

COURSE DETAIL

DATA SCIENCE TOOLBOX

Country

Germany

Host Institution

Technical University Berlin

Program(s)

Technical University Berlin

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

151

UCEAP Course Suffix**UCEAP Official Title**

DATA SCIENCE TOOLBOX

UCEAP Transcript Title

DATA SCIENCE TOOLS

UCEAP Quarter Units

5.50

UCEAP Semester Units

3.70

Course Description

This course provides participants with a toolbox of skills and methods that cover the entire data lifecycle. This includes approaches ranging from data collection (e.g., web crawling, experimental design), to analysis (data handling, statistical tests, regression models), and finally to visualization. Fundamental and applied questions of statistics are addressed, along with practical skills in programming languages, such as Java and R. The course content is supplemented and practiced through case studies and real-world data examples. In addition, the lectures are enriched by guest contributions from industry partners. By the end of the course, participants are able to independently carry out data-driven projects-from conception to the interpretation and presentation of insights. The aim is to provide a fundamental understanding of data-driven projects and questions, as well as practical skills and methods. Among other things, the following aspects are covered: surveys and experiments: design, implementation, evaluation; web Crawling 101: making online data usable; data visualization, filtering and clustering data, data cleaning and preprocessing, Machine Learning 101, statistical tests and linear regression models.

Language(s) of Instruction

English

Host Institution Course Number

3733 L 9811,3733 L 9815

Host Institution Course Title

DATA SCIENCE TOOLBOX

Host Institution Course Details

<https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschre...>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Institut für Technologie und Management

Course Last Reviewed

2025-2026

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