COURSE NAME	Methods of Teaching Mathematics I						
Code	PMM122	Year of study	1.				
Course teacher	Nikola Koceić Bilan	Credits (ECTS)	6				
Associate teachers		Type of instruction (number of hours)		L	S	E	
				30	30	30	
Status of the course	Compulsory	Percentage of application of e-learning	15%				

COURSE DESCRIPTION	
Course objectives	Students will: -learn to prepare, organize, implement and give math classes according to the principles of teaching mathematics -learn to implement various teaching methods (traditional and modern) and to apply various strategies on mathematical education on the elementary school level -learn to adjust compulsory mathematical contents depending on age, student's ability and given goals -learn to apply given topics from an elementary mathematics on classes on the elementary school level -learn to define any mathematical notion respecting standards of mathematical definition.
Course enrolment requirements and entry competences required for the course	Entry competences : Students should be familiar with all concepts of elementary mathematics.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	Upon successful completion of this course students will be able to: - prepare and organize math classes - implement principles of teaching mathematics using various teaching methods, various strategies and working methods in mathematical education -determine learning outcomes for given lessons, math topics and various assignments and to articulate correctly math class - write a math lesson plan -figure out and to create various teaching tools and accessories -apply a modern teaching accessories -give a math class in an elementary school -use all mathematical contents , symbols and terminology necessary in primary education -solve any math exercise form school's handbook in methodological proper and mathematical correct manner; and to to formulate an appropriate math exercise -define any mathematical notion respecting standards of mathematical definition and to recognize incorrect mathematical definition.
Course content broken down in detail by weekly class schedule (syllabus)	**Lectures/Seminars/Exercises** 1. Main goal and role of education in Mathematics. Mathematical education in Croatian official documents. Student's competences and learning outcomes. (4+8+8) 2.Mathematics curriculum. Math class and its structure. Micro and macro planning. Written math lesson plan. Math lesson analysis. (2+9+9) 3. Principles of mathematical education. (2+2+2) 4. Teaching methods, various strategies and working methods in math education. teaching tools and accessories. (1+6+6) 5. Analysing of topics from elementary mathematics with a especial care about compulsory mathematical contents of primary education. Various approaches to studying of given math topics depending on age, student's ability and given goals. (7+2+2) 6. Analysing of exercises belonging to selected topics from compulsory mathematical contents of primary education. Different kind of solving exercises. Discussion about number of solution, solvability, conditions and assumptions in exercise, possibilities of further generalization. Role of exercise in the mathematical

	education. Methodology of solving math exercises. Creating and formulation of exercises. (6+2+2) 7. Definition in Mathematics. Defining of notions from elementary mathematics and geometry. Standard and structure of mathematical definition. (8+1+1)
Format of instruction	Lectures, seminars and workshops, exercises, mentorship
Student responsibilities	Attending classes. Students are expected to be present at least 85% of classes. Writing and presenting homework and seminar assignments. Attending classes taught by their mentors (teachers/professors) in an elementary school.
Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Attending classes 3 Attending mentor's classes 0,5 Homework and Seminar assignment 0,5 Colloquium (or written exam) 1 Oral exam or final examine assignment **1**
Grading and evaluating student work in class and at the final exam	Attending lectures, writing homework, writing a seminar assignment, written and oral exam, During the semester, students have the possibility to partially take written exam –colloquium (one during the semester). Students who pass colloquium don't need to take part in the written exam. . A passed written exam along with all other students responbilities is a prerequisite for the oral exam. Instead of the oral exam student can take final examine assignment. Correctly solved assignment, in the written and oral form, leads to successful completion of the course. Final grade is derived from the scores of all course elements (homework and seminar assignments, colloquium or written exam, oral exam or take final examine assignment, total participation in classes during the semester).
Required literature (available in the library and via other media)	1) N. Koceić Bilam, *Nastavni materijal iz Metodike nastave matematike* 2.)Z. Kurnik, *Znanstveni okvir nastave matematike*, Element, Zagreb, 2009. 3) M. Pavleković, *Metodika nastave matematike s informatikom*, 1.dio, Element, Zagreb, 1998. 4) D. Palman, *Geometrijske konstrukcije*, Element, Zagreb, 1995. 5) B. Pavković, D. Veljan, *Elementarna matematika 1.*, Tehnička knjga, Zagreb, 1991. 6) B. Pavković, D. Veljan, *Elementarna matematika 2.*, školska knjga, Zagreb, 1995. 7) M. Pavleković, *Metodika nastave matematike s informatikom*, 2. dio, Element, Zagreb, 1998 8) G. I. Gleizer, *Povijest matematike za školu*, HMD, Zagreb, 2003. 9.) Davis, Hersh, Marchisotto, *Doživljaj matematike*, Tehnička knjiga, 2004.
Optional literature (at the time of submission of study programme proposal)	1.)G. Polya *Kako ću riješiti matematički zadatak*, Školska knjiga,Zagreb, 1966 2.)G. Polya, *Mathematics and Plausible Reasoning*, Princeton Univ. Press, Princeton, 1954 3.) G. Polya, *Mathematical Discovery,* John Wiley & Sons, New York-London, I

	1962., II 1965. 4.) M. Serra, *Discovering Geometry: An inductive Approach*, Key Curriculum Press, 2001. 5.) B. Dougherty, *Research in Mathematics Education*, Information Age Publ. Inc., 2002. 6.) J. A. Van De Walle, *Elementary and Middle School Mathematics*, Allyn et Bacon, 1999. 7.) D. J. Brahier, *Teaching Secondary and Middle School Mathematics*, Allyn et Bacon, 1999. 8.) Časopisi *Matka*, *Poučak*, *Matematika i škola,*
Quality assurance methods that ensure the acquisition of exit competences	Summarizing test results and conducting an anonymous student survey at the end of the course. The survey is conducted according to the rules of the University of Split.
Other (as the proposer wishes to add)	