

School of Economics, Shandong University

# Macroeconomic Theory I

Fall 2025

## Instructor

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## Teaching Assistant

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**Description:** This course studies macroeconomic theory and its relationship to general equilibrium analysis. We start by looking at some stylized facts of the macroeconomy and discuss two basic growth theories. We then investigate how economic agents formulate expectations. Finally, we will examine the first of the two types of models that are used extensively in modern macroeconomics, which is based on the idea that economic agents are thought of as families who live forever.

**Lecture:** 9:00 am – 12:00 noon, Friday, Building #9, Room 331

## References

- Farmer, Roger E.A., The Macroeconomics of Self-Fulfilling Prophecies, 2nd edition, MIT Press, Cambridge, Massachusetts, 1999.
- Farmer, Roger E.A., Macroeconomics, 2nd edition, South-Western College Publishing, Cincinnati, Ohio, 2002.

## Course Outline

- Lecture 1: Central Questions of Macroeconomics
- Lecture 2: Macroeconomic Facts
- Lecture 3: Dynamic Optimization
- Lecture 4: Government Budget
- Lecture 5: Solow (Neoclassical) Growth Model
- Lecture 6: Endogenous Growth Model
- Lecture 7: Expectations Formation
- Lecture 8: Difference Equation and Dynamic System (I)
- Lecture 9: Difference Equation and Dynamic System (II)
- Lecture 10: Stability of Hyperbolic Equilibrium
- Lecture 11: Optimal Growth Model
- Lecture 12: Lucas Critique
- Lecture 13: Real Business Cycle Model
- Lecture 14: Solving Linear Rational Expectation Model with MATLAB

## Presentation

An in-class presentation led by the students will be arranged. You could choose one

from the following two options: (i) present your own new research paper; or (ii) replicate a published paper in a top journal. If you choose to present your own research paper, your topic is expected to be related to macroeconomics. If, instead, you choose to replicate a published paper, eligible papers must be related to macroeconomics and published after 2020. They are expected to come from one of the following journals: *American Economic Review*, *Econometrica*, *Journal of Political Economy*, *Quarterly Journal of Economics*, and *Review of Economic Studies*. Each group should include 5-6 persons and prepare a 30-minute presentation. Make sure that you report the list of your group members to the TA on or before September 26, 2025. The exact presentation date for each group will be announced in class later.

### **Grading**

- Group presentation (40%)
  - Present your own new research paper: the presentation can be in English or in Chinese provided that the research question is well motivated; a theoretical paper should include economic modeling and major theoretical results; an empirical paper should have data description and preliminary estimation results; a pure literature review or non-technical economic essay should be avoided.
  - Replicate a published paper: the presentation can be in English or in Chinese; research question should be well explained; a theoretical paper should include major theoretical derivations and results; an empirical paper should include data collection and your own estimation results; a pure literature review or non-technical economic essay should be avoided.
- Final exam (60%): the final exam will be cumulative and comprehensive and tentatively scheduled on December 26, 2025 from 9 am - 12 noon. Fail to attend the final exam will lead to an F (failure) in this course. No make-up exam of any kind will be made.

### **Final Notes**

- The course outline may be revised during the semester.
- You are fully responsible for following up on all the announcements made in the lectures.