

**Methodische Grundlagen der Wirtschaftsinformatik:
Computational Economics
Summer Term 2025
- 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. The contents of lecture and exercises are relevant for the exam. Students can earn bonus points for the exam. Submission of the bonus point solutions will be done via Ilias.

Please register for the course via HisInOne.

Communication:

All announcements will be made via Ilias. Materials will be uploaded on Ilias.

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:

Lectures: Wednesday 14 – 16, Pauluskirche (first session: 30.04.2025)

Exercises: Wednesday 8:30 -10:00, HS 1098 (first session: 14.05.2025)

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: 13.08.2025

Credit points: 6

Chair:

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