

| | | | |
|--|--|---------------------------|--|
| Module number | Module title Statistics | | |
| Code STS | Semester Summer Semester | Number of WSH 4 | Module offered Summer Semester |
| Module coordinator Prof. Dr. Weiß | Tuition type Seminar-style tuition | | Module duration 1 Semester |
| Lecturer Prof. Dr. Weiß | Compulsory/Elective Elective | | Module language English |
| Access requirements Elementary mathematics as taught in high school | | | |
| Learning outcomes The qualification goals mentioned below are subdivided into three dimensions. Each dimension corresponds to a target competence level. The following competence levels have been defined: <ul style="list-style-type: none"> • Competence level 1 (awareness): cursory awareness of simple structures, only previously learned knowledge is tested • Competence level 2 (comprehension): basic understanding of multiple structures up to deeper understanding of the relations between structures, learned knowledge is analysed, combined and applied • Competence level 3 (deep understanding and application): deeper understanding of the relations between structures up to independent transfer and extension of knowledge to new structures, learned knowledge is critically questioned and/or evaluated, interrelations between structures and their consequences are reflected and explained The competence level of the respective qualification goal is represented by the corresponding number (1, 2 or 3) in the competence descriptions below. On completing the module the students will have achieved the following learning outcomes on the basis of scientific methods: <p><u>Subject skills</u></p> The students are able to plan and conduct descriptive analyses independently, choose appropriate methods and critically interpret the results (2). Their knowledge of probability enables the students to recognize problems of risk and uncertainty and model them quantitatively and solve these problems (2). The students can draw statistical inference from characteristics of samples on the characteristics of the underlying population (3). Among these characteristics are notably relations whose size and significance they can estimate (3). <p><u>Method skills</u></p> The students are able to handle the statistical tools in a methodologically competent way (3). They are capable of applying their analytic skills (2). <p><u>Social skills</u></p> The students are enabled to acquire knowledge via discussions and self-study (2). <p><u>Personal skills</u></p> The students are able to apply problem-solving techniques and can critically assess the results of statistical analyses (2). | | | |

| | | |
|--|--|---|
| Content | | |
| <ul style="list-style-type: none"> • The course teaches students basic concepts in applied statistics. • Data sources/types of data • Data illustration • Frequency distribution • Correlation analysis • Calculus of probability • Regression analysis, significance tests | | |
| Literature | | |
| <u>Required reading</u> | | |
| Reading materials will be provided in the course | | |
| <u>Recommended reading</u> | | |
| Additional readings will be recommended in the course | | |
| Teaching and learning methods | | |
| Seminar-style tuition with discussion | | |
| Presentation by lecturer using PowerPoint, Excel, blackboard, current newspaper articles | | |
| Type of examination/Requirements for the award of credit points | Exam | |
| Other information | Max. number of participants: 20 Lecture Times: Will be released in the schedule. | |
| ECTS-Credits 5 | Workload 150 hours Contact/attendance time: 60 h Additional work: 90 h | Weighting of the grade in the overall grade 5 |