Syllabus

Kursbeschreibung

Titel der Lehrveranstaltung	Angewandte Daten und Informationsverarbeitung
Code der Lehrveranstaltung	27269
Zusätzlicher Titel der Lehrveranstaltung	
Wissenschaftlich-disziplinärer Bereich	IINF-05/A
Sprache	Englisch
Studiengang	Bachelor in Ökonomie, Politik und Ethik
Andere Studiengänge (gem. Lehrveranstaltung)	
Dozenten/Dozentinnen	Dott. mag. Andrea Molinari, Andrea.Molinari@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/3420
Wissensch. Mitarbeiter/Mitarbeiterin	Dr. Gery Andres Diaz Rubio
Semester	Zweites Semester
Studienjahr/e	1
KP	2
Vorlesungsstunden	20
Laboratoriumsstunden	20
Stunden für individuelles Studium	-
Vorgesehene Sprechzeiten	6
Inhaltsangabe	The course introduces the fundamental concepts of data management and information systems, with a focus on applications in the business context. Students will learn the basics of data organisation and storage, the structure of relational databases and the functioning of business information systems. Practical tools for data management and analysis will also be presented, including spreadsheets, database query languages (SQL), and software for

	data visualisation and management.
Themen der Lehrveranstaltung	• Data, Information and Knowledge • Why Data/Information Management is so important today • How computers represent numbers, text, images / colors, sound/music and video • Information systems: concepts, definition and main tasks • Information Systems and Strategic Management • ICT productivity paradox • Information Systems: classification • Issues with Managing the IS Infrastructure • Type of data • DMS • Data analysis and Business Intelligence • DataWarehouse, OLAP tools and Data Mining • Relational databases • Artificial intelligence and data management • AI, machine learning and deep learning introduction
Stichwörter	Information Systems, Data Management, Data analysis, SQL language
Empfohlene Voraussetzungen	- basics in computer programming - basics in statistics
Propädeutische Lehrveranstaltungen	None
Unterrichtsform	Front-of-class teaching in standard classroom, Front-of-class teaching in computer lab with examples and exercises assigned in class, interactive exercises in standard classroom and in computer room held by teaching assistant.
Anwesenheitspflicht	Suggested, but not required; for non-attending students additional study material will be provided on the course's website on OLE
Spezifische Bildungsziele und erwartete Lernergebnisse	ILO (Intended Learning Outcomes) ILO 1 Knowledge and understanding: ILO 1.1 basic knowledge of data management and computer programming for statistical and econometric analysis of socio-economic data; ILO 1.2 knowledge of the technical vocabulary of the subjects of this learning area;

	ILO 2 Ability to apply knowledge and understanding: ILO 2.1 ability to manage simple databases and carry out analysis of socio-economic data with the support of software; ILO 3 Making judgements ILO 3.1 Acquisition of the ability to make judgements and of the methodological tools useful for the critical analysis of data, sources, assumptions and implications of scientific practice, of the political, ethical and legal context within which economic phenomena are set and with which they interact ILO 4 Communication skills: ILO 4.1 Proficiency (oral and written) in Italian, German and English, including translation between these languages. Intercultural competence. Conceptual awareness, synthesis and written expression, in particular in the drafting of scientific or science-based documents ILO 5 Learning skills: ILO 5.1. Promotion of critical thinking and analytical skills that enable one to focus on complex problems in their long-term dynamics and in the variety of their implications, including ethical ones
Spezifisches Bildungsziel und erwartete Lernergebnisse (zusätzliche Informationen)	ILO 1.3 knowledge of data management tools and technologies
Art der Prüfung	Assessment is based on a written examination evaluating students' knowledge and understanding of data management and data analysis concepts (ILO 1.1, ILO 1.2, ILO 1.3), their ability to apply knowledge to basic database management and data analysis tasks (ILO 2.1), and their capacity to critically evaluate data, methods, and contextual implications (ILO 3.1). The written format also assesses communication skills in English and the appropriate use of technical terminology (ILO 4.1), as well as critical thinking and

	learning skills through integrated and reflective questions (ILO 5.1). Practical test to assess the organisation, management and editing of data using SQL.
Bewertungskriterien	The grade is the weighted average of the evaluation of the theoretical part (40%) and the practical part (60%), with emphasis on optimal, efficient and extensible solutions. There is no difference in the assessment between attending and non-attending students. Both parts (theory and laboratory) must be passed.
Pflichtliteratur	None
Weiterführende Literatur	
Weitere Informationen	None
Ziele für nachhaltige Entwicklung (SDGs)	Nachhaltige Städte und Gemeinden, Industrie, Innovation und Infrastruktur