Libera Università Internazionale
degli Studi Sociali Guido Carli

LUISS

Syllabus

Academic Year	2024/2025
Program	Business Administration
course	Data Analysis for business
Term	I semester
Year	3
SSD	SECS-S/01
Credits	6

INSTRUCTIONAL GOALS	This course shows how to help organizations collect, analyze, store and interpret large-scale data to develop informed business strategies, by providing a framework to improve students' understanding of data analytics and enhance their critical thinking and decision making. In particular, students will acquire skills to recognize business problems, gain an understanding of data collection techniques and principles of data analysis, learn how to take data from the technical domain, bridge the data gap between the technical domain and business analysts, analyze and present valuable findings and recommend action to business leaders.
INTENDED LEARNING OUTCOMES They describe what a learner is expected to know, understand and be able to demonstrate after completion of a learning path.	**Knowledge and understanding**: The course will present the tools to collect, organize, model, and process data from both a theoretical and practical point of view. Concerning this last point, during the course, extensive use of software tools will be done. **Applying knowledge and understanding**: The students are expected to use the tools presented during the course to deal with data coming from several fields. On one hand, they should be able to process the data to obtain useful information. On the other hand, they should be able to present their findings and to address business decisions. To develop and evaluate these skills, students will be offered several practical lab sessions and will be asked to work on project assignments. **Making judgments**: Students are expected to be able to identify the problem they need to face and define it properly. Students should be able to decide which models are the most suitable to deal with the defined problem and how to use them to identify and process useful data. **Communications Skills**: The students are expected to be able to organize and clearly present their findings. They should be able to understand the language and the tools of the technical domain and should be able to provide recommendations supported by quantitative results.

	Learning skills: The course is intended to give the students the tools to cope with "real world" scenarios. After the course, they should have improved their critical spirit and become more independent in approaching problems. They should be able to support their arguments with evidence based on data and mathematical models.
Pre-requisites	Basic Knowledge of Statistics
Course content	The course will focus on collection, exploration, analysis, and visualization of data, and presentation of results with and hands-on approach. Emphasis will be given to applications. During the course, the R programming language will be presented and extensively used.
Reference Books	The course draws upon material from the instructor slides and the following textbook: Jank W. (2011) Exploring and Discovering Data. In: Business Analytics for Managers. Use R. Springer, New York, NY James, Witten, Hastie, Tibshirani (2017) An Introduction to Statistical Learning with Applications in R. Springer Verlag.
Teaching Methods	Lectures; Lab sessions.
Assessment	Discussion of a group project assignment (40% of the grade). A midterm test (30% of the grade). Final exam (30% of the grade).