

Module title		Abbreviation
Linear Algebra 2 for Teaching Degree (German Gymnasium)		10-M-LNL2-152-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)
8	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Eigenvalue theory, bilinear forms, Euclidean and unitary vector spaces, diagonalisability and Jordan normal form; elementary divisibility properties, prime numbers and factorisation, modular arithmetics, prime number tests and methods for factorisation, structure of residue class rings, theory of quadratic remainders, quadratic forms, diophantine approximation and diophantine equations.		
Intended learning outcomes		
The student knows and masters the basic notions and essential methods of linear algebra and number theory. He/She is acquainted with the central proof methods in linear algebra and number theory, and can apply them to solve easy problems. He/She is able to perform simple mathematical arguments independently, and can present them adequately in written form.		
Courses (type, number of weekly contact hours, language – if other than German)		
V (4) + Ü (2) + V (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)		
written examination (approx. 90 to 180 minutes) and written exercises (approx. 10 exercise sheets with approx. 4 exercises each) Language of assessment: German and/or English		
Allocation of places		
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Additional information		
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Workload		
240 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 73 I Nr. 2		
Module appears in		
First state examination for the teaching degree Gymnasium Mathematics (2015)		