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)

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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)