



General information		
Course instructor	Dr. rer. nat. Krešo Mihalinić	
Name of the course	Mathematics	
Study programme	Undergraduate study: Business Economics in Tourism and Hospitality Module: Hospitality Management	
Status of the course	compulsory	
Year of study	1st	
ECTS credits and manner of instruction	ECTS credits	6
	Number of class hours (L+E+S)	30+30+0
1. COURSE DESCRIPTION		
1.1. Course objectives		
Introduce students to the basic concepts of calculus (analysis of functions), financial mathematics (principles and applications of interest and compounding) and linear algebra (matrices) and train them to recognize and apply these concepts in quantitative economic models		
1.2. Course enrolment requirements		
Knowledge from primary and secondary schooling		
1.3. Expected learning outcomes		
Students will be able to: <ul style="list-style-type: none"> – Describe the main properties of the field of real numbers – Analyse functions on the field of real numbers (increase and decrease, speed of change, extreme values) – Apply derivatives and integrals to economic problems (profitability, elasticity of demand) – Calculate present and future values of one or more investments – Apply matrices to the systems of linear equations in economic practice 		
1.4. Course content		
CALCULUS AND APPLICATIONS. (Real numbers and real functions of a real variable, limiting values and continuity of functions, derivation with applications, extreme values, total and marginal cost, revenue and profit, indefinite integral, price elasticity coefficient.) FINANCIAL MATHEMATICS. (simple and compound interest calculation, present and future values of rents) LINEAR ALGEBRA. (Matrices, vectors, ranks of matrices, systems of linear equations, determinants, cross-sectional model and input-output analysis.)		
1.5. Manner of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input checked="" type="checkbox"/> distance learning <input type="checkbox"/> fieldwork	<input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratories <input checked="" type="checkbox"/> mentorship <input type="checkbox"/> other
1.6. Comments	Economically applicable principles and methodology take priority over mathematical rigor.	
1.7. Student responsibilities		
Apart from calculation assignments in the classroom, students are required to complete project assignments as homework. While teamwork is generally allowed, some assignments require individual research.		



1.8. <i>Monitoring of student work¹</i>							
Class attendance	2	Aktivnost u nastavi		Seminarski rad		Eksperimentalni rad	
Written exam	1	Usmeni ispit		Esej		Istraživanje	
Project	1,5	Kontinuirana provjera znanja	1,5	Referat		Praktični rad	
Portfolio							
1.9. <i>Assessment of learning outcomes in class and at the final exam (procedure and examples)</i>							
Assessment and evaluation of students in classes and at the final exam is conducted under the Rulebook on students' evaluation at the Faculty of Tourism and Hospitality Management. For each course there is a detailed course syllabus which coordinates activities, student load, learning outcomes and evaluation methods.							
1.10. <i>Mandatory literature (at the time of submission of study programme proposal)</i>							
K. Mihalinić, „Mathematics“, FMTU lecture notes (https://fmtu.lumens5plus.com/sites/fmtu.lumens5plus.com/files/8899-81f9709890f7abf6c6f0b6c818bbb7e4.pdf)							
1.11. <i>Optional/additional literature (at the time of submission of the study programme proposal)</i>							
1. C. Simon and L. Blume, „Mathematics for Economists“, W.W. Norton & Company, inc., New York, 1994							
2. J. Niesen, „MATH1510 Financial Mathematics I“, http://www1.maths.leeds.ac.uk/~jitse/math1510/notes-all.pdf							
1.12. <i>Number of assigned reading copies in relation to the number of students currently attending the course</i>							
Title					Number of copies	Number of students	
K. Mihalinić, „Mathematics“, FMTU lecture notes (https://fmtu.lumens5plus.com/sites/fmtu.lumens5plus.com/files/8899-81f9709890f7abf6c6f0b6c818bbb7e4.pdf)					Online availability		
1.13. <i>Quality monitoring methods that ensure the acquisition of exit knowledge, skills and competences</i>							
The quality of the program, the teaching process, the teaching skills and the level of the material acceptance will be established by means of a written evaluation of the extensive questionnaires and in other ways envisaged by the accepted standards, in accordance with the Rulebook on Quality Assurance and Improvement of the University of Rijeka and the Quality Assurance and Improvement of the Faculty of Tourism and Hospitality Management.							

¹ IMPORTANT: Enter the appropriate proportion of ECTS credits for each activity so that the total number of credits equals the ECTS value of the course. Use empty fields for additional activities.