### Module title
Linear Algebra 2 for Teaching Degree (German Gymnasium)

### Abbreviation
10-M-LNL2-152-m01

### Module coordinator
Dean of Studies Mathematik (Mathematics)

### Module offered by
Institute of Mathematics

### ECTS
8

### Method of grading
Only after succ. compl. of module(s)

### Duration
1 semester

### Module level
undergraduate

### Other prerequisites
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### 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
(V (4) + Ü (2) + V (2))

### Method of assessment
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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### Referred to in LPO I
(examination regulations for teaching-degree programmes)

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### Module appears in
First state examination for the teaching degree Gymnasium Mathematics (2015)