Module title			Abbreviation
Computational Economics			12-CE-242-m01
Module coordinator		**Module offered by**	
holder of the Chair of Public Finance		Faculty of Business Management and Economics	
ECTS	**Method of grading**	**Only after succ. compl. of module(s)**	
5	numerical grade	--	
Duration	**Module level**	**Other prerequisites**	
1 semester	undergraduate	--	

Contents

This module introduces students to the numerical implementation of economic models. It consists of three main parts:
1. The programming language FORTRAN 90
2. Numerical solution methods
3. Economic applications:
   - The static general equilibrium model
   - Topics in finance and risk management
   - Life cycle model
   - Overlapping generations model

Intended learning outcomes

After finishing this module students are able to
1. implement simple economic models on the computer using Fortran 90
2. using MonteCarlo techniques to find optimal portfolio structures and option prices
3. quantify the risks of portfolios of banks and insurance companies
4. simulate simple reforms of the tax and transfer system
5. interpret the simulation results economically.

Courses (type, number of weekly contact hours, language — if other than German)

P (2)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 minutes) or
b) written examination (approx. 60 minutes) and exercises (approx. 10 pages), (weighted 1:1)
Language of assessment: German and/or English
creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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Referred to in LPO I (examination regulations for teaching-degree programmes)

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Module appears in

Bachelor' degree (1 major) Business Information Systems (2024)
Bachelor' degree (1 major) Economathematics (2024)

Bachelor' degree (1 major) Business Management and Economics (2024)
Bachelor's degree (1 major, 1 minor) Business Management and Economics (Minor, 2024)