UNIVERSITÄT WÜRZBURG
Julius-Maximilians-

Module title	Abbreviation
Practical Data Science	12-M-ATDS-252-m01

Module coordinator	Module offered by
holder of the Chair of Business Informatics and AI for Enterprise	Faculty of 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

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.

Intended learning outcomes

As part of the course work, students will acquire knowledge and skills in the following areas:
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)

a) written examination (approx. 60 minutes) or
b) term paper (approx. 15 pages) or
c) portfolio (approx. 50 hours)
Language of assessment: English
Assessment offered: In the semester in which the course is offered
creditable for bonus

Allocation of places

Number of places: 35.
WA:
Should the number of applications exceed the number of available places, places will be allocated as follows:
(1) Students who already have successfully completed courses offered by the supervising chair will be given preferential consideration.
a. Among applicants with the same number of successfully completed modules, places will be allocated according to the total number of ECTS credits achieved in the corresponding modules.
b. When places are allocated in accordance with b) and the number of applications exceeds the number of available places, places will be allocated according to the average grade of assessments taken in the corresponding courses.
c. Among applicants with the same average grade, places will be allocated by lot.
(2) Any remaining places are available to students who have not yet successfully completed any courses of the supervising chair. The selection is made according to study progress (number of semesters); among applicants with the same number of semesters, places will be allocated by lot. A waiting list will be maintained and places re-allocated as they become available.

Additional information

--

Workload
150 h
Teaching cycle
Teaching cycle: no courses offered
Referred to in LPO I (examination regulations for teaching-degree programmes)
--
Module appears in
Master's degree (1 major) Information Systems (2025)
Master's degree (1 major) International Economic Policy (2025)
Master's degree (1 major) Management (2025)
Master's degree (1 major) Management International (2025)
Master's degree (1 major) China Business and Economics (2025)
Master's degree (1 major) Economathematics (2025)