

COURSE NAME		MATHEMATICS II			
Code	PMM008	Year of study	1st year of undergraduate study		
Course teacher	Tea Martinić Bilać	Credits (ECTS)	8		
Associate teachers		Type of instruction (number of hours)	L	S	E
			45	0	45
Status of the course	Compulsory	Percentage of application of e-learning	30		
COURSE DESCRIPTION					
Course objectives	Focus on intuitive presentation of mathematical theory and on illustrative examples in order to prepare the students for future courses.				
Course enrolment requirements and entry competences required for the course	Courses taken: <i>Mathematics I</i>				
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Students will be able to</p> <ul style="list-style-type: none"> <li>- represent vectors analytically and geometrically, and compute dot and cross products for presentations of lines and planes;</li> <li>- geometrically interpret lines and planes equations, as well as equations of second order curves and surfaces;</li> <li>- compute limits and derivatives of functions of 2 and 3 variables;</li> <li>- apply derivative concepts to solve optimization problems;</li> <li>- use double and triple integrals for area and volume.</li> </ul>				
Course content broken down in detail by weekly class schedule (syllabus)	<ul style="list-style-type: none"> <li>- Vector algebra (4)</li> <li>- Analytic geometry of planes and lines (4)</li> <li>- Plane and space coordinate systems (2)</li> <li>- 2nd order curves and surfaces (4)</li> <li>- Multivariable scalar functions (2)</li> <li>- Limit and continuity of multivariable scalar functions (3)</li> <li>- Partial derivatives (3)</li> <li>- Differential and tangent plane (3)</li> <li>- Taylor series (3)</li> <li>- Local extrema (4)</li> <li>- Optimization and Lagrange multiplier (4)</li> <li>- Double and triple integral (3)</li> <li>- Fubini's theorem, change of variables (3)</li> <li>- Applications of double and triple integral (3)</li> </ul>				
Format of instruction	Frontal lectures and exercises. E-course.				
Student responsibilities	Obligatory attendance of lectures.				

Screening student work ( <i>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</i> )	Lectures attendance (4) Tests (3) Oral exam (1)
Grading and evaluating student work in class and at the final exam	During semester, students write three tests with practical and theoretical tasks.
Required literature (available in the library and via other media)	I. Slapničar, Matematika 1, FESB, Split, 2002. ( <a href="http://lavica.fesb.hr/mat1/">http://lavica.fesb.hr/mat1/</a> ) I. Slapničar, Matematika 2, FESB, Split, 2002. ( <a href="http://lavica.fesb.hr/mat2/">http://lavica.fesb.hr/mat2/</a> ) B.P. Demidovič, Zadaci i riješeni primjeri iz više matematike, Tehnička knjiga, Zagreb, 1989. I. Slapničar, J. Barić, M. Ninčević, Matematika 1 – zbirka zadataka, FESB, Split, 2010. ( <a href="http://lavica.fesb.hr/mat1/">http://lavica.fesb.hr/mat1/</a> )
Optional literature (at the time of submission of study programme proposal)	K. Horvatić, Linearna algebra, 9. izdanje, Tehnička knjiga, Zagreb, 2004. N. Uglešić, Viša matematika I i II, skripta, PMF, Split. Bradič, Pečarić, Matematika za tehnološke fakultete, Element, Zagreb P.V. Minorski, Zbirka zadataka iz više matematike, Tehnička knjiga, Zagreb, 1990.
Quality assurance methods that ensure the acquisition of exit competences	Discussion in classes and official student survey.
Other (as the proposer wishes to add)	