

Valid from 2025.HS

Module description: Quantitative Analysis in Business		
Module Code	w.BA.XX.QAB-IM.25HS	
ECTS Credits	6	
Language of Instruction/Examination	English	
Module Description	The primary aims of this module are to ensure that students acquire a thorough introduction to the theory and practice of business mathematics and applied statistics as it is used in business decision-making. Students acquire an advanced understanding of the collection and summary of data and the presentation of information in a manner suited to a business environment. Students understand and apply quantitative techniques used in business decision-making.	
Organizational Unit	Institut für Risk & Insurance	
Module Coordinator	Jürg Portmann	
Deputy Module Coordinator	Johannes Gerd Becker	
Program and Specialization	<ul style="list-style-type: none"> • International Management 	
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 First Year-Studies
Prerequisite Knowledge		
Contribution to Program Learning Objectives (by the concerned Module)	<ul style="list-style-type: none"> • Professional Competence • Methodological Competence • Social Competence • Self-Competence 	
Contribution to Program Learning Objectives	<p>Professional Competence</p> <ul style="list-style-type: none"> • 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 <p>Methodological Competence</p> <ul style="list-style-type: none"> • Problem-Solving & Critical Thinking • Scientific Methodology • Work Methods, Techniques, and Procedures • Information Literacy • Creativity & Innovation <p>Social Competence</p> <ul style="list-style-type: none"> • Written Communication • Oral Communication • Teamwork & Conflict Management <p>Self-Competence</p> <ul style="list-style-type: none"> • Self-Management & Self-Reflection • Learning & Change 	

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Module Learning Objectives	Students... <ul style="list-style-type: none">• explain why quantitative methods are useful for management.• understand the use of models.• name the most common quantitative methods used in business.• use appropriate methods in the quantitative analysis of business problems.• collect, summarize, and present data.• solve common quantitative business problems.• apply basic inferential statistics in a business context.• manage common quantitative business problems and make decisions in situations of uncertainty.• base their judgment on appropriate quantitative analysis.• apply quantitative reasoning competently.• use the relevant vocabulary appropriately.• appreciate the increasing importance of quantitative methods and develop a willingness to deepen their understanding of quantitative methods.																															
Module Content	<ul style="list-style-type: none">• Basic concepts and theories of algebra, differential calculus, and financial mathematics in a business context• Descriptive statistics (frequency distributions as well as measures of location and spread)• Visual modeling of business problems• Basic financial mathematical concepts (present value, future value, annuities, and perpetuities)• Simple regression and curve fitting - forecasting• Basic probability theory and probability distributions• Sampling distributions, confidence intervals, and hypotheses testing• Solving business problems (e.g., a mathematical approach to the management of decisions, quality, inventory, projects, and queues, etc.)																															
Links to other modules	This module is linked to the following modules:																															
Digital Learning Resources	<ul style="list-style-type: none">• Teaching Videos• Practice and Application Exercises (with Key)• Multiple Choice Tests																															
Methods of Instruction	<ul style="list-style-type: none">• Exercises• Interactive Instruction• Lecture		Social Settings Used: <ul style="list-style-type: none">• Pair Work• Individual Work																													
Type of Instruction	<table><tr><th></th><th>Classroom Instruction</th><th>Guided Self-Study</th><th>Autonomous Self-Study</th></tr><tr><td>Large Class</td><td>56 h</td><td>44 h</td><td></td></tr><tr><td>Small Class</td><td>-</td><td>-</td><td></td></tr><tr><td>Group Instruction</td><td>-</td><td>-</td><td></td></tr><tr><td>Practical Work</td><td>-</td><td>-</td><td></td></tr><tr><td>Seminar</td><td>-</td><td>-</td><td></td></tr><tr><td>Total</td><td>56 h</td><td>44 h</td><td>80 h</td></tr></table>					Classroom Instruction	Guided Self-Study	Autonomous Self-Study	Large Class	56 h	44 h		Small Class	-	-		Group Instruction	-	-		Practical Work	-	-		Seminar	-	-		Total	56 h	44 h	80 h
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Performance Assessment	End-of-module exam		Form	Length (min.)	Weighting
	Written exam		Specified documentation	90	90.00
	Permitted Resources		Spec. calculator acc. to leaflet "Utilities"	With dictionary	
	Others		Assessment	Format	Length (min.)
	Online performance assessments		Grade	Einzelarbeit	30
Classroom Attendance Requirement	<p>None</p> <p>There is no physical attendance requirement.</p>				
Compulsory Reading	<ul style="list-style-type: none"> Waters, D. (2011). Quantitative Methods for Business. 5th edition. Financial Times Press. ISBN 9780273739470. 				
Recommended Reading					
Comments					