B.Sc. Course
Softwarekurs angewandte Statistik (Software course on applied statistics)
Course number 22 976

Tutorial	Alicia Billand, M.Sc.
Course Objectives	The course teaches theoretical basics of the programming language "Python" along the contents of the courses "Statistics 1/2 for business, economics, and management information systems". Case studies demonstrate the wide range of applications and strengthen the understanding. The acquired knowledge and skills allow the implementation and development of statistical methods in the context of descriptive and inferential statistics.

In the winter term, the topics covered in the course include:
- Installation
- Operators
- Data types and structures
- Modules (*NumPy*, *pandas*)
- Graphics (*matplotlib*)
- Functions
- Loops and conditions
- Random numbers and simulation

In the summer term, the topics covered in the course include:
- Parameter estimation
- Confidence intervals
- Test theory
- Hypothesis testing
- Linear regression

Primary Learning Outcomes	The students acquire basic skills necessary to analyze data through computation and visualization, and explain concepts of probability theory using Monte-Carlo simulation. The students further extend their programming skills by implementing and simulating concepts of inductive statistics, and performing simple linear regression analyses.
Language	German
Prerequisites	Statistics 1 for business, economics, and management information systems Statistics 2 for business, economics, and management information systems
Frequency	In parallel to the above listed courses
Recommended Semester	1 resp. 2 (Bachelor)
Last updated	March 14, 2024