Syllabus

Course Description

Course Title	Data Management and Analytics
Course Code	31010
Course Title Additional	
Scientific-Disciplinary Sector	ECON-05/A
Language	Italian
Degree Course	Master in Tourism Management
Other Degree Courses (Loaned)	
Lecturers	Dr. Luca Onorante, Luca.Onorante@unibz.it https://www.unibz.it/en/faculties/economics-management/academic-staff/person/10118
Teaching Assistant	
Semester	First semester
Course Year/s	2
CP	6
Teaching Hours	36 Online
Lab Hours	-
Individual Study Hours	-
Planned Office Hours	18 Online
Contents Summary	The course provides a comprehensive overview of key scientific concepts related to data analytics. Course objectives include: 1. Equipping students with a solid foundation in data management, including techniques for data storage, retrieval, cleansing, and manipulation. 2. Building proficiency in the application of statistical methods and predictive analytics tools for analyzing and interpreting large-scale datasets. 3. Developing the ability to design and implement effective, data-driven decision-making strategies across multiple industries.

Course Topics	Foundations of Econometrics Data Science Techniques
Keywords	data analytics, data management, statistical methods, predictive analytics, decision-making strategies
Recommended Prerequisites	Basic statisctics, matrix algebra
Propaedeutic Courses	
Teaching Format	Online
Mandatory Attendance	-
Specific Educational Objectives and Learning Outcomes	INTENDED LEARNING OUTCOMES (ILO) ILO 1: KNOWLEDGE AND UNDERSTANDING ILO 1.1 The student acquires the competence to apply knowledge and understanding about the role of tourism in the economic development of communities, regions and nations. ILO 1.2 The student acquires the competence to understand and quantitatively analyse tourism phenomena in order to support business decision-making processes. ILO 2: ABILITY TO APPLY KNOWLEDGE AND UNDERSTANDING ILO 2.1 The student also acquires the ability to read and understand economic analyses. ILO 2.2 The student acquires the ability to interpret and use summary indicators of interest for the economic and market development policies of tourist destinations as well as individual enterprises in the sector. ILO 2.3 The student understands and uses statistical-quantitative methodologies for the description, monitoring and evaluation of problems characterising the tourism system. ILO 3: AUTONOMY OF JUDGEMENT ILO 3.1 Acquire the ability to select data and use appropriate information to describe a problem concerning the management of tourism enterprises as well as tourism associations and destinations ILO 4: COMMUNICATION SKILLS ILO 4.1 The Master's degree graduate will be able 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. Written and oral communication skills are particularly developed in the training activities carried out for the preparation of the Master's thesis, in the discussion of business cases and in interactive lectures involving group discussions and the comparison of individual analyses. ILO 5: LEARNING SKILLS ILO 5.1 To identify thematic connections and to establish relationships between different cases and contexts of analysis ILO 5.2 To develop general models from the phenomena studied.
Specific Educational Objectives and Learning Outcomes (additional info.)	-
Assessment	Students who attend the lesson and present a project: 50% project, 50% exam. Students who non attend the lesson: 100% written exam. Project: group work and presentation - online. All ILOs are assessed (ILO 1-5) Exam: Written- in presence. All ILOs are assessed (ILO 1-5)
Evaluation Criteria	The evaluation criteria for this course will primarily focus on the students' understanding of the core course content. This encompasses: their grasp of fundamental data management techniques such as data storage, retrieval, cleansing, and manipulation. Additionally, students will be assessed on their proficiency in applying statistical methods and predictive analytics tools to analyze and interpret large-scale datasets effectively. The ability to design and implement data-driven decision-making strategies across various industries will also form a component of the evaluation. Students' comprehension of econometric principles and their application within the context of the course will be considered. Overall, the assessment aims to ensure that students not only acquire theoretical knowledge but also demonstrate practical skills in managing and analyzing data to support informed decision-making.

Required Readings	The required readings for this course cover topics essential for mastering data analysis and econometrics. Students are expected to familiarize themselves with Python programming, particularly using Jupyter notebooks, through official tutorials and practical guides. Core statistical concepts such as least squares and simple linear regression are introduced and applied using the Statsmodels Python library. To support these statistical methods, students should also study matrix algebra fundamentals. Additional readings include in-depth explanations of design matrices, and linear regression principles, providing a comprehensive theoretical and practical framework for the course.
Supplementary Readings	-
Further Information	-
Sustainable Development Goals (SDGs)	Decent work and economic growth