Valid from 2025.FS

Module description: Statistics

Module Code	w.BA.XX.3Stat-FLEX.XX
ECTS Credits	6
Language of Instruction/Examination	German
Module Description	Students understand the fundamental concepts of descriptive and inferential statistics to summarize and analyze data and apply the methods in practical business contexts.
Organizational Unit	Institut für Wealth & Asset Management
Module Coordinator	Oliver Bachmann
Deputy Module Coordinator	Armin Bänziger-Aiba
Program and Specialization	• Business Administration - Specialization in Banking and Finance (FLEX) • Business Administration - Specialization in General Management (Flex)
Legal Framework	Academic Regulations BSc dated 29.01.2009, for the degree programs in Business Administration, International Management, Business Information Technology, Business Law, Business Law and Applied Law, first adopted on 12.05.2009
Module Category	**Module Type** Compulsory **Program Phase** Main Study Period
Prerequisite Knowledge	w.BA.XX.2Mathe1.XX, w.BA.XX.2Mathe2.XX
Contribution to Program Learning Objectives (by the concerned Module)	• Professional Competence • Methodological Competence • Social Competence • Self-Competence
Contribution to Program Learning Objectives	**Professional Competence** • Knowing and Understanding Content of Theoretical and Practical Relevance • Apply, Analyze, and Synthesize Content of Theoretical and Practical Relevance • Evaluate Content of Theoretical and Practical Relevance **Methodological Competence** • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation **Social Competence** • Oral Communication • Teamwork & Conflict Management • Intercultural Insight & Ability to Change Perspective **Self-Competence** • Self-Management & Self-Reflection • Ethical & Social Responsibility • Learning & Change

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Module Learning Objectives

Students...
- understand the concept of numerical measures to describe data.
- explain central concepts of probability theory.
- understand the importance of confidence intervals and hypothesis testing.
- describe the linear relationship of two variables.
- represent data in appropriate charts.
- calculate key figures of empirical and theoretical distributions.
- determine probabilities of elementary random events.
- apply probability distributions on a case-by-case basis.
- construct confidence intervals for the population mean.
- test hypotheses concerning a population mean.
- analyze data using statistical analysis.
- evaluate hypotheses with sample data.
- interpret results of simple linear regressions.
- learn to use the statistical software gretl autonomously.
- solve the applied exercises of the textbook on their own.

Module Content

- Processing and presentation of data
- Statistical measured values: location and dispersion measures
- Probability calculation (incl. elementary combinatorial analysis)
- Discrete probability distributions (esp. binomial distribution)
- Continuous probability distributions (esp. uniform and normal distribution, normal approximation of discrete distributions)
- Distribution of random sample statistics
- Estimation procedure (point and interval estimation, esp. for mean values)
- Hypothesis tests (esp. with regard to the mean value of the basic population)
- Relationships between variables: cross tabulation and dispersion diagrams, covariance and correlation, linear regression models with an independent variable

Links to other modules

This module is linked to the following modules:
- w.BA.XX.2Mathe2-flex.XX
- w.BA.XX.2Mathe1-flex.XX

Digital Learning Resources

- Teaching Videos
- Multiple Choice Tests

Methods of Instruction

- Application Tasks
- Exercises
- Literature Review
- Lecture
- Interactive Instruction
- Problem-Oriented Teaching

Social Settings Used:
- Individual Work

Type of Instruction

	Classroom Instruction	Guided Self-Study	Autonomous Self-Study
Large Class	24 h	88 h	
Small Class	-	-	
Group Instruction	-	-	
Practical Work	-	-	
Seminar	-	-	
Total	**24 h**	**88 h**	**68 h**

Module description: Statistics

Performance Assessment

End-of-module exam	Form	Length (min.)	Weighting
Written exam	Specified documentation	60	100.00
Permitted Resources	Spec. calculator acc. to leaflet "Utilities"	With dictionary	

Others	Assessment	Format	Length (min.)	Weighting
-	-	-	-	-

Classroom Attendance Requirement

None

Compulsory Reading

- Newbold, P., Carson, W. & Thorne, B. (2019). Statistics for Business and Economics (Global Edition). 9th edition. Upper Saddle River, NJ: Pearson Prentice Hall. ISBN 978-1292315034.
- Bachmann, O., Bänziger, A., Gramespacher, T., Hilber, N. & Rentzmann, S. (2014). Übungsband zur angewandten Statistik: Mit einer Einführung in die Ökonometrie-Software gretl. 2nd edition. Zürich: Compendio. ISBN 978-3-7155-9924-3.

Recommended Reading

Comments