

M.Sc. Economics

Code:	017 901	Type:	M.Sc. 2011-2013 1 st year, winter 2012
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Title:	Mathematics II
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Lecturer:	Martin Meier
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ECTS:	6	Contact hours (per semester):	20 á 120 min.
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Semester:	Winter 2012	Frequency of the lecture:	Twice a week.
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Dates:	January 9 until March 21, 2012
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Prerequisites:	Basic high school mathematics and knowledge of Math Camp and Math I
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Learning objectives (What are the intended learning outcomes? Which skills will be acquired?):

Introduction to a mathematical way of thinking. Understanding and ability to apply abstract of concepts in set theory, logic and real analysis. Introduction to optimization and dynamic systems.

Content (Which professional competence and which contents will be imparted?):

- Set Theory
- Numbers and Functions
- Metric Spaces
- Differential Calculus
- Static Optimization
- Difference and Differential Equations
- Topological Spaces and Fixed Point Theorems

Teaching approach (Description of the learning and teaching methods):

Lectures, homework and discussion of homework solutions.

Workload (Optional: definition of workload (ECTS), divided in pre-modules (e.g. pre-readings), core-modules (contact hours), post-modules (e.g. case studies)):

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M.Sc. Economics

Language of instruction (Information on the language of teaching):

English

Obligatory literature (E.g. scripts, books, articles, cases, papers):

Alós-Ferrer, Carlos: Mathematics for Economic Theorists. Manuscript, University of Konstanz.

Additional literature (E.g. books, articles, cases, papers):

- De La Fuente (2000): Mathematical Methods and Models for Economists, Cambridge University Press.
- Sutherland (1993): Introduction to Metric and Topological Spaces.
- Magnus and Neudecker (1999): Matrix Differential Calculus with its Applications in Statistics and Econometrics.
- Perko (2001): Differential Equations and Dynamical Systems.
- Border (1985): Fixed Point Theorems with Applications to Economics and Game Theory.

Mode of examination (Mode of the examinations and tests (e.g. oral or written examination, lecture, homework, papers, class participation)):

Midterm exam and final written exam at the end of the semester.

Grading:

Tba

Special features: (E.g. excursion, guest speaker):

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Office hours:

By appointment

Course website:

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