

## SYLLABI

<b>Basic data of the subject</b>			
<b>Academic unit</b>	<b>Faculty of Management</b>		
<b>Subject</b>	<b>Business mathematics</b>		
<b>Level</b>	<b>Bachelor</b>		
<b>Course status</b>	<b>Mandatory</b>		
<b>Year of studies</b>	<b>I</b>		
<b>Semester</b>	<b>I</b>		
<b>Number of hours per week</b>	<b>4</b>		
<b>Value of credits - ECTS</b>	<b>6</b>		
<b>Time/ Location</b>	<b>USHAF</b>		
<b>Course lecturer</b>	<b>Prof. As.Dr. Valdete Loku</b>		
<b>Contact details</b>	<b>valdete.loku@ushaf.net</b>		
<b>Course description</b>	Basic understanding of sets and operations with sets; The set of real numbers and operations with real numbers; Elements of linear algebra (budget line equation), Determinants, Matrices and systems of linear equations; Understanding function and its application; Basic functions and their graphs; Number strings and their application; String and function limit; Function continuity, Function derivative and its implementation; Elements of financial mathematics.		
<b>Course objectives</b>	The purpose of this module is to equip students with knowledge and skills for basic mathematical notions, elements of financial mathematics, the meaning of function, ways of representing functions, some classes of functions, the meaning of matrices, derivatives, etc., as well as their implementation in the field of business and economics (the field of their study), i.e. the development of skills and abilities of students to solve concrete problems in the field of economics.		
<b>Expected learning outcomes</b>	Upon successful completion of this module, students will be able to: <ul style="list-style-type: none"> <li>• To gain basic conceptual knowledge about the importance of the subject of Mathematics in business,</li> <li>• Understand the elements of linear algebra and their application in solving problems in the field of business</li> <li>• Acquire the elements of financial mathematics.</li> <li>• Know the concept of string and function,</li> <li>• List the types of functions, their properties and application in economics.</li> </ul>		
<b>Contribution to the student load (which must correspond with learning outcomes)</b>			
<b>Activity</b>	<b>Hours</b>	<b>Days/Weeks</b>	<b>Total</b>
<b>Lectures</b>	2	15	30
<b>Theoretical exercises / laboratory</b>	2	15	30
<b>Internship</b>			
<b>Contacts with teacher / consultations</b>	1	10	10
<b>Field exercises</b>			
<b>Midterm, seminars and projects.</b>			

<b>Homework</b>	3	10	15
<b>Studying (at the library or at home)</b>			45
<b>Final preparation for the exam</b>	2	5	10
<b>Time spent on evaluation (tests, quiz and final exam)</b>	3	2	6
<b>Projects and presentations</b>	1	4	4
<b>Total</b>			<b>150</b>
<b>Teaching methodology</b>			
Lectures and exercises combined with in-class discussions			
<b>Assessment methods</b>			
During the semester there will be two written tests with 45 points each (tasks include open-ended questions and multiple choice questions), or the student has the right to take only the final exam which has 90 points (written / oral test), the test contains open-ended and multiple choice questions. The student passes the exam if he or she accumulates 50 points from all the evaluation criteria. <ul style="list-style-type: none"> <li>• 10 points - Activity and attendance,</li> <li>• 90 points – Two written exams or the final exam</li> </ul>			
<b>Teaching tools</b>			
Whiteboard, the Internet, wireless, computer, projector, PowerPoint, etc.			
<b>Theory vs. practice ratio</b>			
50% Practice, Tasks for independent work 50% Lectures			
<b>Literature</b>			
<b>Basic literature</b>			
1. N.L. Braha, V. Loku dhe Ilmi Hoxha, Matematika për ekonomistë, 2016, Prishtinë. 2. Ian Jacques-Mathematics, for economics and business, ninth edition, 2018			
<b>Additional literature</b>			
1. Razim Hoxha, Përmbledhje detyrash të zgjidhura nga matematika I, Prishtinë-2011			
<b>Designated learning plan</b>			
<b>Week</b>		<b>Lecture</b>	
<b>Week one</b>		Basic mathematical notions: 1. Numbers and their types Sets and set operations	
<b>Week two</b>		Basic mathematical operations: 1. Rules of mathematical operations Numerical scale	
<b>Week three</b>		Algebra: 1. Linear equations in one variable 2. Linear equations in two variables 3. Inequations Absolute value	
<b>Week four</b>		Matrix: 1. Understanding matrices	

	2. Matrix operations Application of matrices
<b>Week five</b>	Determinants: 1. Understanding the determinants (second and third order) 2. The minority method 3. The triangle method Cramer's Rule
<b>Week six</b>	Application of matrices and determinants: 1. Solving systems of linear equations in two variables 2. Solving systems of linear equations in three variables
<b>Week seven</b>	Sequence: Understanding sequence; Types of sequences; Their application in business and economics
<b>Week eight</b>	First written test
<b>Week nine</b>	Limit of sequence
<b>Week ten</b>	Functions of one variable: 1. Ways of representing functions 2. Elementary functions and their graphs. Their application in business.
<b>Week eleven</b>	Limit of functions
<b>Week twelve</b>	Continuous function
<b>Week thirteen</b>	Function derivatives and derivative rules; The macroeconomic model
<b>Week fourteen</b>	Understanding and calculating percentages Financial mathematics: 1. Basic concepts of financial mathematics 2. Investment calculation 3. Calculation of interest rates Simple and compound interest
<b>Week fifteen</b>	Second written test
<b>Academic policies and rules of conduct</b>	
The student is required to attend the lectures regularly and to have appropriate behavior towards the colleagues and the staff of the University, as well as to maintain order in the classroom and actively participate in lectures and exercises.	