## Module description

Module title				Abbreviation	
Overview Higher Analysis for Teaching Degree (German Gymnasium) (Differen- tial Equations and Complex Analysis, or Advanced Analysis and Complex Ana- lysis)					
Module coordinator				Module offered by	
Dean of Studies Mathematik (Mathema			atics) Institute of Mathematics		
ECTS Method of grading		Only after succ. compl. of module(s)			
10	numerical grade				
Duration		Module level	Other prerequisites		
1 semester		undergraduate			
Contents					
Cauchy integral theorems, isolated singularities, meromorphic functions and Laurent series, residue theorem and applications, Weierstrass factorization theorem and Mittag-Leffler theorem, conformal maps) and either Advanced Analysis (advanced analysis in several variables, Lebesgue integration) or Ordinary Differential Equations (existence and uniqueness theorem, continuous dependance of solutions on initial data, systems of linear differential equations, matrix exponential series, higher order linear differential equations).					
Intended learning outcomes					
The student is acquainted with fundamental concepts and methods in complex analysis and a further topic in higher analysis (theory of ordinary differential equations or Lebesgue integration). 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)					
V (4) + U (2)					
<b>Method of assessment</b> (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) Language of assessment: German and/or English					
Allocation of places					
Additional information					
Workload					
300 h					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
Module appears in					
Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020) Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2025)					

JMU Würzburg • generated 18.04.2025 • Module data record 124633