NAME OF THE COURSE	Elementary Mathematics in basic education					
Code	PMM807	Year of study	3rd year of undergraduate study			
Course teacher	doc.dr.sc. Snježana Braić	Credits (ECTS)	5,0			
Associate teachers		Type of instruction (number of hours)	P	S	V	T
			30	30		
Status of the course	Compulsory	Percentage of application of e-learning	30%			
COURSE DESCRIPTION						
Course objectives	Students will learn, consolidate and deepen basic facts and results of Euclidean geometry of the 3-dimensional space setting the foundation strictly axiomatic. They will acquire basic knowledges about polynomial ring. They will learn to solve cubic and quartic algebraic equations. Students will be introduced with the basics of symmetric polynomial. They will learn the fundamental theorem of symmetric polynomials in two variables.					
Course enrolment requirements and entry competences required for the course	Course enrolment: successfully completed course Elementary geometry					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	The student will be able to: - explain the role of Euclidean geometry in mathematics, its historical and intuitive importance as well as the reasons which led to development of other geometries, most importantly hyperbolic geometry - axiomaticaly define Euclidean geometry of the 3-dimensional space - express and prove theorems as well as excerpt the formulas valid inside this theory - apply the theorems and formulas in solving geometrical problems and excercises - analyze a geometrical problem and think up a solution - define a prism, a pyramid, a cone, a cylinder, a ball and list their properties - recognize different isomerties of the 3-dimensional space and use them in an appropriate manner - state, proove and apply theorems of polynomial ring - compute cubic and quartic algebraic equations - factorize symmetric polynomials in two variables					
Course content broken down in detail by weekly class schedule (syllabus)	- Stereometry axioms (2 hours) - Parallelism and perpendicularity of lines and planes (2 hours) - Angles between lines and planes (2 hours) - Distances between points, lines and planes (2 hours) - Isometric mappings (4 hours) - Polyhedra and volumes of polyhedra (4 hours) - Volumes of solids of rotation (2 hours) - Surface area (2 hours) - Polynomial ring (polynomials of one and several variables) (6 hours) - Cubic and quartic algebraic equations (2 hours)					

	- symmetric polynomials and factoring symmetric polynomials in two variables (2 hours)
Format of instruction	Lectures, exercises.
Student responsibilities	Attendance.
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)*	Attendance – 1 ECTS Colloquium/Written exam – 2 ECTS Oral exam – 2 ECTS
Grading and evaluating student work in class and at the final exam	The exam which requires solving practical and theoretical problems is taken in written form and is followed by an oral theoretical exam. A passed written exam is a prerequisite for the oral exam. The written exam can be taken partialy, in two parts, during class.
Required literature (available in the library and via other media)	- B. Pavković, D. Veljan, Elementarna matematika 1, Tehnička knjiga, Zagreb, 1991. - B. Pavković, D. Veljan, Elementarna matematika 2, Školska knjiga, Zagreb, 1995.
Optional literature (at the time of submission of study programme proposal)	- D. Palman, Stereometrija, Element, Zagreb, 2005. - Schoolbooks and exercises for middle school levels
Quality assurance methods that ensure the acquisition of exit competences	Statistics of test results and student evaluation via anonymous questionnaires 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)	