

## MACROECONOMICS

### COURSE OUTLINE SUMMER SEMESTER 2025

Prof. Michael Roos / Kasimir Püttbach

#### CONTENT

This module covers theoretical models of economic growth and business cycle fluctuations at an advanced level. It provides an overview over the most important macroeconomic topics and introduces students to concepts that are important for more advanced studies of macroeconomics and for practical work in this field.

This module contrasts mathematical mainstream models such as the Ramsey growth model and the basic RBC model with system dynamics models. System dynamics models are computer simulation models that are ideal for the analysis of non-linear models with multiple feedback loops. Feedback is pervasive in the macroeconomy, such that system dynamics models are a valuable addition to the macroeconomist's tool box.

The exposition of the theoretical models is complemented with a short history of macroeconomics and a discussion of the mainstream approach.

#### MODULE OBJECTIVES

A key learning objective is that students acquire the technical skills to understand and work with advanced theoretical models. These technical skills are important for the application of the models and for own research, but also for a critical assessment of current macroeconomics with its strengths and weaknesses.

The application of the models to current policy issues or own extensions are not part of this module, but are the objective of other modules.

After taking this module, you can

- explain and solve standard macroeconomic models at an intermediate to advanced level.
- discuss the history of macroeconomics and the current state of the field.
- explain the principles of system dynamics models.
- use the software Vensim to analyze existing system dynamics models.
- modify existing models and create simple new models in Vensim.

#### PREREQUISITES

You will need good English skills and the willingness to deal with mathematical and computational economic models. Knowledge of macroeconomic models and concepts at the principles to intermediate level is expected. If you are not familiar with basic concepts in macroeconomics such as the IS-LM model, aggregate demand and supply or the Solow growth model, please consult textbooks such as Blanchard, "Macroeconomics" or similar books before taking this module.

## ORGANIZATION

This module consists of lectures and tutorials.

To take part in the exam, you absolutely **must** register on FlexNow by the deadline. The registration period runs from **26.05.2025** to **20.06.2025**.

**Participants:** no restriction  
**Registration:** not required  
**Assessment:** There will be a **final exam** on 5 August 2025, 10:00 – 12:00h. Further details on the exam will be provided on Moodle during the course of the module.

**Time and place:** Monday, 16.15-17.45 h, GD 04/620 (Lecture)  
Tuesday, 12.15 – 13.45 h, HZO 90 (Tutorial)

**Start:** 7 April 2025

**FlexNow Registration:** 26.05.2025 - 20.06.2025

**Deregistration period:** 26.05.2025 - 29.07.2025

## SCHEDULE

The following schedule is preliminary and subject to change.

### Lectures

Week	Date	Topic
1	7 April	Introduction and history of macroeconomics
2	14 April	Solow model and Ramsey model
3	No lecture	
4	28 April	Ramsey model
5	5 May	Simple RBC/DSGE model
6	No lecture	
7	19 May	Simple RBC/DSGE model
8	26 May	Discussion
9	No lecture	
10	No lecture	
11	16 June	System dynamics and Solow model
12	23 June	Smith model
13	30 June	Ricardo model and limits to growth
14	7 July	Goodwin-Minsky-Keen model
15	14 July	The modeling process

### Tutorials

Week	Date	Topic
1	8 April	Math basics
2	No tutorial	
3	22 April	Solow model
4	29 April	Ramsey model
5	6 May	Ramsey model
6	13 May	RBC

7	20 May	RBC
8	27 May	Questions
9	3 June	Basics of system dynamics / Vensim
10	No tutorial	
11	17 June	Basics of system dynamics / Vensim
12	24 June	Smith model
13	1 July	Smith model
14	8 July	Goodwin-Minsky model
15	15 July	Goodwin-Minsky model

## SELF-STUDY

This module contains 120 hours of self-study.

You are expected to prepare the lecture by reading the relevant literature. Furthermore, you will have to do programming exercises.

## SELF-STUDY

The Moodle course for this module is

Macroeconomics (075 242-SoSe 2025)

Please register early for the course. There is no password.

## READING

**Further literature and information will be provided on Moodle.**