Otto-Friedrich-Universität Bamberg
Lehrstuhl für Statistik und Ökonometrie
Prof. Dr. Timo Schmid

Statistical Methods I (Methoden der Statistik I)

Organization:

Course type:	Lecture + Exercise
Semester hours per week:	3 + 2
Prerequisites:	-
Turn:	Every turn (summer term + winter term)
Exam type:	Exam (90 min)
ECTS:	6 (variations possible)

Learning objectives:

The students of "Statistical Methods I" will learn the basic principles of descriptive statistics. They will be enabled to distinguish between different data types and to analyze them with a statistical software (R-Studio). For these purposes, the students will familiarize themselves with the basic methods of analysis regarding location, dispersion, and correlation of variables. In addition, they will also learn the fundamental rules and principles of probability theory.

Course description:

The course "Statistics I" is divided into two parts. The first part deals with descriptive statistics of one- and two-dimensional empirical distributions. It focuses on procedures which are helpful for the visualization and preparation of data. This helps students understand meaningful measures for the characterization of data, such as location parameters, measures of statistical dispersion, and correlation coefficients.

The second part of the course focuses on the principles of probability theory. Students will learn basic concepts of random processes and random variables. Furthermore, the course introduces important discrete probability distributions.

Content overview:

1. Introduction and motivation
2. One-dimensional empirical distributions
3. Two-dimensional empirical distributions
4. Basic principles of the probability theory
5. Random variables
6. Discrete probability distributions