

Study program:	Civil Engineering		
Level of study:	Undergraduate academic studies		
Course title:	Mathematics 3		
Teacher:	Hajnalka Peić		
Course Status:	Compulsory		
Credits (ECTS):	7		
Prerequisite:	Mathematics 2		
Course objective(s):			
The purpose and goals of the course is to develop students' mathematical thinking and enable them to obtain a basic level of knowledge in the mathematical terms and their properties with the aim that they can later apply them in practice.			
Course outcome(s):			
The realization of the planned objectives.			
Course Content:			
1 st week	<i>Theory:</i> Double integral; <i>Practice:</i> Double integral determining, with rectangular region		
2 nd week	<i>Theory:</i> Triple integral; <i>Practice:</i> Double integral determining, with region specified by arbitrary curves		
3 rd week	<i>Theory:</i> Application of the double and triple integrals; <i>Practice:</i> Substitution method for double integrals and their application		
4 th week	<i>Theory:</i> Substitution method; <i>Practice:</i> Triple integral determining		
5 th week	<i>Theory:</i> Series of numbers and the criterions of their convergence; <i>Practice:</i> Substitution method for triple integrals and their application		
6 th week	<i>Theory:</i> Series of functions and criterions of the convergence; <i>Practice:</i> The criterions of the convergence of the series of numbers		
7 th week	<i>Theory:</i> Power series and criterions of the convergence; <i>Practice:</i> Pointwise and uniform convergence of the series of functions		
8 th week	<i>Theory:</i> Systems of ortogonal functions and the Fourier series; <i>Practice:</i> Power series and criterions of the convergence		
9 th week	<i>Theory:</i> The Fourier series of odd and even functions; <i>Practice:</i> Function expansions in the Fourier series		
10 th week	<i>Theory:</i> Interpolation of functions and spline; <i>Practice:</i> The Fourier series of odd and even functions		
11 th week	<i>Theory:</i> Numerical integration; <i>Practice:</i> Series expansions in the series of sine and cosine functions		
12 th week	<i>Theory:</i> Numerical methods for solving nonlinear equations; <i>Practice:</i> Interpolation		
13 th week	<i>Theory:</i> Partial differential equations; <i>Practice:</i> Numerical integration		
14 th week	<i>Theory:</i> Hyperbolic partial differential equations; <i>Practice:</i> Numerical methods for solving nonlinear equations		
15 th week	<i>Theory:</i> Parabolic partial differential equations; <i>Practice:</i> Numerical methods for solving nonlinear equations		
Literature:			
1. J. Detki, F. Ferenci: <i>Matematika 1</i> , Univerzitet u Novom Sadu, Građevinski Fakultet Subotica, Subotica, 1982.			
2. M. P. Ušćumlić, P. M. Miličić: <i>Zbirka zadataka iz više matematike I</i> , Naučna knjiga Beograd, 1986.			
3. O. Hadžić, Đ. Takači: <i>Matematičke metode za studente prirodnih nauka</i> , Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Novi Sad, 2000.			
4. H. Peić, A. Rožnjik, <i>Mađarsko-srpsko-engleski matematički rečnik</i> , Vojvodanski centar za metodiku, Subotica, 2007			
Number of hours:			Other classes: 0
Lectures: 3	Exercises: 3	Other forms of teaching: 0	Individual research work: 0
Teaching methods: Lectures, exercises, colloquiums, consultations			
Evaluation of knowledge (maximum 100 points)			
Pre-exam activities	points	Final exam	points
Activity during the lectures	5	Written exam	60
Activity during the exercises	5	Oral exam	0
Colloquia	30	-	-