## Module title

**Lineare Algebra 2 for Mathematical Physics**

### Abbreviation

10-M-LNAP2-202-m01

## Module coordinator

Dean of Studies Mathematik (Mathematics)

## Module offered by

Institute of Mathematics

## ECTS

5

### 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: characteristic polynomial, Caley-Hamilton theorem, minimal polynomial, invariant subspaces, diagonalisability, nilpotent maps, Jordan normal form; Euclidean/unitary spaces: scalar product, orthonormal bases, orthogonal complement, orthonormal/unitary matrices, selfadjoint and normal matrices, positive definit matrices.

## Intended learning outcomes

The student knows and masters the basic notions and essential methods of linear algebra. He/She is acquainted with the central proof methods in linear algebra 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

**Ü (2)**

## Method of assessment

**written examination** (approx. 90 to 180 minutes) and **written exercises** (approx. 12 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 1

(examination regulations for teaching-degree programmes)

## Module appears in

Bachelor' degree (1 major) Mathematical Physics (2020)

JMU Würzburg • generated 23.08.2021 • Module data record 110515