

Course title: Basics of Electrical Engineering II

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
131002072	Mandatory	II	7.5	3+2+1

Study program:

Basic academic studies, ELECTRICAL ENGINEERING, study program: Electronics, Telecommunications and Computer engineering (studies last for 6 semesters, 180 ECTS credits).

Prerequisites:

Basics of electrical engineering I.

Course aims:

In this course, students are introduced with basic ideas of general electrical engineering, basic laws describing electrostatic field, and basic ideas and methods for analysis of the circuits with the time constant current

Teacher(s) and assistant(s):

PhD Gojko Joksimović, assistant professor – teacher

PhD Ana Jovanović – assistant

MSc Vesna Rubežić - assistant

Teaching method:

Lectures (which include exercises). Laboratory exercises, studying and doing home exercises. Consultations.

Course synopsis:

Preliminary weeks	Preparation and semester enrolment.
I week	Magnetic field and vector of the electromagnetic induction. Biot-Savart's law
II week	Magnetic flux. Ampere's law
III week	Ferromagnetic materials. General Ampere's law. Magnetic circuits.
IV week	Faradey's law of the electromagnetic induction. Self and mutual inductivity.
V week	Energy of the magnetic field.
VI week	First test
VII week	Free week
VIII week	Basic concepts about periodic and simple periodic quantities.
IX week	Graphic representation of the simple periodic quantities. Elements and structure of the electric circuits.
X week	General equations. Power in the simple-periodic current circuits.
XI week	Complex calculus. Contour current method and nodes' potential method. Basic theorems.
XII week	Basic resonator's circuits.
XIII week	Second test
XIV week	Magnetic coupled electrical circuits.
XV week	Three-phase electrical circuits.
XVI week	Final exam
Final week	Administrative procedures.
XVIII-XXI week	Additional lessons, correction of the final exam and administrative procedures.

STUDENT WORKLOAD

<u>per week</u>	<u>per semester</u>
7.5 credits x 40/30 = 10 hours	Teaching and the final exam: (10 hours) x 16 = 160 hours
Working hours structure:	Necessary preparation (before semester): 2 x (10 hours) = 20hours
3 hours for teaching	Total work hours for the course: 7.5 x 30 hours = 225 hours
2 hour for exercises	Additional hours for preparing correction of the final exam, including the exam taking: up to 30 hours.
1 hour for laboratory exercises	Work hours structure:
4 hours for individual work, including consultations.	160 hours (lectures) + 20 hours (preparation) + 45 hours (additional work)

Lessons attendance is mandatory for students, as well as doing laboratory exercises, home exercises and both tests.

Literature: G.Joksimović, Osnove Elektrotehnike II, handout
G.Joksimović, Zbirka zadataka iz Osnova Elektrotehnike II

The forms of knowledge testing and grading:

- Home exercises carry 5x1 points (one point each)
- Laboratory exercises carry 5 points (one point each)
- Each test carries 20 points (40 points total)
- Final exam carries 50 points.

Student gets the passing grade by collecting 50 points at least.

Special remarks for the course: If needed, the course can also be taught in English.

Teacher(s) who provided the information: PhD Gojko Joksimović, assistant professor

Remark: Additional information about the course can be found at the site www.oet.cg.yu