

QUANTITATIVE AND NUMERICAL ECONOMICS

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The course is an introduction to NUMERICAL methods in economics. The course will introduce students to the key NUMERICAL techniques used in contemporary quantitative economics: Stochastic difference equation, non linear models, Dynamic programming, Markov chains and other tools used for solving Dynamic Stochastic General equilibrium models.

The main example will be from macroeconomics but the same tools can be used in the field of economics. The spirit of the course is to acquaint students with the fact that contemporary economics relies heavily on computer power.

The main language used in the application is Python, a popular Open source computer language that is now increasingly applied in economics. Knowledge of the programming language is not essential but some background in basic programming will be an advantage. DSGE models will also be solved with the help of Dynare, an Open source application For Matlab and Octave.

Main references

Sargent and Stachursky, "Quantitative Economics" freely available at www.quant-econ.net

Miaja "Economics Dynamics in Discrete Time" (2014) Mit Press