

Computational Economics

Spring 2024

Basic Information:

Instructor: Nawid Siassi
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Class dates: See detailed schedule below (first class: March 7)

Description:

In this course you will learn how to obtain numerical solutions to economic models for which closed-form solutions are unavailable. A particular focus will be placed on solution algorithms for dynamic equilibrium models which are widely used in macroeconomics. Throughout the course, the emphasis is on applications: Based on a series of coding exercises, you will learn how to implement and solve the models discussed in class. We will discuss your solutions to these exercises in tutorial classes. The course concludes with a final project where students present a paper of their own choice from the literature and attempt a partial replication of it.

Prerequisites:

Students should have completed intermediate courses in microeconomics and macroeconomics. Having some experience in programming is recommended. Prior knowledge with dynamic economic models is beneficial but not absolutely necessary.

Programming Language:

Throughout the course, we will perform numerical computations using Matlab. If you have not worked with Matlab before or need to refresh your knowledge, please consult a tutorial guide before the course (I can provide some practice exercises upon request). Students can get a free licensed Matlab copy from the TU Wien IT webpage (<http://www.sss.tuwien.ac.at/sss/mla/>).

Grades:

The final grade will be based on problem sets (30%) and a final project (70%).

Outline:

- Introduction
- Value Function Iteration
- Calibration and Stochastic Simulation
- Linearization and Perturbation Methods
- Models with Heterogeneous Agents
- Overlapping Generations Models

Schedule:

MARCH 7	13:00-14:30	Lecture	APRIL 18	13:30-15:00 12:30-13:30	Lecture Tutorial
MARCH 14	13:00-14:30	Lecture	APRIL 25	13:30-15:00 12:30-13:30	Lecture Tutorial
MARCH 21	13:30-15:00 12:30-13:30	Lecture Tutorial	MAY 2	13:30-15:00 12:30-13:30	Lecture Tutorial
APRIL 11	13:30-15:00 12:30-13:30	Lecture Tutorial	JUNE	TBD	Presentations

Room: Freihaus, Sem.R. DB gelb 04.