COURSE TITLE	CALCULUS					
Course code	SRC106	Year of study	First			
Lecturer(s)	Arijana Burazin Mišura, senior lecturer	ECTS (Number of credits allocated)	6			
Associates		Total lesson hours per semester	Lecture	Seminar	Practical	Laboratory
			45		30	
Course status	Core	Percentage share of e-learning	20%			

COURSE DESCRIPTION	
Course Objectives	1. understanding of the basic concepts of differential and integral calculus 2. theoretical and practical preparation enabling students to apply the acquired knowledge and skills in professional and specialist courses
Course enrolment requirements and entry competencies required for the course	None
Learning outcomes On successful completion of this course, student should be able to:	1. define the basic concepts and principles of differential and integral calculus of real functions and sequences and series 2. interpret the geometric meaning of differential and integral calculus 3. apply the concept and principles of differential and integral calculus to solve geometric and physical problems 4. analyze the properties of functions based on graph 5. organize solving of complex problems by combining the acquired mathematical concepts and principles
Course content	Functions The functions of a real variable. Defining and classification, limit, continuity, asymptotes, a review of elementary functions. Computing logarithms and general potency. Exponential equation. Logarithmic equations. Graphing functions. Definition of trigonometric functions. Calculating the value of trigonometric functions. Differential and integral calculus Derivation, differential, multiple derivatives and differentials, mean value theorem, monotony, extremes, curvature, flow testing tool. Integral calculus. Definition of indefinite integrals and basic methods of integration. The concept and properties of definite integrals. Newton-Leibnitz formula, definite integral, applications of definite integrals. Sequences and series A Sequences of real numbers, series of real numbers, function sequences, function series, Taylor and Maclaurin series

Types of teaching:		
	☒ lecture	☐ self-study
	☐ seminars and workshop	☐ multimedia
	☒practical	☐ laboratory
	☒combined e-learning	☐ mentoring work

	☐ field research	☐ (others)
Student obligations	Attendance at lectures and exercises in the amount of at least 70% scheduled hours (for part-time students the obligation is 50% attendance).	

Monitoring student work (enter the share in ECTS credits for each activity so that the total number of ECTS credits corresponds to the credit value of the course):						
	Class attendance	2,5	Research		Practical work	
	Experimental work		Report		Consultations	0,2
	Essay		Seminar		(others)	
	Self-study	2,8	Workshop		(others)	
	Project		Office hours, mid-term exams and final exam	0,5	(others)	

Assessment and evaluation of student work during classes and at the final exam

CONTINUOUS ASSESSMENT		
Continuous testing indicators	Performance A_i (%)	Grade ratio k_i (%)
First mid-term exam	50-100	50
Second mid-term exam	50-100	50

FINAL ASSESSMENT		
Indicators checks	Performance A_i (%)	Grade ratio k_i (%)
Final exam (written)	50 - 100	50
Theoretical exam (written and / or oral)	50 - 100	50
Indicators checks	Performance A_i (%)	Grade ratio k_i (%)
Final exam (written)	50 - 100	50
Theoretical exam (written and / or oral)	50 - 100	50

The grade (in percentages) is formed on the basis of all indicators that describe the level of student activities according to the relation:

$$Grade\,(\%) = \sum_{i=1}^{N} k_i A_i$$

k_i - weighting factor for each activity,
A_i - success in percentage achieved for a particular activity,
N - total number of activities.

<table>
<tr><td></td><td>
<table>
<tr><th colspan="3">PERFORMANCE AND GRADE</th></tr>
<tr><th>Percentage</th><th>Criteria</th><th>Grade</th></tr>
<tr><td>50% - 61%</td><td>basic criteria met</td><td>sufficient (2)</td></tr>
<tr><td>62% - 74%</td><td>average performance with some errors</td><td>good (3)</td></tr>
<tr><td>75% - 87%</td><td>above average performance with minor errors</td><td>very good (4)</td></tr>
<tr><td>88% - 100%</td><td>outstanding performance</td><td>outstanding (5)</td></tr>
</table>
</td></tr>
<tr><td>Required reading</td><td>1. Rivier K: Zbirka riješenih zadataka II i III, Veleučilište u Splitu (2003)</td></tr>
<tr><td>Optional reading</td><td>2. Doščić, T, Sandrić, N: Matematika 1, Građevinski fakultet, Sveučilište u Zagrebu
3. Bruckner, F.M., Pažanin, I: Matematika 1 za kemičare, http://prelog.chem.pmf.hr/~fmbruckler/main1-2012.pdf</td></tr>
<tr><td>Quality monitoring to ensure the acquisition of established learning outcomes</td><td>• Records of class attendance and success in performing student obligations
• Updating detailed course curricula
• Supervision of teaching activities
• Continuous quality control of all parameters of the teaching process in accordance with the Action Plans
• Semester-based student survey in accordance with the "Ordinance on the procedure of student evaluation of teaching work at the University of Split" (UNIST, Centre for Quality Improvement).</td></tr>
<tr><td>Other information</td><td></td></tr>
</table>