

Module: Statistics and Quality Assurance

Level	Master	Short Name	SQ
Responsible Lecturers	Wang, Wen-Huan, Prof. Dr.-Ing.		
Department, Facility	Applied Natural Sciences		
Course of Studies	Regulatory Affairs, Master		
Compulsory/elective	Compulsory	ECTS Credit Points	5
Semester of Studies	2	Semester Hours per Week	4
Length (semesters)	1	Workload (hours)	150
Frequency	SuSe	Presence Hours	
Teaching Language	English	Self-Study Hours	150

The following section is filled only if there is **exactly one** module-concluding exam.

Exam Type	Portfolio Exam	Exam Language	English
Exam Length (minutes)		Exam Grading System	One-third Grades
Learning Outcomes	1. Students can explain the utility of statistics in everyday life and in quality assurance. 2. They can apply statistical concepts. 3. For quality-related tasks (e.g., reducing production defect rates, increasing product lifespan), they can assess the suitability of statistical methods for solving the problem. 4. They can explain the underlying mechanisms of statistical methods. 5. They can independently analyze quality-related tasks using statistical methods. 6. They can develop solution approaches for quality-related tasks using statistical methods.		
Participation Prerequisites			

The previous section is filled only if there is **exactly one** module-concluding exam.

Consideration of Gender and Diversity Issues	✓ Use of gender-neutral language (THL standard) ✓ Target group specific adjustment of didactic methods ✓ Making subject diversity visible (female researchers, cultures etc.)
Applicability	
Remarks	

Module Course: Statistics and Quality Assurance

(of Module: Statistics and Quality Assurance)

Course Type	Online Course	Form of Learning	Online supported
Mandatory Attendance	no	ECTS Credit Points	5
Participation Limit		Semester Hours per Week	4
Group Size		Workload (hours)	150
Teaching Language	English	Presence Hours	0
Study Achievements ("Studienleistung", SL)		Self-Study Hours	150
SL Length (minutes)		SL Grading System	

The following section is filled only if there is a course-specific exam.

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

The previous section is filled only if there is a course-specific exam.

Contents	1 Statistics – Why and How? 2 Basic Concepts of Statistics and Data Collection 3 One-Dimensional Frequency Distributions 4 Measures of Location 5 Measures of Dispersion 6 Measures of Concentration 7 Ratios 8 Two-Dimensional Frequency Distributions and Measures 9 Regression Analysis 10 Time Series Analysis
Literature	Online Script
Remarks	