

Module title		Abbreviation
Advanced Computational Economics		12-M-NGM-242-m01
Module coordinator		Module offered by
holder of the Chair of Public Finance		Faculty of Management and Economics
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>Description:</p> <p>This course will mostly be concerned with the analysis of public policy (in areas such as taxation, social security etc.). Providing students with state-of-the-art techniques for quantitative macroeconomic research in this very field and familiarising them with the relevant literature, this course will teach students how such policies redistribute between different generations and also within generations, how they may improve risk sharing when markets are incomplete and how they can trigger distortions and therefore hurt the aggregate economy.</p> <p>Outline of syllabus:</p> <ol style="list-style-type: none"> <li>1. Programming with FORTRAN and application of numerical methods</li> <li>2. Solution techniques for dynamic programming problems</li> <li>3. Policy analysis with stochastic growth and life cycle models</li> </ol> <p>Reading:</p> <p>Lecture notes will be provided.</p>		
Intended learning outcomes		
<p>After completing the course "Advanced Computational Economics" students will be able to</p> <ul style="list-style-type: none"> <li>(i) edit and solve stochastic economic problems using advanced numerical techniques;</li> <li>(ii) implement small scale economic models on the computer;</li> <li>(iii) simulate tax and social security policy reforms and interpret the quantitative results in economic term.</li> </ul>		
Courses (type, number of weekly contact hours, language — if other than German)		
<p>V (2) + Ü (2)</p> <p>Module taught in: English</p>		
Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)		
<p>a) written examination (approx. 60 minutes) or</p> <p>b) term paper (approx. 15 pages)</p> <p>Language of assessment: English</p> <p>creditable for bonus</p>		
Allocation of places		
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Additional information		
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Workload		
150 h		
Teaching cycle		
Teaching cycle: winter semester		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
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**Module appears in**

Master's degree (1 major) Management (2024)  
Master's degree (1 major) International Economic Policy (2024)  
Master's degree (1 major) Econometrics (2024)  
Master's degree (1 major) International Economic Policy (2025)  
Master's degree (1 major) Management (2025)  
Master's degree (1 major) China Business and Economics (2025)  
Master's degree (1 major) China Language and Economy (2025)  
Master's degree (1 major) Econometrics (2025)