Syllabus

Course Description

Course Title	Applied and Advanced Quantitative Analysis in Management
Course Code	29078
Course Title Additional	
Scientific-Disciplinary Sector	NN
Language	English
Degree Course	PhD Programme in Management
Other Degree Courses (Loaned)	
Lecturers	Prof. Dr. Christoph Stöckmann, Christoph.Stoeckmann@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/47446 Prof. Dr. Thomas Maran, Thomas.Maran@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/44429
Teaching Assistant	
Semester	Second semester
Course Year/s	1
CP	6
Teaching Hours	36
Lab Hours	0
Individual Study Hours	-
Planned Office Hours	
Contents Summary	Applied and Advanced Quantitative Analysis in Management is a course designed for students with a strong foundation in statistics and regression analysis who wish to explore more advanced topics in management.
Course Topics	The course covers advanced methods for analyzing economic and managerial data. Students will learn how to apply these methods

	to real-world problems in management. This course is designed to challenge students and to provide them with a deep understanding of the designs, methods, and tools used in management research. List of topics covered The course addresses empirical research designs and covers quantitative methods for conducting rigorous and relevant management research, including: • basics of quantitative research • reading and interpreting quantitative research • developing quantitative research designs • t-tests • analyses of variance • correlational analyses • regressions • factor analysis • cluster analysis • structural equation modelling • moderation and mediation analysis • experimental designs • current research trends
Keywords	Quantitative methods, rigorous and relevant management research, current research trends
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	Frontal lectures, discussions, exercises
Mandatory Attendance	Strongly recommended
Specific Educational Objectives and Learning Outcomes	Knowledge and understanding: The students get to know central quantitative empirical research designs as well as methods, techniques, and tools for conducting rigorous and relevant management research. The students have a systematic understanding of this content and how to link research questions to empirical analysis. Applying knowledge and understanding: Students are able to put the knowledge quantitative designs and methods into research practice. Students will learn how to apply these methods to solve real-world problems in management.

	Making judgments: The students can deal with the complexity of the challenges when facing knowledge gaps and research problems. They are able to choose between several approaches to address research questions and are able to interpret empirical results. Communication skills: Students will be able to communicate their knowledge of empirical research designs and methods to both lay and professional audiences. In doing so, they can logically and coherently weigh up, argue about, and explain their decisions. Learning skills: Students know the most important sources of reliable and up-to-date knowledge on research designs and methods. This enables them to learn new things independently. The knowledge acquired in the course is organized in such a flexible way that they are able to link new contents and trends in this field to the existing knowledge and thus comprehend and apply them.
Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	For attending students: The achievement of the learning objectives is assessed through two measures: • Project work (70%): Students will directly apply the knowledge and skills learned to a research proposal (project with hypothesis development, methods and design, data analysis strategy and presentation). • Class participation (30%): Assessment of participation in class and accompanying project units will relate to contributions by students (e.g., team discussions, performing data analysis procedures). This includes critical reflection, guided discussion, synthesis, and further development of course content. For non-attending students: The achievement of the learning objectives is assessed through a single outcome measure, i.e. the project work (100%).

	NOTE: Project work and classroom contributions are valid for 1 academic year and cannot be carried over beyond that time-frame.
Evaluation Criteria	Evaluation criteria: For attending students: The final grade results from the addition of the following partial achievements (1) Project work (70%), (2) Class participation (30%). For non-attending students: The final grade results from the project work (100%). The following evaluation criteria are essential for the assessment: • Correctness and reliability of the statements • Structure and clarity of the statements • Logic and coherence of the statements • Integration and interconnectedness of the learned content • Choice and application of the learned content • Quality, applicability and relevance of the results • Activity and proactivity regarding the contributions (only for attending students)
Required Readings	• Creswell, J.W. & Creswell, J.D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* 5th edition, SAGE Publications. • Hair Jr, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2018). Multivariate Data Analysis. 8th edition, Cengage. • Field, A. (2024). *Discovering statistics using IBM SPSS statistics.* 6th edition, SAGE Publications. Gravetter, F. J., & Forzano, L. A. B. (2018). *Research methods for the behavioral sciences.* Cengage learning. • Hayes, A.F. (2022): I*ntroduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (Methodology in the Social Sciences). 3rd edition, The Guilford Press.
Supplementary Readings	Additional readings will be announced on a case basis.
Further Information	
Sustainable Development Goals (SDGs)	No poverty, Quality education, Good health and well-being, Zero hunger