SYLLABI

Basic data of the subject	
Academic unit:	**Faculty of Management**
Program:	**Business Management and Entrepreneurship**
Subject title:	**Mathematics for Business**
Level:	**Bachelor**
Case status:	**Obligatory**
Year of studies:	**I**
Semester:	**I**
Number of hours per week:	**3**
Credit value – ECTS:	**6**
Time / location:	**UASF**
Subject teacher:	
Contact details:	
Course Description	Basic concepts of sets and operations with sets, Set of real numbers and operations with real numbers, Elements of linear algebra (budget line equation), Determinants, Matrices and systems of linear equations, Understanding of function and its application, Elementary functions and their graph, Numeric sequences and their application, Limit of sequence and function, Continuity of function, Derivative of function and its application, Elements of financial mathematics.
Course purpose	The purpose of this module is to equip students with knowledge and skills in basic mathematical concepts, elements of financial mathematics, the meaning of function, ways of giving a function, several classes of functions, the meaning of matrices, derivatives, etc. As well as the main goal is their application in the field of business and economics (their field of study), i.e. the development of students' skills and abilities to solve concrete problems in the economic field.
Expected learning outcomes	After completing the course, students will be able to: 1. To have basic conceptual knowledge about the importance of the subject of Mathematics in business, **(ECTS 1.5)** 2. To know and understand the elements of linear algebra in solving problems from the field of business **(ECTS 1.5)** **3.** To acquire the elements of financial mathematics. **(ECTS 1.5)** 4. To know the concept of a series and a function, types of functions, their properties and applications. Their application in economics. **(ECTS 1.5)**

Contribution to the student workload (which should correspond to the student's learning outcomes)			
ACTiViTY	**hour**	**Day/week**	**in total**
Lecture	2	15	30
Theoretical exercises/tasks	1	15	15
Practical work	5	1	5
Contacts with teachers – consultations	1	10	10

Field exercises	1	5	5
Colloquiums – seminars	2	2	4
Homework	2	10	20
Student's personal study time (in the library or at home)			30
Final exam preparation	2	10	20
Time spent on assessment (tests, final exam)	2	3	6
Projects, presentations, etc.	1	5	5
TOTAL			**150**

Teaching methodology and learning methodology	The course lasts 15 weeks with 2 hours of lectures and 1 hour of weekly individual and group exercises. The exercises will be held in the form of individual and group work in which concrete examples will be discussed. Active participation is extremely important, so students are encouraged to regularly attend lectures and exercises and contribute to the discussions that take place in lectures. Lectures, individual work, discussions and group work
Assessment methods and passing criteria	**The assessment method** - is based on three activities - on the basis of which the final grade will be built: ➢ Activity and Engagement in Learning,,,,,**max 10 points (%),** ➢ Final exam (or two tests)…….**max 90 points (%),** **Passing criteria**: 1. **Activity and Engagement in Learning – evaluated with 10 points out of 100 possible points,** • Activity in the lesson (5 points (%)) - means that the student is active and involved in interactive discussions between professors and students, students and students, opening up new topics that are related to the subject, providing ideas, opinions, critical thoughts with the aim of stimulating debate during lectures. • Engagement (5 points (%)) - means that the student completes and presents the tasks that are assigned at the end of each lecture and then discussed at the beginning of the next lecture.. **Goal:** Encouraging critical thinking and creative solution of real situations related to the problems posed - related to teaching and learning in the subject module. **2. The final exam test is evaluated with 90 points out of 100 possible points,** Within the semester, two tests (2 x 45 points (%)) are planned to be held for students actively engaged in lectures, the first test in the 7th or 8th week and the second test at the end of the lectures, the student passes the test if he has at least 22 points (%), since the student is considered to have passed the first test, then the student can take the second test. The student has the right to directly take the final exam - oral or written. The student will take the final exam test, after the end of the lectures of the subject and within the exam deadlines determined by the University Senate.

The purpose of the exam is to assess the student's knowledge, skills, abilities, and competencies, related to the learning outcomes expected for the subject material taught.

