

MP003	Mathematics Teaching Methods II	L	P	S	ECTS 6
		2	1	1	

Course objective. The course objective is to acquaint students with making mathematical competencies and the characteristics of a mathematical reasoning. Students will become acquainted with the didactical approach to certain arithmetic and algebraic topics in school. Students will learn to make a written lesson plan for teaching and make their own teaching materials.

Prerequisites. Mathematics teaching methods I

Course content.

1. Mathematical competencies. The components of mathematical ability. Mathematical literacy. The learning outcomes. Mathematical reasoning.
2. Teaching methods and strategies. Organizing teaching: problem solving, heuristic teaching, programmed teaching, guided discovery teaching, experimental teaching, working with text and other media, experiments in mathematics. Cooperative and peer learning.
3. Didactics of teaching of arithmetic and algebra. Number sets in school mathematics. Studying topics from primary and secondary mathematics education and elementary mathematics with demonstration of different methods.

LEARNING OUTCOMES

No.	LEARNING OUTCOMES
1.	Determine learning outcomes for a particular lesson, topics or activity, and properly articulate the lesson goal.
2.	Write lesson plan for teaching mathematics in school
3.	Design, develop and implement different teaching materials.
4.	Design a didactical approach for certain arithmetical concept in school mathematics.
5.	Design a didactical approach for certain algebraic concept in school mathematics.

RELATING THE LEARNING OUTCOMES, ORGANIZATION OF THE EDUCATIONAL PROCESS AND ASSESSMENT OF THE LEARNING OUTCOMES

TEACHING ACTIVITY	ECTS	LEARNING OUTCOME **	STUDENT ACTIVITY*	EVALUATION METHOD	POINTS	
					min	max
Attending lectures and exercises	1	1-5	The presence at lectures, discussions, teamwork and independent work on assignments	Attendance lists, tracking activities	0	10
Seminar	1	1, 2	Writing seminars	Public presentation	10	15
Demonstration lessons	1	1-5	Attending demonstration lesson in school	Attendance lists,	5	15
Written exam (Mid-terms)	2	1-5	Preparing for the written exam	Verification of correct answers (evaluation)	20	30

Final exam	1	1-5	Repeating and revising	Oral exam	15	30
TOTAL	6				50	100

Teaching methods and knowledge assessment. Lectures, exercises and seminars are obligatory. Students are expected to regularly attend classes (obligatory presence on at least 85% of the lectures, exercises and seminars). Other requirements students include: active participation in lectures, exercises and seminars, writing and presenting seminar papers and attending demonstration classes in the school. Seminar papers will be thematically related to the application of teaching methods and strategies in primary and secondary mathematics education. Seminar papers will be assessed. The examination consists of written and oral part.

Can a subject taught in English: Yes

Basic literature:

1. Z. Kurnik, Znanstveni okviri nastave matematike, Element, 2009.
2. M.Pavleković, Metodika nastave matematike s informatikom I, Element, Zagreb, 2001.
3. M.Pavleković, Metodika nastave matematike s informatikom II, Element, Zagreb, 1999.
4. Lj. Jukić Matić, I. Matić, Priručnik za nastavu matematike, Odjel za matematiku, Osijek, 2017.
5. H. J.Vollrath, H.G. Weigand, Algebra in der Sekundarstufe, Spektrum-Verlag, Heidelberg, 2007

Recommended literature:

1. Journals for school teachers
2. Mathematics textbooks for primary and secondary school