

Public Management Bachelor Programme

Module	20 – Statistics		
Semester	2 nd semester (summer semester)		
Courses	a) Statistics (L) DE b) Statistics – Exercise (E) DE		
Workload	4 SPW	5 credits	150 workload hours (45 attendance hours, 105 self-study hours)
Admission prerequisites	–		
Module coordinator	Prof. Dr. Marcus Schäfer		

1. Learning outcomes

Students will be able to critically interpret statistics and make simple evaluations independently. They will be familiar with standard problems related to data acquisition and data collection. They will be able to work with graphical forms of representation and apply the most common methods of reducing information content from a large amount of data to a few specific key values. They will be able to conduct regression and correlation analyses. Students will understand the concept of probability and will be able to calculate probabilities using combinatorics and for selected discrete and continuous probability distributions. They will know how to use spreadsheet software (Excel) to solve statistical problems.

2. Recommended prior knowledge and skills

General knowledge of mathematics (A-level equivalent in mathematics) preparatory course B1

3. Contents

- Function of statistics, how this can be incorporated into the sciences
- Basic concepts (data collection, population, sample, etc.)
- Frequencies and classification
- Location, dispersion and concentration
- Regression and correlation analysis
- Events and probabilities
- Combinatorics
- Selected discrete and continuous probability distributions and their application

4. Modes of teaching and learning, workload

Lecture (22.5 hrs); practical exercises in the PC lab (22.5 hrs); preparation and revision of lectures (45 hrs); sample questions and test exam (30 hrs), discussion of sample questions and test exam answers during the practical exercises; exam preparation (30 hrs).

5. Type of examination

Written exam (120 minutes)

6. Literature

SCHIRA, Josef: *Statistische Methoden der VWL und BWL: Theorie und Praxis*, 4. Auflage, München 2012; BORTZ, Jürgen; SCHUSTER, Christof: *Statistik für Human- und Sozialwissenschaftler*, 7. Auflage, Heidelberg 2010.

The course coordinator will hand out a script for the module.