Module title			Abbreviation
Advanced Topics in Mathematics of Machine Learning			10-M=VMML-252-m01

Module coordinator	Module offered by
Dean of Studies Mathematik (Mathematics)	Institute of Mathematics

ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--

Duration	Module level	Other prerequisites
1 semester	graduate	--

Contents

In-depth mathematical treatment of a special topic in the field of machine learning, taking into account current developments and cross-connections to other mathematical concepts.

Recommended previous knowledge:
Depending on the content, basic and advanced knowledge from different areas of applied mathematics is required. In case of doubt, consultation with the lecturer is recommended.

Intended learning outcomes

Students have in-depth knowledge of a selected sub-area of machine learning and are able to apply this knowledge to complex problems.

Courses (type, number of weekly contact hours, language — if other than German)

V (3) + Ü (1)
Module taught in: German and/or English

Method of assessment (type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

a) written examination (approx. 60 to 90 minutes, usually chosen) or
b) oral examination of one candidate each (approx. 15 minutes) or
c) oral examination in groups (groups of 2, 10 minutes per candidate)
Language of assessment: German or English
Assessment offered: In the semester in which the course is offered and in the subsequent semester creditable for bonus

Allocation of places

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Additional information

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Workload

150 h

Teaching cycle

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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) Mathematics (2019)
Master's degree (1 major) Mathematics (2022)
Exchange Program Mathematics (2023)
Master's degree (1 major) Mathematics (2024)
Master's degree (1 major) Mathematical Data Science (2025)
Master's degree (1 major) Economathematics (2025)

Master's degree (1 major) Economathematics (2026)