Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Faculty of Business Management and Economics
Chair for Monetary Policy and International Economics
Empirical Macroeconomics

Syllabus

Name:

DSGE Modelling

Responsible:
Prof. Dr. Eric Mayer Working Group, Applied Macroeconomics

Program:	**Type:**	**Term:**	**ECTS:**
Master	Lecture	Summer	5 CP

Contents & Objectives:

The course offers a primer on advanced business cycle analysis. The focus is on understanding and applying modern analytical approaches, in particular Dynamic Stochastic General Equilibrium Models (DSGE) which are utilized in central banks and other international institutions, e.g. the European Commission and the International Monetary Fund (IMF).

The following topics will be addressed:

Micro-founded approach to analyze key determinants of the business cycle such as household's consumption, labor and savings decisions and firm's labor, capital demand and pricing decisions. Moreover we will look at the design of monetary policy – simple rules versus optimal discretion. The analytical approaches will be evaluated in depth with case studies and simulations implemented with Dynare. In addition, specific topics that extend the basic framework will be discussed.

Prerequisites:

The course is designed for students in the Master's program with a basic knowledge of macroeconomics and a basic working knowledge in quantitative methods. International exchange students from Bachelor programs may attend this course if they have a solid background in macroeconomics.

Course Structure:

Week	**Content**
1	I. Introduction to the classical monetary model
2	I. The households optimization program: consumption, hours worked and savings
3	I. The firm's optimization program: labor and capital demand and the role of monetary policy
4	I. A primer on evaluating a classical monetary model with Dynare
5	II. Introduction to the basic New Keynesian model
6	II. The firm's optimization problem in a sticky price environment
7	II. Monetary policy design in the basic New Keynesian framework
8	II. A primer on evaluating a basic New Keynesian model with Dynare
9	III. Topics: A look behind the scenes: Minimum state variable solution and determinacy
10	III. Topics: Investment and capital accumulation in a New Keynesian framework
11	III. Topics: Sticky wages in a New Keynesian model
12	III. Topics: Business cycle analysis in a medium-scaled New Keynesian model

Literature:

[1] Gali, J., (2015), Monetary Policy, Inflation, and the Business Cycle, 2nd edition, University Press Group Ltd.

[2] Adjemian, S., Bastini, H., Karane, F., Juillard, M., Maih, J., Perendis, G., Pfifer, J., Ratto, M., and Sébastian Villemot. (2015), Dynare Reference Manual, version 4.4.3.

[3] Mayer, E., (2015), A Helicopter Tour through New Keynesian Models, script.

[4] Walsh, C., (2010), Monetary Theory and Policy, 3rd edition, The MIT Press.

Grading:

60-minute final written exam + optional bonus assignment

Contact:

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