

Course title: Basics of computer engineering II

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
131002098	Mandatory	II	6.5	2+1+2

Study program:

Basic academic studies, ELECTRICAL ENGINEERING, study program: Power systems and Control (studies last for 6 semesters, 180 ECTS credits).

Prerequisites:

No prerequisites required.

Course aims:

To familiarize students with basic algorithm steps, presentation of algorithm as corresponding pseudocode and algorithmic scheme, algorithm complexity, modern mathematical and technical program tools, symbolic and numerical problem solving by using mathematical program tools.

Teacher(s) and assistant(s) first and last names:

Ph.D. Igor Đurović – teacher
 M.Sc. Slobodan Đukanović – assistant, M.Sc. Vesna Popović – assistant,
 M.Sc. Đuro Stojanović – assistant, Predrag Raković - assistant

Studying method:

Lectures, exercises and laboratory exercises, individual work on practical tasks, consultations.

Course synopsis:

Preliminary weeks	Preparation and semester enrolment.
I week	Introduction. Development of algorithms and program languages.
II week	Algorithm steps and their presentation.
III week	Complexity of algorithms.
IV week	Introduction to mathematical and engineering program tools. Data presentation.
V week	Elementary operations with matrices and number fields. Graphical presentation of data.
VI week	First test
VII week	Free week
VIII week	Determination of basic statistical quantities.
IX week	Control-flow statements.
X week	Procedures.
XI week	Polynomials and data interpolation.
XII week	Second test
XIII week	Symbolic problem solving.
XIV week	Specialized tools for symbolic calculations.
XV week	Basics of a graphical user interface.
XVI week	Final exam
Final week	Administrative procedures.
XVIII-XXI week	Additional lessons, correction of the final exam and administrative procedures.

STUDENT WORKLOAD

per week	per semester
Working hours: 6.5 credits x 40/30 = 8 hours and 40 min.	Teaching and the final exam: (8.66 hours) x 16 = 138 hours and 40 minutes.
Working hours structure: 2 hours for teaching 1 hour for exercises 2 hour for laboratory exercises 3 hours and 40 minutes for individual work, including consultations.	Necessary preparation (before semester): 2 x (8.66 hours) = 17 hours and 20 minutes. Total work hours for the course: 6.5 x 30 hours = 195 hours Additional hours for preparing correction of the final exam, including the exam taking: up to 39 hours. Work hours structure: 138 hours and 40 minutes (lectures) + 17 hours and 20 minutes (preparation) + 39 hours (additional work)

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

Literature:

Z. Uskoković, Lj. Stanković, I. Đurović: Matlab for Windows, Univerzitet Crne Gore, 1998.

The forms of knowledge testing and grading:

- Laboratory exercises carry 5x2 points.
- 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: The teaching is organized for student groups with approximately 60 students and laboratory is organized for groups with 10 students. If needed, the course can be also taught in English.

Teacher(s) who provided the information: Ph.D. Igor Đurović

Remark: Additional information at www.etfprog.cg.ac.yu