Course: Power Electronics 1

Course code: EE305
ECTS credits: 5
Lecturers: Vladimir Katić

Number of classes (per week)
- Lectures: 2
  - Practice: 1
  - Other forms of classes: 1

Precondition Courses
- 

1. Educational objectives:

Power Electronics 1 course objective is to enable the student to design and apply devices for converting parameters of electrical energy using the powerful electronic switching components and methods of digital control, that is, in addition to the theoretical studying of strong semiconductors and modes of all kinds of converters (AC/DC, DC/DC, DC/AC and AC/DC), students acquire the necessary practical experience to apply the acquired knowledge in the economy.

2. Educational outcomes (acquired knowledge):

After mastering the course Power Electronics 1, students will be able to understand the principles and operation methods of power electronic conversions with strong semiconductor components, to solve and calculate simple solutions of power converters, as well as to apply commercial industrial power converters to electromotive drives and similar applications. They will be able to calculate methods of protection of these devices, as well as to predict their negative impact on network and fed consumers.

3. Course content/structure:


4. Teaching methods:

Lecturing theoretical operational principles of strong electronic components and power electronic converters, Auditory Practice where problems of calculation of the power converters and their protective circuits are solved, Laboratory Practice where students gain practical proof of the theoretical knowledge and gain necessary practical experience and confidence using modular approach and independent work.

Knowledge evaluation (maximum number of points 100)

<table>
<thead>
<tr>
<th>Pre-exam assignments</th>
<th>Compulsory</th>
<th>Points</th>
<th>Final examination</th>
<th>Compulsory</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Lecture attendance</td>
<td>Yes</td>
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<td>Practical part of the exam</td>
<td>Yes</td>
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<td>Laboratory exercise attendance</td>
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<td>Laboratory exercise defence</td>
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<td>Test</td>
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Literature

Relevant literature in English