

Faculty of Philosophy / TEACHER`S EDUCATION / Methods of Teaching Mathematics III

<b>Course:</b>	Methods of Teaching Mathematics III			
<b>Course ID</b>	<b>Course status</b>	<b>Semester</b>	<b>ECTS credits</b>	<b>Lessons</b> (Lessons+Exercises+Laboratory)
5034	Mandatory	7	6	3+2+0
<b>Programs</b>	TEACHER`S EDUCATION			
<b>Prerequisites</b>	None			
<b>Aims</b>	<p>Familiarizing students with the content and structure of mathematics education in the first and second cycles of primary school, methodical transformation of these contents, logical and psycho-pedagogical foundations of mathematics education, organization of mathematics education, checking and grading in mathematics education, teaching aids, didactic systems within mathematics education, etc.</p> <p>Mastering the basic contents of mathematics education implemented in primary education, methodical transformation of these contents, and scientific research in mathematics education, as well as the use of computers in implementing mathematics education in younger grades of primary school. Introducing students to interdisciplinary working methods and integrated teaching concepts in which the student has a central role. Training students for creatively preparing and practically conducting mathematics education with the application of innovative teaching methods and strategies in primary education.</p>			
<b>Learning outcomes</b>	<p>After the student passes this exam, he will be able to: Explain mathematical concepts that are formed in primary mathematics education. Choose a methodical form suitable for the teaching situation to achieve the planned mathematical goal in primary mathematics education. Practically implement various types of teaching. Plan and apply ICT in primary mathematics education. Evaluate students knowledge in different forms (oral, written). Independently plan, prepare, and practically achieve operational goals in primary mathematics education and independently create tasks suitable for students abilities and levels of knowledge.</p>			
<b>Lecturer / Teaching assistant</b>	Prof. dr Veselin Mićanović, Milica Drašković, prof.			
<b>Methodology</b>	Interactive teaching includes lectures and discussions, individual activities and student engagement, independent work and completion of homework assignments, consultations, and ongoing assessment of knowledge.			
<b>Plan and program of work</b>				
Preparing week	Preparation and registration of the semester			
I week lectures	Methodological approach to studying set theory content			
I week exercises	Methodological approach to studying set theory content			
II week lectures	Methodological approach to studying numbers up to 100 (addition and subtraction within the first ten, introduction to numbers of the second ten, addition and subtraction up to 20, introduction to numbers up to 100, addition and subtraction within the hundreds)			
II week exercises	School practice			
III week lectures	Formation of the concept of multiplication. Formation of the concept of division.			
III week exercises	School practice			
IV week lectures	Writing and reading numbers up to 1000. Oral addition and subtraction with notation. Dependence of the sum on the addends. Dependence of the difference on the minuend and subtrahend.			
IV week exercises	School practice			
V week lectures	Multiplication and division with notation. Dependence of the product on the factors. Dependence of the quotient on the dividend and divisor. Written addition and subtraction. Written multiplication and division.			
V week exercises	School practice			
VI week lectures	Thousands class. Millions and billions class. Orderliness of the set of natural numbers. Addition and subtraction within the set of natural numbers. Multiplication and division within the set of natural numbers.			
VI week exercises	School practice			
VII week lectures	Colloquium I			
VII week exercises	School practice			
VIII week lectures	Natural numbers and operations with them (order and priority of arithmetic operations). Language in			

	mathematical education. Fractions - methodical approach to handling fractions. Form of fraction $a/b$ ( $a, b \in \mathbb{N}$ ), connection with the arithmetic operation division.
VIII week exercises	School practice
IX week lectures	Algebraic contents. Preparation of tasks with algebraic content (equations). Complex tasks in algebraic contents.
IX week exercises	School practice
X week lectures	Geometric contents. Simple geometric constructions. Plane figures (triangle, quadrilateral, angle, and circle).
X week exercises	School practice
XI week lectures	Methodological approach to studying measurement and units of measurement content (concept of measurement, measurement: length, time, mass and volume of liquid, area, volume). Perimeter and area of square and rectangle. Perimeter of triangle.
XI week exercises	School practice
XII week lectures	Arithmetic tasks in primary mathematics education (structure and types of tasks, place and role of tasks, choice and stages of solving tasks, methods of solving problem tasks). Methodical approach to studying relations content. Spatial relations. Set relations. Numerical relations.
XII week exercises	School practice
XIII week lectures	Colloquium II
XIII week exercises	School practice
XIV week lectures	Developing interest in mathematics. Computer in primary mathematics education. Scientific research in the field of mathematics education.
XIV week exercises	School practice
XV week lectures	Final exam
XV week exercises	/
<b>Student workload</b>	
<b>Per week</b>	<b>Per semester</b>
<b>6 credits x 40/30=8 hours and 0 minuts</b> 3 sat(a) theoretical classes 0 sat(a) practical classes 2 excercises <b>3 hour(s) i 0 minuts</b> of independent work, including consultations	Classes and final exam: <b>8 hour(s) i 0 minuts x 16 =128 hour(s) i 0 minuts</b> Necessary preparation before the beginning of the semester (administration, registration, certification): <b>8 hour(s) i 0 minuts x 2 =16 hour(s) i 0 minuts</b> Total workload for the subject: <b>6 x 30=180 hour(s)</b> 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) <b>36 hour(s) i 0 minuts</b> Workload structure: <b>128 hour(s) i 0 minuts (cources), 16 hour(s) i 0 minuts (preparation), 36 hour(s) i 0 minuts (additional work)</b>
<b>Student obligations</b>	Students are required to attend classes, complete, submit, and explain all homework assignments, actively participate in discussions, and take two midterms as scheduled in the semester.
<b>Consultations</b>	Wednesday, 12:00 PM - 1:30 PM (room 102)
<b>Literature</b>	- M. Marjanović, Metodika matematike, I i II, Učiteljski fakultet, Beograd, 1996. - Souviney, Randall J. (2004) Learning to teach mathematics. San Diego: University of California. - M. Dejić, M. Egerić, Metodika nastave matematike, Učiteljski fakultet u Jagodini, 2005. - Đ. Lekić, Metodika razredne nastave, Prosvetni pregled, Beograd, 1997. - F. Zech, Metodika matematike, Osnovni kurs, Teorijska i praktična uputstva za poučavanje i učenje (prevod sa njemačkog, Zagreb), Bazel 1999. - P. Liebeck »Kako djeca uče matematiku«, Educa, Zagreb, 1995. - T. Malinović, N. Malinović-Jovanović, Metodika nastave matematike, Učiteljski fakultet, Vranje.
<b>Examination methods</b>	Students are graded based on: Two homework assignments, each worth 3 points (total 3 + 3 = 6 points), Regular attendance and active participation in classes worth 4 points, Two quizzes, each worth 10 points (total 20 points), Two practical lectures, each worth 10 points (total 20 points), Final exam worth 50 points. A passing grade is obtained if a cumulative total of at least 50 points is achieved.

<b>Special remarks</b>						
<b>Comment</b>						
<b>Grade:</b>	F	E	D	C	B	A
<b>Number of points</b>	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