Advanced Macroeconomics

Professor Dr Oliver Holtemöller

Martin Luther University Halle-Wittenberg, Winter 2025/2026

Course type	*Lecture* (2 semester hours) & *Tutorial* (2 semester hours)
Lecturer	*Lecture:* Oliver Holtemöller *Tutorial:* Alexandra Gutsch
Time and location	*Lecture:* weekly, Thu, 12 – 2 p.m. Sitzungszimmer [Mel] *Tutorial:* weekly, Wed, 2 – 4 p.m., Computerpool 1 [WiWi] No lecture/tutorial on November 5/6, 2025
First date	*Lecture:* Thu, October 16, 2025 *Tutorial:* Wed, October 15, 2025
Code repository	https://github.com/oholtem/Advanced-Macro-2025
Exam	Mid-term exam (40%) Final oral exam (60%)
E-Mail	makro@wiwi.uni-halle.de
Consultation hours	by arrangement
Stud.IP	[Link]

Course Description

What are the main drivers of long-run growth and business cycle fluctuations? What are the macroeconomic consequences of interest rate changes by central banks? How can governments fight recessions without causing inflation? And how can economists forecast the path of GDP, unemployment, or inflation in the years ahead? In this course, you will learn the modern tools economists use to answer these pressing questions – and to generate evidence-based forecasts that inform policy decisions and business strategies.

This course introduces into modern dynamic macroeconomic theory. We discuss the basic dynamic general equilibrium model of a closed economy without government. You will learn how to solve for the dynamic equilibrium using appropriate software (GNU Octave/Matlab, Dynare). We will extend the model to analyze the macroeconomic effects of monetary and fiscal policy. We apply the model to forecast the macroeconomic development and to study the effects of fiscal stimulus packages during recessions.

The course is addressed to advanced students with basic knowledge in macroeconomics. For understanding modern dynamic methods, you need a sound knowledge in mathematics for economists (especially analysis, optimization, and solving equation systems). For preparing all exercises you need access to a PC on which you can install GNU Octave and Dynare (both open source and free). Matlab and Dynare will be available during the tutorial. The goal is to learn fundamental methods of dynamic macroeconomics. After attending the course, you should be able to apply basic dynamic macroeconomic models to explain the observed economic development and to analyze economic policy problems.

Outline

I. Foundations of Dynamic Macroeconomic Modeling

II. Long-run Economic Growth

III. Short-run Fluctuations

IV. Applications

Literature

Detailed reading suggestions will be provided chapter by chapter. Textbooks that cover major parts of the course content are:

Alogoskoufis, George (2019): Dynamic Macroeconomics, MIT Press

Gottfries, Nils (2013): Macroeconomics, Palgrave Macmillan

Romer, David (2019): Advanced Macroeconomics, 5th ed., McGraw-Hill