Study program: Modern Computer Technology / Communication Technology / Civil Engineering

Course: Mathematics 2

Professor/Assistant: PhD Nataša Savić / PhD Nataša Savić

Status of course: compulsory

ECTS credits: 6

Pre-requisites: none

Aims of the course:
- acquiring necessary knowledge for successful teaching of professional subjects;
- application of mathematical tools in solving engineering problems;
- systematization and deepening knowledge related to the functions of a real variable, differential and integral account.

Learning outcomes:
A student is able to:
- defines the function and explains the basic characteristics of a function of one variable (definition, parity, non-transparency, periodicity, boundary value, and continuity)
- calculates derivative and differential of a function;
- apply a derivative in determining characteristics of a function;
- analyze and draw a function graphic;
- calculates the limit value of the function using Lopital's rule;
- different integration methods for indefinite integrals and apply the Newton-Leibniz formula for closed integrals;
- apply a closed integral in calculating the area, volume, and length of the curve;
- it distinguishes types of differential equations of the first order and applies the appropriate method for solving them.

Syllabus:

Theoretical part

Practical part
The exercise program follows the theoretical lessons.

Literature:
1. S. Minčić, Viša matematika I sa rešenim primerima i zadacima za vežbu, Univerzitet u Nišu, 2014

Number of active classes
<table>
<thead>
<tr>
<th>Lectures: 2</th>
<th>Practical classes: 2</th>
<th>Laboratory classes: 0</th>
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Teaching methods:
Combined and interactive classes with solving practice cases.

Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.

<table>
<thead>
<tr>
<th>Pre-commitments</th>
<th>points</th>
<th>Final exam</th>
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<tbody>
<tr>
<td>activity during lectures</td>
<td>10</td>
<td>written exam</td>
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<tr>
<td>homework</td>
<td>20</td>
<td>oral exam</td>
<td>30</td>
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<td>colloquium(s)</td>
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<tr>
<td>Sum</td>
<td>70</td>
<td>Sum</td>
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