

Module title		Abbreviation
Introduction to Advanced Mathematics		10-M-EHM-242-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)
10	(not) successfully completed	--
Duration	Module level	Other prerequisites
2 semester	undergraduate	--
Contents		
The lecture provides an introduction and in-depth study of higher mathematics and covers the following topics: Complex numbers, functions and their properties, limits and continuity of functions, differential calculus, systems of linear equations, vectors and matrices, eigenvalues and eigenvectors; differential calculus of several variables (especially applications as well as advanced topics); basics of probability theory		
Intended learning outcomes		
Students develop a basic understanding of higher mathematics and can deepen their knowledge based on this understanding in the second part of the course. They are able to apply their theoretical knowledge and the methods they have learned to different contexts.		
Courses (type, number of weekly contact hours, language – if other than German)		
V (4) + Ü (2) Module taught in: German and/or English		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
a) written examination (60 to 120 minutes) or b) oral examination of one candidate each or in groups of up to 2 candidates (15 to 30 minutes per candidate) or c) project work (e. g. written solutions and corresponding explanations, 10 to 15 pages total) Language of assessment: German and/or English creditable for bonus		
Allocation of places		
--		
Additional information		
--		
Workload		
300 h		
Teaching cycle		
Teaching cycle: once a year, winter semester + summer semester		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
--		
Module appears in		
Bachelor's degree (2 majors) Digital Humanities (2024) Bachelor's degree (1 major, 1 minor) Digital Humanities (2024)		
JMU Würzburg • generated 18.04.2025 • Module data record 142251		