Module title
Overview Functional Analysis and Ordinary Differential Equations

Abbreviation
10-M-FAGD-Ü-152-m01

Module coordinator
Dean of Studies Mathematik (Mathematics)

Module offered by
Institute of Mathematics

ECTS
12

Method of grading
numerical grade

Only after succ. compl. of module(s)
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Duration
1 semester

Module level
undergraduate

Other prerequisites
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Contents
Banach spaces and Hilbert spaces, bounded operators, principles of functional analysis; existence and uniqueness theorem, continuous dependence of solutions on initial values, systems of linear differential equations, matrix exponential series, linear differential equations of higher order.

Intended learning outcomes
The student is acquainted with fundamental concepts and methods in functional analysis and the theory of ordinary differential equations. He/She is able to relate these concepts with one another, and realises the advantages of thinking across the borders of different branches in mathematics.

Courses
(type, number of weekly contact hours, language — if other than German)
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Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)
oral examination of one candidate each (20 to 40 minutes)
Assessment will have reference to two topics in pure mathematics as agreed upon with the examiner. Each topic may only be selected as the subject of one examination in the sub-fields Gesamtüberblick (Overview).
Language of assessment: German and/or English

Allocation of places
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Additional information
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Referred to in LPO I
(examination regulations for teaching-degree programmes)
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Module appears in
Bachelor’ degree (1 major) Mathematics (2015)
Bachelor’ degree (1 major) Computational Mathematics (2015)