Syllabus
Course description

Course title	Basics in Data Management
Course code	27359 (ex 27324)
Scientific sector	ING-INF/05
Degree	Bachelor in Economics and Management
Semester and academic year	1st semester 2024-2025
Year	1
Credits	5
Modular	No

Total lecturing hours	36
Total lab hours	0
Total exercise hours	36
Attendance	Strongly suggested.
Prerequisites	English at level B1 Basic computer usage.
Course page	On the Unibz Microsoft Teams

Specific educational objectives	The course is designed to acquire basics knowledge on data formats, organization and data extraction techniques as well as basic skills in data analysis and processing. The course also introduces the software R and provides a bootcamp on the relational model, SQL and JSON.

Lecturer	Fabio Persia
Scientific sector of the lecturer	ING-INF/05
Teaching language	English
Office hours	please refer to the lecturer's timetable
Lecturing assistant	None
Teaching assistant	Fauster Norman Fidelis Romano Maria
Office hours	please refer to the teaching assistants' timetables
List of topics covered	- Data management overview - Introduction to programming with R - File handing, extracting, storing, curating data with R - Working with different data formats including CSV and JSON - Managing, analysing and visualising numerical data - Creating relational databases with SQL - Querying relational databases with SQL - Applications to economic and business data - security and privacy requirements for handling data
Teaching format	This course will be delivered through a combination of frontal lectures and labs.

Learning outcomes	Knowledge and understanding: • Basic knowledge of data structures and formats • Basic knowledge of data management • Knowledge data security and privacy requirements • Basic knowledge of R and JSON • Basic knowledge of SQL database systems Applying knowledge and understanding: • Be able to manage data properly using different tools and techniques, ranging from R to JSON, and SQL database systems Making judgments: • Be able to work autonomously according to the own level of knowledge and understanding. • Be able to judge the use of different tools and techniques that can handle data, and their applicability. Communication skills: • Be able to understand and correctly describe the basic features of data management, both from a theoretical and practical point of view. Learning skills: • Have developed learning capabilities to pursue further studies in computer science with some degree of autonomy. • Be able to learn the main features of different tools and techniques that can handle data.

Assessment	The assessment will be made through a written examination, which includes questions both theoretical and inherent in solving specific problems using the different tools and techniques described during the course. Each question is assigned a maximum score; the student's final grade is calculated by summing the scores obtained on each question.
Assessment language	English
Evaluation criteria and criteria for awarding marks	Grades are distributed as follows: • theoretical questions (60%) and practical questions (40 %).

Required readings	Lecture slides are made available on Microsoft Teams.
Supplementary readings	To be added by lecturer.