# Module description

## Module title
Selected Topics in Financial Mathematics

## Abbreviation
10-M=VFNM-161-m01

## Module coordinator
Dean of Studies Mathematik (Mathematics)

## Module offered by
Institute of Mathematics

## ECTS
10

## Method of grading
Numerical grade

## Only after succ. compl. of module(s)
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## Duration
1 semester

## Module level
Graduate

## Other prerequisites
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### Contents

Selected topics in financial mathematics, e.g. conditional expectation and martingales, fundamental theorem of asset pricing in discrete time for finite spaces, American put, Snell envelope, stopping time, optimal stopping, stochastic integration, stochastic differential equations and Ito calculus, Black-Merton-Scholes model.

### Intended learning outcomes

The student is acquainted with advanced results in financial mathematics. He/She gains the ability to work on contemporary research questions in financial mathematics and can apply his/her skills to complex problems.

### Courses

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<tr>
<th>Type</th>
<th>Number of weekly contact hours</th>
<th>Language — if other than German</th>
<th>Module taught in: German and/or English</th>
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<td>German and/or English</td>
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### Method of assessment

- a) written examination (approx. 90 to 120 minutes, usually chosen) or
- b) oral examination of one candidate each (approx. 20 minutes) or
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Assessment offered: In the semester in which the course is offered and in the subsequent semester

Language of assessment: German 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

- Master’s degree (1 major) Mathematics (2016)
- Master’s degree (1 major) Economathematics (2016)
- Master’s degree (1 major) Computational Mathematics (2016)
- Master’s teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
- Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
- Master’s degree (1 major) Computational Mathematics (2019)
- Master’s degree (1 major) Mathematics (2019)