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): --

Duration: 1 semester
Module level: graduate
Other prerequisites: --

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:
V (4) + Ü (2)
Module taught in: German and/or English

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
creditable for bonus:

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)
Master’s teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2020)
Master’s degree (1 major) Economathematics (2021)