NAME OF THE COURSE	Introduction to data analytics						
Code	**EUBC03**	Year of study		1			
Course teacher	Assistant Professor Ivana Ninčević Pašalić, PhD Assistant Professor Tea Mijač, PhD	Credits (ECTS)		5			
Associate teachers		Type of instruction (number of hours)		L	S	E	F
				26		26	
Status of the course	Elective	Percentage of application of e-learning		30%			

COURSE DESCRIPTION	
Course objectives	The aim of this course is to familiarize students with fundamental concepts of data analytics, as well as their application in a business environment. Students will acquire key methods and tools for organizing, processing, and analyzing data, and understand the importance of quality data in strategic business decision-making.
Course enrolment requirements and entry competencies required for the course	There are no prerequisites for enrollment. This elective course is available to students from all master's study programs.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Expected learning outcomes: 1. Examine the concept of data analytics and data management and to identify key challenges and opportunities in the business environment. 2. Critically assess fundamental principles of data protection and ethics while working with data. 3. Determine the role and significance of various methods and technologies that support data analysis and visualization. 4. Evaluate the results and impact of analytical models as support for business decision-making. 5. Develop a data management plan and analytical strategies that integrate continuous improvement principles.

Course content broken down in detail by weekly class schedule (syllabus)

Lectures		Exercises	
topic	Hours	Topic	Hours
Topic 1. Introduction to data management and data analytics	2	Task. Analysis of real-world examples of data management in companies	2
Topic 2. Data governance: data quality, protection, and ethics. The role of data in strategic and operational decision-making	2	Task. Evaluation of data quality in selected examples	2
Topic 3. Data sources: types of data and their organization	2	Task. Collection and categorization of different types of data	2
Topic 4. Data structure:	2	Task. Working with	2

	relational and unstructured data		unstructured data (python pandas)	
	Topic 5. Fundamentals of databases and data warehouses	2	Task. Creating basic queries on existing databases	2
	Topic 6. Basic approaches to data analysis. Understanding context (visualization methods and decision-making purposes)	2	Task. Data analysis using various specialized tools	2
	Topic 7. Descriptive and diagnostic analytics and business indicators (KPIs)	2	Task. Creating a business case in teams. Data analysis from multiple sources and management recommendations	2
	Topic 8. Predictive and prescriptive analytics	2	Task. Implementing a simple predictive model	2
	Topic 9. Data visualization: techniques and tools	2	Task. Creating interactive reports in a specialized tool	2
	Topic 10. Report design and application: best practices	2	Task. Creating interactive reports in a specialized tool	2
	Topic 11. Introduction to big data and machine learning	2	Task. Creating a management dashboard	2
	Topic 12. Advanced topics: application of artificial intelligence in business analytics	2	Task. Case study with a guest speaker from the industry	2
	Topic 13. Advanced topics: automation of analytical processes and cloud data management (RPA)	2	Task. Presentation of the final practical assignment	2

Format of instruction	x lectures ☐ seminars and workshops x exercises ☐ *on line* in entirety x partial e-learning ☐ field work	x independent assignments x multimedia ☐ laboratory ☐ work with mentor ☐ (other)
Student responsibilities	Students are required to regularly attend classes, follow lectures, and complete assignments. Attendance is recorded during the semester. A minimum of 50% attendance and completion of the final practical assignment are required to obtain a signature. The final exam requires prior approval (signature).	

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Class attendance	1,5 ECTS	Research		Final assignement	1,5 ECTS
	Experimental work		Report		Tests (Other)	
	Essay		Seminar essay		(Other)	
	Tests	2 ECTS	Oral exam		Workshop attendance (Other)	
	Written exam		Project		(Other)	

Grading and evaluating student work in class and at the final exam	During the year, two colloquia will be organized. The prerequisite for taking the second colloquium is a positively graded first colloquium. The final exam consists of a written and an oral exam. Students who achieve more than 60% of the points on the colloquia are exempt from the written exam. The oral exam accounts for 40% of the final grade. Students who present their final assignment as part of the course are exempt from the oral exam. Grading System: • 0-59 - Insufficient (1) • 60-69 - Sufficient (2) • 70-79 - Good (3) • 80-89 - Very Good (4) • 90-100 - Excellent (5)

Required literature (available in the library and via other media)	Title	Number of copies in the library	Availability via other media
	1.Authorized Lectures and Teaching Materials		Moodle
	2. Szasz, B. (2024). Data Analytics Essentials You Always Wanted To Know, Vibrant Publishers		
	3.Theobalds, O. (2019). Data Analytics for Absolute Beginners: A Deconstructed Guide to Data Literacy		

Optional literature (at the time of submission of study programme proposal)	1. Sharda, R., Delen, D., & Turban, E. (2017).Business Intelligence, Analytics, and Data Science: A Managerial Perspective, Pearson, 4th Edition. 2. Coronel, C. (2018) Database Systems Design, Implementation, & Management, 13th Edition, Cengage Learning 3. McKinney, W. (2017) Python for Data Analysis, O'Reilly Media 4. Ninčević Pašalić, Ivana ; Tomaić, Davor: Konfiguriranje i punjenje skladišta podataka // Višedimenzijski informacijski sustavi: Skladištenje i analitička obrada podataka. Split: Ekonomski fakultet Sveučilišta u Splitu, 2011. str. 121-140 5. Mijač, Tea ; Jadrić, Mario ; Ćukušić, Maja: In search of a methodological framework for user- oriented data-driven Information Systems modelling // Proceedings of the Twelfth Mediterranean Conference on Information Systems. Lahti: Department of Informatics, Ionian University, 2018, 62, 10 6. Mijač, Tea ; Jadrić, Mario ; Ćukušić, Maja: Evaluating the Potential of a Data-Driven Approach in Digital Service (Re)Design // Central European conference on information and intelligent systems, 2018. 187-194

Quality assurance methods that ensure the acquisition of exit competences	• Monitoring attendance and performance of other student obligations (teacher) • Teaching Supervision (Vice-dean for Teaching) • Analysis of the success of studies in all subject studies (Vice-dean for Teaching) • Student Survey on the Quality of Teachers and Teaching for Each Subject Study (UNIST, Center for Quality Improvement) • The exam conducted by the subject teacher examines all learning outcomes of the subject. Periodic examination of the content of the exam is conducted on

	the basis of the appropriateness of the method of checking the learning outcomes (Vice-dean for Teaching)
Other (as the proposer wishes to add)	