

Advances Macroeconomics: Syllabus

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Bavarian Graduate Program in Economics
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1 Organization*

The course will start on Sunday, March 4, in the evening with a welcome meeting at 19:00 followed by dinner. The daily schedule is listed below.

09:00 – 10:30	Lecture
10:30 – 11:00	Break
11:00 – 12:30	Lecture
12:30 – 14:00	Lunch
14:00 – 16:00	Problem Session
16:00 – 16:30	Break
16:30 – 18:00	Review of Material and problems
18:00 – 19:30	Break
19:30	Dinner

Note that on Friday, in lieu of a problem session, there will be a final review session from 14:00 to 15:00.

2 Goal of the Course*

The purpose of the course is to introduce you to the main methodological tools in modern macroeconomics while at the same time providing a survey of the main questions and answers given in the modern literature. The emphasis is on quantitative theory, i.e., theory designed to match basic features of the data and that can be used to answer quantitative questions. A large focus of the course will be to develop a theoretical toolbox that will you be able to apply in the future. The toolbox will build on standard microeconomic theory, so a solid understanding of applied microeconomic theory is a very useful background, if not a prerequisite. The course will also provide a basic introduction to solving models quantitatively using MATLAB. Prior experience with MATLAB is not required, but familiarity with a programming language (e.g., MATLAB, Python, C/C++, Fortran, Julia) would be useful.

3 Course Outline*

The first day will start with an overview of the course and will cover a simple dynamic economy and the neoclassical growth model. We will then proceed with dynamic optimization and dynamic programming. Next, we will cover the permanent income hypothesis as an introduction

to macroeconomic models featuring incomplete markets and income risk. A number of applications of the incomplete-markets model will be discussed, including endogenous default and housing. The course will conclude with a survey of the frontier of research questions being answered with incomplete-market models, with a special emphasis on models of monetary and fiscal policy in heterogeneous-agent environments.

4 Course Materials*

The course will make use of several sources. A detailed list of papers is included at the end of this document. Notes will be distributed to the students ahead of the course. The main textbook that we will follow for the section on dynamic programming is:

Nancy L. Stokey and Robert E. Lucas (1989), *Recursive Methods in Economic Dynamics*, Harvard University Press.

While strictly speaking it is not required for the course, it's a good book for any macroeconomist to have.

References

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- [8] Kaplan, G., K. Mitman and G. Violante (2017) "Consumption and House Prices in the Great Recession: Model Meets Evidence", *Working Paper*
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