Basic data of the subject	
University:	**University of Applied Sciences in Ferizaj**
Academic unit:	**Faculty of Engineering and Informatics**
Program:	**Applied Informatics**
Title of the subject:	**Mathematics**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of studies:	**I, Semester I**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	
Contact details:	
Course Description:	*The subject in mathematics analyzes the meaning of community and relation, logical mathematics, mathematical induction, linear algebra: Matrices and determinants. Systems of linear equations and their solution. Understanding the function, some data about the function. Numeric string. String and function limit. Continuity of function. Derivative of the function. Review and graphical presentation of the function. Integral computation methods (substitution method and partial integration). Applications of integrals. Upon completion of the course, students perceive the essence of the practical application of complex mathematical methods.*
Objectives of the course:	*The aim of the course is to systematize the knowledge of mathematics acquired in school, to acquaint students with the terminology of linear algebra and mathematical analysis, knowledge on the meaning of numbers, function, sequence, derivative of function, integral, which find application in both mathematical disciplines and computer science, etc.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *Apply theoretical knowledge and to demonstrate the understanding and application of mathematical concepts in order to solve problems in different situations, including the real-life context.* • *Solve problems by applying logical mathematics, mathematical induction, matrices and determinants.* • *Analyze the solution and application of systems of non-homogeneous and homogeneous linear equations with many unknowns and with many equations.* • *Acquires the meaning of the function, the meaning of the numeric string, the arithmetic and geometric string, the limit of the string and the function. Continuity of function.*

	• *To master the derivative of the function, the application of the derivative of the function for various problems as well as the review and graphical presentation of the function.* • *To acquire the meaning of the indefinite integral, the methods of calculating integrals (substitution method and partial integration) as well as the applications of integrals.*
Prerequisites:	*Students should have good knowledge of basic mathematics*

Contribution to the student load (which must correspond with learning outcomes)			
Activity	**Hour**	**Day/Week**	**In total**
Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			
Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
Total			**125**

Teaching methodology:	*The course takes 15 weeks with 1.5 hours of lectures and 1.5 hour weekly individual and group exercises.* *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 attend lectures and exercises regularly and contribute to the discussions that take place in lectures. Lectures, exercise, individual work, discussions and group work.*
Assessment methods:	*The student can choose to be assessed one of the two forms of assessment, given below:* *1. Form 1: Evaluation with colloquiums* *2. Form 2: Evaluation with the final exam.* ***Form 1:*** *In the first form of assessment "Assessment with colloquiums" the student is assessed in three activities that are carried out during the lectures:* *1. Colloquium 1 (45%), individual assessment* *2. Colloquium 2 (45%), individual assessment* *3. Class activity (10%), individual assessment*

	If the student is not satisfied with the assessment achieved according to form 1, then he can undergo the assessment according to form 2 to obtain a higher assessment. ***Form 2:*** *Through the final exam, the student can achieve a maximum of 90% of the points from the total of 100 points.* *The rest of the 10% points must be completed by activity carried out during the lectures.* *In Colloquium 1, Colloquium 2 and the final exam, the evaluation of the students will be done through an evaluation form, which must be completed individually by the student. The evaluation form will contain 5 tasks through which the student's learning outcomes will be evaluated.* *Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures.* ***Rating:*** *91-100 points – graded 10 (ten)* *81-90 points – graded 9 (nine)* *71-80 points – grade 8 (eight)* *61-70 points – grade 7 (seven)* *51-60 points – grade 6 (six)* *0-50 points – The student repeats the exam*
The ratio of theory and practice:	*100% Theory with numerical exercises.*
Literature	
Basic Literature:	1. *Ejup Hamiti: Matematika I dhe Matematika II për studentët e Inxhinierisë elektrike dhe kompjuterike (Prishtinë 2009)* 2. *Mr.Sc.S.Sadiku&F.Merovci: Matematika I, Përmbledhje detyrash të zgjidhura. Prishtine 2008*
Additional Literature:	1. *Prof. Dr. Sadri Shkodra, Matematika I. Prishtine 2004* 2. *Prof. Dr. Sadri Shkodra, Matematika II. Prishtine 2004*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Introduction. Communities and relationships*
Week two:	*Algebraic expressions.*
Week three:	*Matrices* *Understanding the matrix, types of matrices.* *Addition, subtraction and multiplication of matrices.* *Inverse matrix.* *Elementary matrix transformations.* *Matrix rank.*
Week four:	*Determinant. Definition and calculation of the determinant.*
Week five:	*Systems of linear equations.*

	Systems of linear equations and their solution by different methods. *Discussion and solution of systems of linear equations depending on the real parameter.*
Week six:	*Function.* *Meaning, some data and types of functions.*
Week seven:	*Test 1*
Week eight:	*Verses. String and function limit.*
Week nine:	*Derivative of the function.*
Week ten:	*Continuity of function.*
Week eleven:	*Review and graphical presentation of the function.*
Week twelve:	*Indefinite integral*
Week thirteen:	*Definite integral.*
Week fourteen:	*Methods for calculating integrals (method of replacement and partial integration). Applications of integrals.*
Week fifteen:	*Test 2*
Academic policies and rules of conduct	
Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.	