

Module title		Abbreviation
Overview Applied Mathematics		10-M-ANW-Ü-131-mo1
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		
<p>Two of the following topics in applied mathematics:</p> <p>Numerical Mathematics 1 (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)</p> <p>Numerical Mathematics 2 (Solution methods and applications for eigenvalue problems, linear programming, initial value problems for ordinary differential equations, boundary value problems)</p> <p>Stochastics 1 (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)</p> <p>Stochastics 2 (Elements of data analysis, statistics of data in normal and other distributions, elements of multivariate statistics)</p>		
Intended learning outcomes		
<p>The student knows and masters the fundamental methods and notions of some field in applied mathematics. He/She is acquainted with the central concepts and algorithms in this field, can apply them independently and knows about the possibilities and limitations of their applicability.</p>		
Courses (type, number of weekly contact hours, language – if other than German)		
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)		
<p>oral examination of one candidate each (approx. 30 minutes); assessment will have reference to the sub-field dealt with in module 10-M-ANW-G as well as an additional sub-field of applied mathematics as selected by the candidate</p> <p>Language of assessment: German, English</p>		
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' degree (1 major) Mathematics (2014)		