Module title			Abbreviation
Analysis			10-M-ANA-072-m01

Module coordinator	Module offered by
Dean of Studies Mathematik (Mathematics)	Institute of Mathematics

ECTS	Method of grading	Only after succ. compl. of module(s)
18	numerical grade	--

Duration	Module level	Other prerequisites
2 semester	undergraduate	By way of exception, additional prerequisites are listed in the section on assessments.

Contents

Real numbers and completeness, basic topological notions, convergence and divergence of sequences and series, power series, Taylor series, fundamental calculus in one and several variables (including inverse and implicit function theorem); fundamental integral calculus in one variable (Riemann integral and improper integrals).

Intended learning outcomes

The student knows and masters the essential methods and notions of analysis. He/She is able to perform easy mathematical arguments and present them adequately in written and oral form. He/She is acquainted with the central proof methods and concepts in analysis, their analytic background and geometric interpretation.

Courses (type, number of weekly contact hours, language — if other than German)

This module comprises 3 module components. Information on courses will be listed separately for each module component.

- 10-M-ANA-1-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ANA-2-072: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-ANA-P-072: M (no information on SWS (weekly contact hours) and course language available)

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-ANA-1-072: Analysis 1 Analysis 1

- 8 ECTS, Method of grading: (not) successfully completed
- a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended.

Assessment in module component 10-M-ANA-2-072: Analysis 2 Analysis 2

- 8 ECTS, Method of grading: (not) successfully completed
- a) written examination (approx. 90 minutes; usually chosen) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended; in addition, module component 10-M-ANA-1 is recommended for module component 10-M-ANA-2.

Assessment in module component 10-M-ANA-P-072: Examination in Analysis

- 2 ECTS, Method of grading: numerical grade
- oral examination of one candidate each (approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Only after successful completion of module components: 10-M-ANA-1 or 10-M-ANL-1 or 10-M-ANA-2 or 10-M-ANL-2
- Other prerequisites: Modules 10-M-VKM and 10-M-PPM are recommended.

Allocation of places
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Additional information
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Workload
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Teaching cycle
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Referred to in LPO I (examination regulations for teaching-degree programmes)
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Module appears in
Bachelor's degree (1 major) Mathematics (2007)