Module description

Module title
Introduction into mathematical thinking and working

Abbreviation
10-M-MDA-122-m01

Module coordinator
Dean of Studies Mathematik (Mathematics)

Module offered by
Institute of Mathematics

ECTS
4

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

Duration
1 semester

Module level
undergraduate

Other prerequisites
By way of exception, additional prerequisites are listed in the section on assessments.

Contents

Logical foundations of mathematical proofs, in particular axiomatic and deduction; basic concepts in mathematics, e.g. sets and functions; basic techniques and methods for proving; mathematical writing.

Intended learning outcomes

The student is acquainted with the basic proof methods and techniques in mathematics. He/She is able to perform easy mathematical arguments independently and present them adequately and reasonably in written and oral form.

Courses

This module comprises 2 module components. Information on courses will be listed separately for each module component.

- 10-M-MDA-1-122: V + Ü (no information on SWS (weekly contact hours) and course language available)
- 10-M-MDA-2-122: V + Ü (no information on SWS (weekly contact hours) and course language available)

Method of assessment

Assessment in this module comprises the assessments in the individual module components as specified below. Unless stated otherwise, successful completion of the module will require successful completion of all individual assessments.

Assessment in module component 10-M-MDA-1-122: Basic Notions and Methods of Mathematical Reasoning

- 2 ECTS, Method of grading: (not) successfully completed
- project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.

Assessment in module component 10-M-MDA-2-122: Reasoning and Writing in Mathematics

- 2 ECTS, Method of grading: (not) successfully completed
- project assignments (type and expenditure of time to be specified by the lecturer at the beginning of the course)
- Language of assessment: German, English if agreed upon with the examiner
- Other prerequisites: Certain prerequisites must be met to qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the course. Registration for the course will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment over the course of the semester, the lecturer will put their registration for assessment into effect. Students who meet all prerequisites will be admitted to assessment in the current or in the subsequent semester. For assessment at a later date, students will have to obtain the qualification for admission to assessment anew.
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### 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

| Bachelor’ degree (1 major) Mathematics (2012) |
| Bachelor’ degree (1 major) Mathematics (2013) |
| Bachelor’ degree (1 major) Economathematics (2012) |
| Bachelor’ degree (1 major) Mathematical Physics (2012) |
| Bachelor’ degree (1 major) Computational Mathematics (2012) |
| Bachelor’ degree (1 major) Computational Mathematics (2013) |
| First state examination for the teaching degree Gymnasium Mathematics (2012) |