

Module title		Abbreviation
Advanced Topics in Data Science		12-M-ATDS-211-mo1
Module coordinator		Module offered by
Holder of the Chair of Business Analytics		Faculty of Business Management and Economics
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
<p>In this course, students work on advanced data science projects. The course covers the entire data science workflow from data collection to data preparation to modeling, evaluation and deployment. By following a top-down teaching approach, students are enabled to apply complex machine learning models from the beginning.</p>		
Intended learning outcomes		
<p>As part of the course work, students will acquire knowledge and skills in the following areas:</p> <ol style="list-style-type: none"> 1. Becoming familiar with the principles and frameworks in the research area of Data Science. 2. Apply machine learning and deep learning frameworks to structured and unstructured data 3. Design, implementation and evaluation of key algorithms within an end-to-end workflow in the field of Data Science 4. Application of Jupyter notebooks and their infrastructure (collection, storage, retrieval, and analysis of data) 5. Understanding of a data-driven & analytical approach to decision problems 		
Courses (type, number of weekly contact hours, language – if other than German)		
V (2) + Ü (2) Module taught in: 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)		
<p>a) written examination (approx. 60 minutes) or b) term paper (approx. 15 pages) Language of assessment: German and/or English Assessment offered: Only when announced in the semester in which the courses are offered creditable for bonus</p>		
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		
<p>Master's degree (1 major) Management (2018) Master's degree (1 major) International Economic Policy (2018) Master's degree (1 major) Information Systems (2019) Master's degree (1 major) China Business and Economics (2021) Master's degree (1 major) China Language and Economy (2021) exchange program Business Management and Economics (2022)</p>		

