

## Advanced Macroeconomics I

**Instructor:** LUO Daqing

E-mail: luod@mail.shufe.edu.cn

Phone: (021) 6590-3484

Office: School of Economics Building, Room 322

### Course Description

The objective of this course is to introduce students to the research methods of modern macroeconomics and to some modern macroeconomic models. Accordingly, this course is an introduction to advanced macroeconomic theory rather than macroeconomic issues and the course concentrates on basic macroeconomic analysis tools and basic macroeconomic models. Topics include introduction to macroeconomics, two-period economies with micro foundations, the method of dynamic programming, the Solow model and Neoclassical growth model, models with overlapping generations, real business cycle model, and endogenous growth models.

### Prerequisites

Intermediate Macroeconomics, Intermediate Microeconomics,  
Basic mathematical techniques.

# Course Outline

## **I. Introduction**

- Stylized Facts of Growth
- Features of Business Cycles
- Introduction to Macroeconomic Models

## **II. Two-Period Economies with Micro Foundations**

- A Deterministic Endowment Economy
- A Deterministic Production Economy
- A Stochastic Endowment Economy
- Ricardian Equivalence and Lucas Critique

## **III. Dynamic Programming: Method and Applications**

- Method of Dynamic Programming
- Some Applications

## **IV. The Solow Growth Model**

- Assumptions and Restrictions
- Steady State Equilibrium
- Transitional Dynamics
- Decentralized Growth Model
- A Standard Neoclassical Growth Model

## **V. Models with Overlapping Generations**

- Basic Assumptions and Notation
- The Model
- Competitive Equilibrium
- Extensions and Applications

## **VI. Real Business Cycle (RBC) Model**

- “Standard” RBC Model
- Calibration and Simulation
- Predictions of the Standard RBC Model
- Main Criticisms of the RBC Model

## References

### Textbooks:

David Romer, 2012, *Advanced Macroeconomics*, Fourth Edition, The McGraw-Hill Companies, Inc.

Gregor W. Smith, *MAcroeconomics Lecture Notes*. Unpublished.

Robert G. King and Sergio T. Rebelo (1999), “Resuscitating Real Business Cycles”, in J. B. Taylor and M. Woodford (eds.), *Handbook of Macroeconomics*, Elsevier Science, Amsterdam, 928-1002.

### Other relevant sources:

Lars Ljungqvist and Thomas J. Sargent, 2012, *Recursive Macroeconomic Theory*, Third Edition, The MIT Press.

Robert J. Barro and Xavier Sala-i-Martin, 1999, *Economic Growth*, The MIT Press.

Nancy L. Stokey and Robert E. Lucas, Jr. with Edward C. Prescott, 1989, *Recursive Methods in Economic Dynamics*, Harvard University Press.

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