

Methodische Grundlagen der Wirtschaftsinformatik: Computational Economics Winter Term 2022/2023

- Lecture -

Course Description:

This course strives for a hands-on approach on computational economics. The ability to conceptualize an economic problem verbally, to formulate it as a mathematical model, and then represent the mathematics in software so that the model can be solved on a computer is a crucial skill for economists. Computational Economics contains well-known models designed to help students move from verbal to mathematical to computational representations in economic modeling. The course not only focuses on just solving the models, but also on developing the ability to modify them to reflect one's interest and point of view.

Target Group:

This course addresses students in the first year of their integrated master program, M.Sc. VWL, and M.Sc. Computer Science students.

Organization:

This course consists of a lecture, exercises, and tutorials. The contents of lecture and exercises are relevant for the exam. The tutorials are an additional service to the students to become more familiar with the contents discussed in lecture and exercises. Students can earn bonus points for the exam. Submission of the bonus point solutions will be made via Ilias.

The course will be held in presence as long as the Corona regulations allow it.

Please register for the course via HisInOne. You will then receive an email with the password for Ilias.

Communication:

All announcements will be made via email. Materials will be uploaded on Ilias. The particular dates of lecture, exercises, and tutorials will be announced.

Language:

English

Topics:

- 1. Introduction
- 2. Computer Arithmetic
- 3. Error Estimation
- 4. Linear Algebra
- 5. Taylor Approximation
- 6. One-dimensional optimization
- 7. Multi-dimensional optimization

Timeframe:

Monday: Lectures 14:00 – 16:00 Uhr, in KG1 room 1010

Wednesday; Excercises 14:00 -16:00 Uhr, in KG1 room 1010

Literature:

David A. Kendrick, P. Ruben Mercado, & Hans M. Amman (2005) "*Computational Economics*", Princeton University Press

Policies and Procedures: Grading:	final exam + bonus points
Exam date:	tba
Credit points:	6
Chair: Albert-Ludwigs-Universität Prof. Dr. Dirk Neumann Department of Information Systems Rempartstrasse 10-16 79098 Freiburg	