### Study program: Modern computer technologies

**Course title:** Electrical Engineering 2  
**Professor/assistant:** Dejan Blagojevic / Natasa Bogdanovic  
**Type of course:** compulsory  
**ECTS credits:** 7

### Pre-requisites:

### Aims of the course:
- get acquainted with the basic laws, principles and terminology in the field of electromagnetism,  
- get acquainted with time-varying current,  
- become familiar with the calculation of basic variables in electromagnetic circuits,  
- become familiar with the basic variables in the AC circuit.

### Learning outcomes:
Student is able to:
- calculate the basic parameters of the electromagnetic field of homogeneous symmetric structures,  
- solve simple magnetic circuits,  
- solve simple circuit alternating current,  
- establish an active, reactive and apparent power in the car AC,  
- improve the power factor in single-phase and three-phase drives,  
- determine the resonance and anti resonance frequency and apply this knowledge in related professional subjects.

### Syllabus

#### Theoretical part

#### Practical part
Practical classes follow the theory; laboratory exercises are a practical assessment of the basic laws and principles that drive alternating current: Ohm's law, Kirchhoff laws, power factor correction, setting the resonant and anti-resonant frequency.

### Literature

### Number of active classes

| Lectures: 45 | Practical classes: 45 | Research work: |

### Teaching methods
Theoretical and practical teaching in combination with interactive teaching with practical problem solving.

### 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.

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<tr>
<th>Pre-exam obligations</th>
<th>points</th>
<th>Final exam</th>
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<tbody>
<tr>
<td>activity during theoretical lectures</td>
<td>10</td>
<td>written exam</td>
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<tr>
<td>practical training</td>
<td>20</td>
<td>oral exam</td>
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<td>colloquium(s)/seminar papers</td>
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<tr>
<td>Sum</td>
<td>30</td>
<td>Sum</td>
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<td>70</td>
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