| Module title | Abbreviation |
|---|---|
| **Applied Data Analysis and Machine Learning** | 12-M-TDS-242-m01 |

| 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**

Data science is concerned with extracting knowledge and valuable insights from data assets. It is an emerging field that is currently in high demand in both academia and industry. This course provides a practical introduction to the full spectrum of data science techniques spanning data acquisition and processing, data visualization and presentation, creation and evaluation of machine learning models.

The course focuses on the practical aspects of data science, with emphasis on the implementation and use of the above techniques. Students will complete programming homework assignments that emphasize practical understanding of the methods described in the course.

**Intended learning outcomes**

Topics covered include:
- Data acquisition and processing
- graph and network models
- text analysis
- working with geospatial data
- Usage of machine learning models (supervised and unsupervised)

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

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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)
Language of assessment: English
Assessment offered: In the semester in which the course is offered
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) Management International (2024)
Master's degree (1 major) Management (2024)

Master's degree (1 major) Information Systems (2024)
Master's degree (1 major) International Economic Policy (2024)
Master's degree (1 major) Economathematics (2024)