

Economics 605: Macroeconomic Theory

Course topics arranged by unit

This course is broadly about the long-run macroeconomic phenomena. We will focus on analyzing standard workhorse dynamic general equilibrium growth models with no uncertainty. Particular attention will be paid to the correspondence between the models and the commonly used macroeconomic data. Our analysis is aimed at developing understanding of relationships between macroeconomic variables and their evolution through time. This understanding will help us get insights into the links between the financial markets and the real economy, the mechanics and sources of economic growth and the role of expectations in shaping macroeconomic outcomes. The class is organized into seven units, listed below with the topics covered in each.

Unit 1. Measurement

- National income and product accounts (NIPA) and macroeconomic measurement (Lecture 1; Section 1; Prescott NIPA notes; Week 1 self-study module)
- Capital accumulation and the measurement of capital (Lecture 1; Section 1)
- The role of models in macroeconomic analysis (Lecture 2; Acemoglu 2.1, 5.4)

Unit 2. Production and Investment

- Aggregate production function and factor markets (Lectures 2–3; Section 2; Acemoglu 2.1)
- Investment and the user cost of capital (Jorgenson's formula) (Lectures 3–4; Section 3)

Unit 3. Financial Markets

- Present value and asset pricing (Lecture 5)
- Value of the firm (Lecture 5)
- The Modigliani–Miller theorem (Lecture 5)

Unit 4. Solow Model

- The Solow model: steady state, transition dynamics, and the golden rule (Lecture 6; Section 4; Acemoglu 2.2–2.5; Romer 1.2–1.5; Barro 1.2)
- Balanced growth and the Uzawa theorem (Lecture 7; Acemoglu 2.7; Jones and Scrimgeour (2008))
- Sources of growth and growth accounting (Lecture 8; Section 5; Acemoglu 3.1, 3.3, 3.4)
- Investment-specific technological change and productivity measurement (Lecture 8; Section 5)

Unit 5. Overlapping Generations Model

- The OLG model: household problem and competitive equilibrium (Lecture 9; Section 6; Acemoglu 9; Romer Ch. 2B; Barro 3.8)
- Dynamic (Pareto) inefficiency in the OLG model (Lecture 10; Section 6)
- The OLG model with government: social security and public debt (Lecture 11; Section 7)
- The life-cycle model (Section 7; Hurd (1989))

Unit 6. Neoclassical Growth Model

- Dynasty consumption–saving choice (Lecture 12; Acemoglu 7.1–7.5)
- Optimal control (Lecture 13; Barro, Appendix on Mathematical Methods)
- The Ramsey planner's problem (Lecture 14; Section 9; Acemoglu 8; Romer Ch. 2A; Barro 2.1–2.6)
- Comparative dynamics in the Ramsey model (Lecture 15; Section 10)
- Anticipated and delayed changes in the economy (Lecture 16; Section 10)
- Competitive equilibrium and endogenous expectations (Lecture 17; Section 11; Acemoglu 5, 8; Barro Ch. 2, 3.1)
- Ricardian equivalence and fiscal policy (Lecture 18; Section 11; Romer Ch. 11; Barro (1974))

Unit 7. Endogenous Growth

- The expanding-variety model and its correspondence with the national accounts (Lecture 19; Section 12)
- Equilibrium dynamics of the expanding-variety model (Lecture 20; Section 12)
- Competitive equilibrium versus the planner's problem (Lecture 21; Section 13)
- Growth accounting with the endogenous growth model (Lecture 22; Section 13; Jones (2002); Fernald and Jones (2014); Bloom et al. (2018))

Conclusion

- The role of models in macroeconomic analysis and research with the scientific method (Lecture 23)

Sources in parentheses refer to lecture and discussion-section numbers in the course calendar and to readings in Acemoglu, Introduction to Modern Economic Growth; Romer, Advanced Macroeconomics; Barro and Sala-i-Martin, Economic Growth; and the assigned articles.