

Syllabus

Computational Economics			
Responsible:			
Prof. Dr. Hans Fehr, Chair of Public Finance			
Program: Bachelor	Type: Lecture & Exercise	Term: Block course September/October (see website of the chair)	ECTS: 5/6 CP
Contents & Objectives			
<p>This course is taught in block consisting of ten lecture classes and fourteen exercise classes within two weeks. The goal is to introduce students to state of the art computational techniques for quantitative economic research. Using the programming language FORTRAN they learn to apply numerical solution techniques to mathematical problems and economic models that cannot be solved analytically.</p> <p>After finishing this course student are able to</p> <ol style="list-style-type: none"> (1) implement simple economic models on the computer using Fortran 90 (2) simulate simple reforms of the tax and transfers system, (3) interpret the simulation results economically. 			
Prerequisites:			
Students should bring along a strong willingness to specialize in programming (which implies that they will program a lot themselves).			
Course Structure: (Lecture 9:00-10:30, 11:00-12:30; Exercise classes 14:00-17:00)			
Week	Content		
Monday	Introduction to Fortran 90: Lecture and exercise classes		
Tuesday	Numerical solution techniques: Lecture and exercise classes		
Wednesday	Static general equilibrium analysis of tax policy: Lecture and exercise classes		
Thursday	Life-cycle models and risk: Lecture and exercise classes		
Friday	Overlapping generations (OLG) model: Lecture and exercise classes		
Second week	Team assignments, exercise classes and programming exam		
Literature: Hans Fehr and Fabian Kindermann (2018): Introduction to Computational Economics using Fortran, Oxford University Press. Fortran compiler and lecture notes will be provided to students. Consult website www.ce-fortran.com			
Grading:			
Grading will be based on the team assignment and the programming exam.			
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