Syllabus

Course Description

Course Title	Applied Data Science for Business Decision-Making
Course Code	27520
Course Title Additional	
Scientific-Disciplinary Sector	ECON-06/A
Language	English
Degree Course	Master in Data Analytics for Economics and Management
Other Degree Courses (Loaned)	
Lecturers	Dr. Mehdi Hosseinkouchack, https://www.unibz.it/en/faculties/economics-management/academic-staff/person/55320
Teaching Assistant	
Semester	Second semester
Course Year/s	2
CP	6
Teaching Hours	36
Lab Hours	-
Individual Study Hours	-
Planned Office Hours	18
Contents Summary	OFFERED ONLINE This course provides practical tools and methods for applying data science techniques to business decision-making. It focuses on transforming data into actionable insights using statistical learning, predictive modeling, and data-driven decision frameworks in areas such as marketing, finance, and operations.
Course Topics	• Data-driven decision making • Data preparation and exploration • Causal inference and experimentation

	• Predictive modeling for decision-making • Optimization and prescriptive analytics • Business applications
Keywords	-
Recommended Prerequisites	
Propaedeutic Courses	
Teaching Format	This course is offered online.
Mandatory Attendance	Attendance is recommended, but not mandatory.
Specific Educational Objectives and Learning Outcomes	Intended Learning Outcomes (ILO) ILO 1 Knowledge and understanding: ILO 1.1 Students will develop specialised knowledge within the economic and business domains, tailored to their areas of interest and essential for addressing decision-making and managerial challenges in both public and private organisations. This learning outcome emphasises an interdisciplinary approach to problem-solving and organisational analysis. ILO 1.2 Within the Business Analytics track, students will acquire knowledge of tools and methodologies essential for analysing and interpreting corporate and organisational data. This includes understanding business performance measurement, business models and their evolution, decision-support techniques, and performance measurement systems aligned with digitalisation and sustainability processes. Furthermore, students will develop competencies in managing marketing processes, with particular emphasis on digital and interactive marketing, and assessing the impact of digitalisation on marketing activities. ILO 2 Applying knowledge and understanding: ILO 2.1 Students will develop the ability to analyse business-related issues that underpin data-driven decision support by applying statistical models and computational modelling techniques. This outcome focuses on integrating quantitative methods to evaluate and optimise organisational decision-making processes. ILO 2.2

	Students will develop the ability to utilise and apply models designed for market analysis and for the formulation of economic policies. This outcome emphasises the integration of theoretical and empirical approaches to support evidence-based policy development and strategic decision-making. ILO 3 Making judgements: ILO 3.1 The student acquires the ability to apply acquired knowledge to interpret data in order to make directional and operational decisions in a business context. ILO 3.2 The student acquires the ability to apply acquired knowledge to support processes related to production, management and risk promotion activities and investment choices through the organisation, analysis and interpretation of complex databases. ILO4 Communication skills: ILO 4.1 The student acquires the ability to communicate effectively in oral and written form the specialised content of the individual disciplines, using different registers, depending on the recipients and the communicative and didactic purposes, and to evaluate the formative effects of his/her communication. ILO 5 Learning skills: ILO 5.1 The student acquires knowledge of scientific research tools. He/she will also be able to make autonomous use of information technology to carry out bibliographic research and investigations both for his/her own training and for further education. Furthermore, through the curricular teaching and the activities related to the preparation of the final thesis, she will be able to acquire the ability - to identify thematic connections and to establish relationships between methods of analysis and application contexts; - to frame a new problem in a systematic manner and to implement appropriate analysis solutions; - to formulate general statistical-econometric models from the phenomena studied.

Specific Educational Objectives and Learning Outcomes (additional info.)	
Assessment	TBD
Evaluation Criteria	TBD
Required Readings	TBD
Supplementary Readings	TBD
Further Information	
Sustainable Development Goals (SDGs)	Quality education