Dynamic Macroeconomics

universität**bonn**

Module Number 332222007	Workload 225 h	Credits 7,5 CP	Duration 1 Term	Cycle yearly; summer term
Responsible Faculty Member	Prof. Dr. Christian Bayer			
Department	Department of Economics			

Degree Program/ Study Field	Title		Character	Study Term
	Master of Science Economics Study Field: Macroeconomics and Public Economics		Advanced Module	2nd

Learning Outcomes	The course has two aims. First and foremost, it aims at acquainting students with the numerical techniques needed to understand modern macroeconomic analysis involving the solution of dynamic programming problems. Second, it repeats in an applied manner concepts and results studied theoretically in the macroeconomics basic course: business cycle theory, savings decisions, general equilibrium with imperfect capital markets, heterogeneous agent economies etc.
Key Skills	
Learning Content	The course studies first revisits basic algorithms to solve single agent dynamic programming problems, then discusses possibilities to improve on these algorithms, such as perturbation and projection methods. These techniques are applied to study the business cycle characteristics of model economies. Then the course studies algorithms to solve recursive general equlibrium models with heterogeneous agents, such as Aiyagari's (1994) or Krussell and Smith's (1998) model.
Prerequisites for attending	Basic Module *Macroeconomics*

Course Type	Lecture, Seminar, etc.	Contact time	Workload [h]
	lecture and tutorial	4 hrs per week	(c) 60 (s) 165

Examination(s)	Type of Examination	Grades
	written or oral exam	yes

Special Course Achievements	
Other	*Students having already passed exams in "Macroeconomics II: Dynamic Macroeconomics" cannot take exams in this module.* A basic understanding of numerical programming, and MATLAB as programming language is helpful but not required. Primary readings are: * Burkhard und Alfred Maußner, Dynamic General Equilibrium Modelling, Computational Methods and Applications, 2. Edition, Springer: Berlin 2008 * Jerome Adda and Russell W. Cooper, Dynamic Economics: Quantitative Methods and Applications, MIT Press, Cambridge MA, 2003.