

**Economics 602**  
**Macroeconomic Theory**  
**Fall 2006**  
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**Office Hours:** 3:30-4:30 pm, Tuesday and Thursday or by appointment.

I prefer appointments since they are easy to schedule and we will not be interrupted nor will you have to wait for others.

**Grades:**

Grades will be based on a midterm exam (50%) and a final exam (50%). Occasionally, homework sets will be assigned, which the students are expected to complete and turn in so I can spot potential problems you may be having. Homework assignments do not enter into your grade, they are purely for your benefit. The midterm will be held **in the evening** sometime during the seventh or eighth week of the semester. Furthermore, the final will be on **Sunday before finals**. This is to give you sufficient time to complete the exams. Exams last 3-4 hours. In return for taking the midterm at night, I will give you a day off sometime during the semester (to be determined by me).

**Text:**

The following texts are required for this course:

L. Ljungqvist and T. Sargent **Recursive Macroeconomic Theory**.  
2<sup>nd</sup> ed..MIT Press. (LS)

J. Adda and R. Cooper, **Dynamic Economics**, MIT Press. (AC)

## Course Outline

(Subject to Revision!)

### I. Introduction to Macroeconomics

Graphs of GDP, Price Level and Inflation  
Trends vs Cycles  
Growth "Facts"  
Business Cycle "Facts"

### II. Review of Simple Dynamic Microeconomic Models – The Saving Problem

Finite Horizon, Representative Agent, Endowment Economies (Sequence Problems)

*AC Ch. 6, pp 139-147*

Two-period Model of Consumption and Saving: One Good, Two Periods

Physical Storage Technology

Financial Storage Technology

### III. Two-period production and inter-temporal labor decisions

Two Period Consumption, Saving and Labor Supply

Two Period Model of Investment/Consumption

Storage through Capital Accumulation

Storage through Physical Capital and Financial Instruments

Consumption with Risky Assets/Endowments

### IV. The Concept of a Value Function: Bellman's Equation

An Example: Three-period Model of Consumption and Saving

### V. Infinite Horizon Economies

Infinitely-lived Agents *AC Ch 1*

General Formulations of Dynamic Programming Problems *AC Ch 2, LS Ch 3*

### VI. Introduction to Growth Theory

Utility Maximization and Growth: Discrete version of Cass-Koopmans Growth

Model -- No Uncertainty

Overlapping Generations (Heterogeneous agents) *LS Ch 9*

### VII. Business Cycles: The Neoclassical Approach with Uncertainty

Markov Processes *LS Ch 2*

A Benchmark Model *AC Ch 5*

Dynamics of Policy Functions

Behavior of Output, Consumption and Capital.

Absence of Analytical Solutions -- Approximation Methods

Linear-quadratic approximation of value function.

Linear approximation of the first-order conditions.

Campbell, "Inspecting the Mechanism." *Journal of Monetary Economics*, (1994)

VIII. Ramsey Problem – Optimal Fiscal Policy *LS Ch. 15*

IX. Labor Search: Equilibrium Unemployment *AC Ch 10.6, LS Ch 6.1-6.4*

XI. Insurance vs Incentives: Dynamic Contracting *LS Ch 19.1-19.33*