

Module title		Abbreviation
Analysis for students teaching at a German Gymnasium		10-M-ANL-092-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)
17	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. He/She is able to incorporate these concepts in his/her professional teaching.		
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. <ul style="list-style-type: none"> • 10-M-ANA-P-082: M (no information on SWS (weekly contact hours) and course language available) • 10-M-ANL-1-092: V + Ü (no information on SWS (weekly contact hours) and course language available) • 10-M-ANL-2-092: V + Ü (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-P-082: Examination in Analysis <ul style="list-style-type: none"> • 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: Successful completion of any one of the module components 10-M-ANA-1, 10-M-ANL-1, 10-M-ANA-2, 10-M-ANL-2 is a prerequisite for participation in module component 10-M-ANA-P. 		
Assessment in module component 10-M-ANL-1-092: Analysis 1 for students teaching at a German Gymnasium <p>Analysis 1 for students teaching at a German Gymnasium</p> <ul style="list-style-type: none"> • 6 ECTS, Method of grading: (not) successfully completed • written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes) • Language of assessment: German, English if agreed upon with the examiner • Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew. 		

Assessment in module component 10-M-ANL-2-092: Analysis 2 for students teaching at a German Gymnasium
Analysis 2 for students teaching at a German Gymnasium

- 9 ECTS, Method of grading: (not) successfully completed
- written examination (approx. 90 minutes); if announced by the lecturer, the written examination can be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups (groups of 2, approx. 30 minutes)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

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)

§ 73 (1) 1. Mathematik Analysis

Module appears in

First state examination for the teaching degree Gymnasium Mathematics (2009)