Freie Universität Bozen
Libera Università di Bolzano
Università Liedia de Bulsan

Syllabus
Course description

Course title	**Business Intelligence and Data Visualization**
Course code	**25460**
Scientific sector	SECS-P/07
Degree	Master in Accounting and Finance
Semester	2nd semester
Year	2024/25
Credits	6
Modular	No

Total lecturing hours	36
Total lab hours	-
Total exercise hours	-
Attendance	Although course attendance is not compulsory, it is highly recommended for all sessions.
Prerequisites	-
Course page	TBA

Specific educational objectives	This course provides a comprehensive introduction to the fundamental concepts, techniques, and tools used in analyzing business data and creating effective visualizations. Students will learn how to collect, clean, and prepare data for analysis, exploring various data management tools and techniques. Further, they will gain practical skills in using Business Intelligence (BI) software such as Tableau to create interactive dashboards and informative reports. Best practices in data visualization and visual storytelling will be explored to communicate information clearly and effectively. The course will provide an initial overview of the topics covered in the Tableau Desktop Specialist and Tableau Certified Data Analyst exams. Students interested in acquiring the Tableau data visualization certification will benefit from the course. On completion of this course, students should be able to: • Understand the fundamental concepts and principles of BI and Data Visualization • Gain proficiency in using BI tools and software like Tableau for data analysis and visualization • Develop skills in creating interactive dashboards and reports to communicate insights effectively • Explore various data visualization techniques and best practices for conveying information accurately and persuasively

	• Apply the appropriate problem solving, computational and communication skills essential to the preparation and analysis of managerial reports.

Lecturer	Dr. Nicola Dalla Via nicola.dallavia@unibz.it
Scientific sector of the lecturer	SECS-P/07
Teaching language	English
Office hours	Please refer to the lecturer's timetable

Lecturing assistant	Not foreseen
Teaching assistant	Not foreseen
List of topics covered	• Extract, transform, and load (ETL) techniques for business data; • Data visualizations and dashboards that help evaluate data quality, communicate insights, and support informed managerial decision-making; • Predictive analytics models and decision trees for the analysis of structured financial data, such as financial forecasting, budgeting, and reporting; • Prescriptive analytics and scenario analysis for the optimization of business objectives, such as profit maximization, cost minimization, and optimal allocation of financial resources; • Process mining tools to evaluate business process efficiency and effectiveness.
Teaching format	Frontal lectures, exercises and case studies. The course will combine in-class explanation, problem-solving and case discussion. Students are expected to participate actively in class.

Learning outcomes	Knowledge and understanding: • Understand how companies generate, manage, and analyse internal financial and non-financial information using BI systems • Describe the main tools and technologies used in data analysis and visualization • Describe the different types of accounting data analytics: descriptive, predictive, and prescriptive Applying knowledge and understanding: • Apply analytics models in several business settings • Apply data cleaning and preprocessing techniques to solve specific problems • Ability to integrate financial information with non-financial information to effectively support managerial decision-making • Utilize Business Intelligence software to create interactive dashboards and informative reports from complex accounting datasets

	Making judgments: • Ability to search for, evaluate and suggest appropriate analytical frameworks to diagnose and solve multifaceted managerial problems • Ability to analyse complex business settings and apply appropriate problem solving, computational and communication skills • Critically evaluate data visualization strategies and techniques used to communicate complex information Learning skills: • Ability to prepare a managerial report to communicate the results of a data analysis and effectively present results and insights through compelling and interactive visual narratives • Design and develop customized Business Intelligence solutions to meet specific business needs, integrating data from various sources • Provide relevant information for decision-making, as well as solutions in response to specific issues related to the measurement and management of corporate and managerial performance

Assessment	For students that actively engage in course activities, the course evaluation is based on a combination of: • Optional Midterm • Assignments • Final Exam: combination of multiple choice and essay questions These assessments are intended to gauge how well students understand the material covered throughout the course (comprehension) and the interconnections (integration) among various topics.
Assessment language	English
Evaluation criteria and criteria for awarding marks	Non-attending students: • Final Exam (combination of multiple choice and essay questions): 100% Attending students that actively engage in course activities can combine: • Optional Midterm • Assignments • Final Exam (combination of multiple choice and essay questions) Students must pass the Final Exam to have a passing grade in the course. The grade of the optional Midterm and of the Assignments are valid for one academic year.

Required readings	The detailed list of required course readings and learning material is announced by the beginning of the course (see the OLE platform).
Supplementary material	TBA