The exam test (question form) must be completed individually by the student and is assessed according to criteria and contains:

- objective questions, which will be used to assess the student's ability to remember and recognize the concepts and material of the course……..**40 pikë (%),**
- questions with tasks - for which the student himself must be able to give answers with multiple choice tasks.. **50 pikë (%)**

The student passes the exam if he/she collects 50 points from all evaluation criteria,

Grades at UShAF:

Grading	ECTS/Grade	Percentage (%)	The definition
10	A	90 - 100	Excellent
9	B	80 - 89	Excellent
8	C	70 - 79	Very good
7	D	60 - 69	Good
6	E	50 - 59	Sufficient
5	FX/F	0 - 49	Insufficient

Concretization tools – IT	Use of Smart-board, whiteboard, Internet, wireless, computer, projector, PowerPoint, Use of "on-line" platforms and tools to support communication and team collaboration, etc.
The ratio between the theoretical and practical part of the study	**50% - Theory,** **50% - Practical exercises,** This report aims to analyze the connection between the theoretical knowledge acquired during the lectures provided in the course module and the implementation of practical exercises (practical visits, exercises with students, student quizzes in class, etc.) Of the total 150 hours planned for the course, the division is made according to the ratio of 50% focusing on theory and 50% on practice. • **75 hours** are dedicated to theoretical lectures, including the acquisition of basic concepts, methodologies and standards foreseen in the subject module. • **75 hours** are focused on practical exercises, work visits, case studies, group work, and development of simulation projects. Allocation of 6 ECTS according to the ratio 70%-30% ❖ 3 ECTS (70%) are dedicated to the theoretical part ❖ 3 ECTS (30%) are dedicated to the practical part. This division reflects the balance between acquiring basic concepts and applying them through practical activities.
Literature	
Basic literature	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,
Additional literature	1. Dr.Sc.Razim Hoxha, Përmbledhje detyrash të zgjidhura nga matematika I, Prishtinë-2011,
Designed lesson plan:	
WEEK	**The lecture that will be held**
First week	**Sets, numerical sets and operations with them** This lecture provides the basic concepts regarding sets and operations with them, then numerical sets such as that of natural, whole, rational and real numbers are taken.
Second week	**Elementary Functions and Their Properties** This lecture provides the basic understanding of linear, quadratic, exponential, logarithmic, trigonometric functions and their graphs.
Third week	**Matrices and Determinants** This lecture provides the meanings and operations with matrices and determinants
Fourth week	**Systems of Linear Equations** This lecture provides the meanings and solutions of systems of linear equations, as well as methods for solving them.
Fifth week	**Understanding numerical sequences and their properties** This lecture provides the meanings of numerical sequences, arithmetic sequences, geometric sequences, their applications, and properties such as monotonicity and boundedness.
Sixth week	**Limits of numerical sequences and the number sequence** This lecture gives the limit of sequences and their properties, then the definition of number and their application are taken.
Seventh week	**Properties of Functions** This lecture covers the basic properties of functions, function domains, monotonicity, boundedness, period of a function, etc.
Week eight	**Limit of a function** This lecture gives the meaning of the limit of a function in both the algebraic and trigonometric cases and examines their indefinite forms. It is planned to organize the first Test.
Week nine	**Continuity of functions** This lecture provides the basic concepts regarding continuous functions and presents some of their properties with applications.
Tenth week	**Understanding the derivative of a function** This lecture explains the meaning of the derivative of a function using the example of the tangent of a function's graph. Then, their basic properties, as well as the derivatives of composite functions.

Week eleven	**Applications of Derivatives** This lecture covers some applications of derivatives of functions, such as graphical representation of functions through the derivative, then practical problems in maximum and minimum values, and others.
Twelfth week	**Applications of Derivatives in Economics, Keynes' Macroeconomic Model** This lecture presents the basic model of Keynes' macroeconomic model, which does not take into account state aid and external factors.
Thirteenth week	**Simple and Compound Interest** This lecture provides the meanings and applications of simple and compound interest and addresses specific problems of their examination.
Week fourteen	**Annuities** This lecture provides the basic understanding of annuities and their practical applications.
Week fifteen	**Loan** This lecture provides the basic concepts of loan, its amortization and their practical applications. It is planned to organize the second test,

Academic policies and rules of conduct

The student is obliged to attend lectures regularly and to have correct behavior towards colleagues and University staff, maintaining calm and active engagement in lectures and exercises is mandatory. During lectures and exercises, eating, whispering that hinders work in the classroom and the use of mobile phones are PROHIBITED. At the same time, mobile phones must be turned off or put on silent and not used during lectures or exercises. Lack of academic integrity (including plagiarism, copying another person's work, use of unauthorized aids in exams, cheating, etc.) will not be tolerated. If there are doubts about the authenticity of the work submitted, the professor has the right to ask the student to verify his/her work. This can be done through repeating the work, written or oral testing, surprise quiz or any other action deemed necessary by the lecturer.