

Module title		Abbreviation
Overview Numerical Mathematics 1 and Stochastics 1		10-M-NUST-Ü-152-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)
12	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Solution of systems of linear equations and curve fitting problems, nonlinear equations and systems of equations, interpolation with polynomials, splines and trigonometric functions, numerical integration; combinatorics, Laplace models, selected discrete distributions, elementary measure and integration theory, continuous distributions: normal distribution, random variable, distribution function, product measures and stochastic independence, elementary conditional probability, characteristics of distributions: expected value and variance, limit theorems: law of large numbers, central limit theorem.		
Intended learning outcomes		
The student is acquainted with fundamental concepts and methods in numerical mathematics and stochastics. 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) + Ü (2)		
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 applied 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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Workload		
360 h		
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' degree (1 major) Mathematics (2015) Bachelor' degree (1 major) Mathematics (2023)		