

Discipline

«APPLIED COMPUTATIONAL ECONOMICS»

Annotation

Term: 7

Lecturer: prof. Dr. Larysa Zomchak

Department: Department of Economic Cybernetics

Brief description of the course:

Computational methods are of crucial importance for applications in economics and beyond. This ranges from economic modeling to applied economics to econometrics to finance and data science. This seminar intends to give a broad overview over the techniques, methods, and applications. It includes programming with a general purpose programming language and demonstrates how computational methods are implemented. It allows students to gain experience with the simple applications of computational methods in general and with the programming language primarily used in the course (Python) in particular. While the economic application of sophisticated methods like machine learning, agent-based modeling, and micro-econometrics, and natural language processing is beyond the scope of this course, it will give students a basic understanding and a good starting point for further studies in these fields.

Contents:

1. Introductory lecture: Computational economics and Python
2. Basic programming techniques and data structures
3. Programming style and good practices
4. Computational techniques: Visualizing data
5. Computational techniques: Statistical and econometric analysis
6. Computational techniques: Economic Growth Evidence
7. Computational techniques: Network theory
8. Computational techniques: Machine learning