Computational methods in macroeconomics

Learning objectives

This course is designed to provide a rigorous introduction to computational methods for solving dynamic macroeconomic models. Most of these models can only be solved numerically. Knowledge of the relevant computational techniques is therefore indispensable in theoretical and even more so in applied macroeconomic work. The objective is to equip students with an understanding of basic numerical tools to solve and analyze dynamic macroeconomic models, and computer codes to implement them.

Expected learning outcomes

After completing the course students will have an understanding of how to numerically solve and simulate dynamic stochastic general equilibrium models used by academic and policy economists to tackle research questions in Macroeconomics.

Syllabus

- Elements of dynamic optimization
- Value function iteration
- Perturbation methods
- Introduction to Dynare software

Notes

Numerical algorithms discussed during the course will be implemented in MATLAB

Calendar

06/04 Wednesday: 10:30 – 12:30
07/04 Thursday: 14:30 – 16:30
13/04 Wednesday: 10:30 – 12:30
21/04 Thursday: 14:30 – 16:30
22/04 Friday: 10:30 – 12:30
27/04 Wednesday: 10:30 – 12:30
28/04 Thursday: 14:30 – 16:30
04/05 Wednesday: 10:30 – 12:30
05/05 Thursday: 14:30 – 16:30
06/05 Friday: 10:30 – 12.30