

Faculty of Philosophy / TEACHER`S EDUCATION / Mathematics III

Course:	Mathematics III			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
2282	Mandatory	3	5	3+1+0
Programs	TEACHER`S EDUCATION			
Prerequisites	There are no pre-conditions for the attendance of this course.			
Aims	Students learn about sets of integers, rational and real numbers and their properties.			
Learning outcomes	Upon the completion of this course, the student will show the ability to: 1. Describe a set of integers, rational and real numbers; 2. Calculate the value of expression with operations in the set of integers, rational and real numbers; 3. Define the order relation and "shared" relation on the set \mathbb{Z} , and prove basic theorems in connection with these relations; 4. Formulate and apply practically the divisibility criteria for numbers: 2, 3, 5, 9 and 25; 5. Represent rational numbers in decimal form; 6. Solve linear equations and the systems of linear equations.			
Lecturer / Teaching assistant	Marijan Marković, Ph.D.			
Methodology	Lectures, seminars, homework, tests.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Construction of a set of integers			
I week exercises	Construction of a set of integers			
II week lectures	Operations in the set of integers.Order in the set of integers.			
II week exercises	Operations in the set of integers.Order in the set of integers.			
III week lectures	The absolute value of numbers.			
III week exercises	The absolute value of numbers.			
IV week lectures	Divisibility in the set of integers.			
IV week exercises	Divisibility in the set of integers.			
V week lectures	The construction of the set of rational numbers			
V week exercises	The construction of the set of rational numbers			
VI week lectures	Operations in the set of rational numbers			
VI week exercises	Operations in the set of rational numbers			
VII week lectures	First test			
VII week exercises	First test			
VIII week lectures	Ranking in the set of rational numbers. The decimal representation of rational numbers			
VIII week exercises	Ranking in the set of rational numbers. The decimal representation of rational numbers			
IX week lectures	The set of real numbers. Operations in the set of real numbers.			
IX week exercises	The set of real numbers. Operations in the set of real numbers.			
X week lectures	Powers and roots of real numbers.			
X week exercises	Powers and roots of real numbers.			
XI week lectures	Equations and inequalities. Solving linear equations and inequalities			
XI week exercises	Equations and inequalities. Solving linear equations and inequalities			
XII week lectures	The systems of two equations with two unknown. Determinants of second order			
XII week exercises	The systems of two equations with two unknown. Determinants of second order			
XIII week lectures	Systems of three equations with three unknowns. Determinants of the third order and their applications.			
XIII week exercises	Systems of three equations with three unknowns. Determinants of the third order and their applications.			

XIV week lectures	Second test					
XIV week exercises	Second test					
XV week lectures	Additional test					
XV week exercises	Additional test					
Student workload	WEEKLY : 5 credits x 40/30 = 6 hours 40 min; Structure: 2 hours of lectures; 2 hours of seminars; 2 hours and 40 min of independent work including office hours and homework; PER SEMESTER: Class attendance and final exams: (6 hours and 40 min) x 16 = 106 hours and 40 min; Necessary preparations before the beginning of the semester (administration, enrolment, verification): 2 x (6 hours and 40 min) = 13 hours and 20 min; Total: 5 x 30 = 150 hours; Additional work for the preparation of the make-up exam: 0 - 30 hours; Structure: 106 hours and 40 min(classes) + 13 hours and 20 min(preparation) + 30 hours(additional work).					
Per week			Per semester			
5 credits x 40/30=6 hours and 40 minuts 3 sat(a) theoretical classes 0 sat(a) practical classes 1 excercises 2 hour(s) i 40 minuts of independent work, including consultations			Classes and final exam: 6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts Total workload for the subject: 5 x 30=150 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 30 hour(s) i 0 minuts Workload structure: 106 hour(s) i 40 minuts (courses), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)			
Student obligations			Students are obliged to attend lectures and seminars regularly, to actively participate in the classes, to do homework and take the tests and exams			
Consultations			After the lectures and seminars			
Literature			- B. Cerović, MATEMATIKA, Univerzitet Crne Gore, Podgorica 2001. g. - S, Milić, ELEMENTI MATEMATIČKE LOGIKE I TEORIJE SKUPOVA, PMF Novi Sad, 1981. g. - S, Milić, ELEMENTI ALGEBRE, PMF Novi Sad, 1984. g. - M. i S. Prešić, UVOD U MATEMATIČKU LOGIKU (Teorija			
Examination methods			Grading is structured within the scale 0-100% of the mastered material, while the passing grade will be achieved with the accumulation of 51% of the total material, as follows: Attendance and Homework – 10 points; Tests – 40 points; Final exams – 50 point			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points