also be helpful, if rather advanced.

OUTLINE

Weeks I and II. Empirical Regularities and Anomalies: Growth

The Production Function
Growth Accounting
The US Growth Facts
The International Growth Facts

References: Lecture notes
Cooley, Chapter 1
Romer, Chapter 1

Weeks II and III.   Empirical Regularities and Anomalies: Cycles

Business Cycle Accounting
The US Business Cycle Facts
International Business Cycle Facts

References: Lecture notes
Cooley, Chapters 1 and 11
Chari, Kehoe and McGratten (online paper)

Week IV. The Solow Growth Model

A Dynamic Model Without Optimization
Neoclassical Production Function
Steady States
Dynamics

References: Romer, Chapter 1
Lecture notes

Week V. The Representative Agent Model

A Simple Two-Period Production Economy
A Multi-Period Extension
An Infinite Horizon Extension

References: Romer, Chapters 2, 7, and 8
Obstfeld and Rogoff, Chapters 1 and 2
Lecture notes

Week VI. The Optimal Growth Model

A Deterministic Optimal Growth Model:
The Cass-Koopmans Model

References: Romer, Chapters 2 and 3
Obstfeld and Rogoff, Chapter 2

Week VII.   The Overlapping Generations Model

An Overview
The Samuelson and Diamond Models

References: Romer, Chapter 2
Obstfeld and Rogoff, Chapter 3

Week VIII. Growth in an Overlapping Generations Economy

A Simple Closed Economy Model
A Simple Open Economy Model

References: Romer, Chapter 2
Obstfeld and Rogoff, Chapter 3

Weeks IX and X. Endogenous Growth Models

> The Lucas Model and Human Capital
> Endogenizing Total Factor Productivity
> Great Depressions

> References: Romer, Chapter 3
> Jones, various chapters to be assigned

Week XI. Adding Shocks to the Optimal Growth Model

> The Stochastic Growth Model
> Brock and Mirman and Productivity Shocks

> References: Romer, Chapter 4
> Lecture notes

Week XII. Real Business Cycle Model

> Long and Plosser's Model
> Kydland and Prescott

> References: Romer, Chapter 4
> Long and Plosser (reference to be completed)
> Lecture notes

Weeks XIII and XIV. Adding Money to the Business Cycle Model

> Cash-in-Advance Model
> Liquidity Effects Model

> References: Romer, Chapter 10
> Obstfeld and Rogoff, Chapter 8
> Lecture notes

Weeks XIV and XV. New Keynesian Monetary Business Cycle Model

> Monopolistic Competition
> Price Stickiness

> References: Romer, Chapter 5
> Obstfeld and Rogoff, Chapter 10