Module title			Abbreviation
Mathematics for Artificial Intelligence and Data Science 3			10-M-KIDS3-222-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	undergraduate	--	

Contents

Histogram, band width selection, boxplot, kernel estimation, stochastic models and calibration, correlation, orthogonality, matrix calculus, matrix factorisation, tensors, least squares, singular value decomposition, classification, approximation and dimension reduction

Intended learning outcomes

The student is acquainted with the fundamental methods and concepts of data science and can apply them to practical problems.

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

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

written examination (approx. 60 to 120 minutes).
If announced by the lecturer at the beginning of the course, the written examination may be replaced by an oral examination of one candidate each (approx. 20 minutes) or an oral examination in groups of 2 candidates (approx. 15 minutes per candidate).
Language of assessment: German and/or English
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

Bachelor's degree (1 major) Artificial Intelligence and Data Science (2022)
Exchange Program Mathematics (2023)
Bachelor's degree (1 major) Artificial Intelligence and Data Science (2023)
Bachelor's degree (1 major) Artificial Intelligence and Data Science (2024)