

Course title: Mathematics I

Course Basic Information	
Academic Unit:	Faculty of Civil Engineering
Course Name:	Mathematics I
Level:	Bachelor
Course Status:	Mandatory
Year of Study:	I (first)
Number of Hours per Week:	2+2
ECTS Credits:	6
Time /Venue:	Faculty of Civil Engineering
Course Teacher:	Fevzi Berisha
Contact Details:	tel. 044-126-989, e-mail: fevzi.berisha@uni-pr.edu
Course Description	
Course Description	The subject concentrates on the information from the field of mathematics with the aim to facilitate and help other subjects from the field of environmental engineering. . It introduces necessary elements from the Numerical Sets and especially from the set of Real Numbers. Topics from Matrices and Determinants, needed to solve systems of linear equations. Methods used for solving systems of linear equations. Systems of equations given in the different form or manner. Coordinate system in the space. Vectors in space as well as linear and non-linear operations with vectors. The line and plane in space. Surfaces as second degree equations.
Course Goals:	Introduction with the mathematical knowledge applicable in the sciences dealing with measurement of environmental factors.
Expected Learning Outcomes:	At the end of this course students will be able to use and to understand concepts of higher Mathematics with the aim to use this knowledge as an aide in other subjects which use mathematical apparatus. Upon completion of this course students will be able to: -apply numerical sets while analyzing and presenting other concepts from algebra as well as mathematical analysis - to understand the concept of matrix and determinants, to know the properties of determinates which are used in solving of the system of equations. -to solve systems of equations in a different manner - to understand the concept of vectors, linear and non-linear operations with vectors, application of vector properties in the technical sciences. - to present different forms of the equation of plane and line in the space as well as their mutual relations. - to present in the geometrical and analytic way the forms of surfaces in the space.
Student Workload (should be in compliance with student's Learning Outcomes)	

Activity	Hours	Days/weeks	Total												
Lectures	2	1 - 15	30												
Theory/ Lab Work	2	1 - 15	30												
Practical Work															
Consultations with the teacher	1	1 - 15	15												
Field Work															
Test, seminar paper	4	2 - 2	8												
Homework															
Self-study (library or home)	2	2 - 15	60												
Preparation for final exam	4	2 - 2	8												
Assessment time (test, quiz, final exam)	2	1 - 1	2												
Projects, Presentations, etc.															
Total	17	15	153												
Teaching Methods:	<i>Lectures, exercises during class using different materials, one project work in group of 2-3 students (independent work), individual homework</i>														
Assessment Methods:	<table> <tr> <td>First assessment</td> <td>20%</td> </tr> <tr> <td>Second Assessment</td> <td>20%</td> </tr> <tr> <td>Activity during exercises</td> <td>10%</td> </tr> <tr> <td>Attendance</td> <td>10%</td> </tr> <tr> <td>Final Exam</td> <td>40%</td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>			First assessment	20%	Second Assessment	20%	Activity during exercises	10%	Attendance	10%	Final Exam	40%	Total	100%
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Final Exam	40%														
Total	100%														
Literature															
Primary Literature:	<ol style="list-style-type: none"> 1. Fevzi Berisha-Abdullah Zejnullahu: Matematika- për arkitekturë , 1996, Prishtinë. 2. Fevzi Berisha: Përmbledhje detyrash të provimit nga matematika1,2, Prishtinë 2006. 3. Alexs Himonas , Alan Howard- Calculus Ideas and applications,2003 USA 4. Robert T. Smith , Roland B. Minton -CALCULLUS Single Variable, 2002 USA. 														
Additional Literature:	<ol style="list-style-type: none"> 1. Ejup Hamiti – Matematika I, II. Elektro - Prishtinë 2. Isak Hoxha – Matematika I,I Ndërtimtari, Prishtinë 3. Ismet Dehiri – Matematika I,II Fakultet Teknik, Prishtinë 4. Përmbledhje të ndryshme të detyrave 5. Interneti 														
Course Plan:															
Week	Title of the Lecture	exercises													
Week 1:	Real numbers	Solving tasks related to the unit being discussed													
Week 2:	Mathematical induction, binomial formula														
Week 3:	Complex numbers														
Week 4:	Power and the root of complex number														

Week 5:	Matrix, operations	
Week 6:	Determinants, inverse matrix	
Week 7:	System of linear equations	
Week 8:	Methods for solving systems of equations	
Week 9:	Analytic geometry in space	
Week 10:	Linear operations with vectors	
Week 11:	Scalar product of vectors	
Week 12:	Vector and mixed product	
Week 13:	Equation of the plane	
Week 14:	Equation of the line	
Week 15:	Surfaces	

Academic Policies and Rules of Civility:

We start and finish class on time.

Tools used during class must be cleaned and stored away at the end of class.

Mobile/smart phones, and other electronic devices (e.g. iPods) must be turned off (or on vibrate) and hidden from view during class time.

Laptop and tablet computers are allowed for quiet use only; other activities such as checking personal e-mail or browsing the Internet are prohibited.