

Master of Economics

Lecture Title:	Mathematics I		
Lecturer:	Christian Steineder		
Lecture Code:	017 900	ECTS:	6
Term:	Fall term	Contact hours:	40
Lecture Dates:	See teaching calendar		
Final Exam:	TBA	Frequency of lecture:	Twice a week
Prerequisites:			
Language of instruction:	English		
Contact information			
	Telephone:	Email: csteineder@yahoo.com	
Office hours	By appointment		
Course website	TBA		
Learning Objectives: (What are the intended learning outcomes? Which skills will be acquired?)	Introduction to abstract mathematical concepts and thinking, Essentials of Mathematics for Economist		
Content: (Which professional competence and which contents will be imparted?)	Preliminaries: sets, functions, correspondences, binary elements, lattices, cardinality, algebraic structures, construction of real numbers, polynomials and complex numbers. Linear Algebra : vector spaces and subspaces, spanning systems, linear independence, basis and dimension, determinants, linear mappings, kernel, image, matrix representation, inner product spaces, orthogonality, Eigenvalues and Eigenvectors, matrix diagonalization (Jordan form). Differential equations: Introduction to ODEs		
Teaching Approach: (Description of the learning and teaching methods)	Lecture, exercises/problem sets and discussion.		
Workload: (Definition of workload (ECTS), divided in pre-modules (e.g. pre-readings), core-modules (contact hours), post-modules (e.g. case studies)):			
Required literature:	Alós-Ferrer, Carlos: Mathematics for Economic Theorists. Manuscript.		

Master of Economics

(scripts, books, articles, cases, papers)	University of Konstanz.
Recommended literature: (books, articles, cases, papers)	TBA
Special features: (e.g. excursion, guest speaker):	
Mode of examination: (Mode of examinations and tests (e.g. oral or written examination, lecture, homework, papers, class participation)):	Weekly problem sets, written midterm and final exams.
Grading:	Class participation, Practice Sessions (20 %) Midterm Exam (30 %) Final written exam (50 %)