

Course title: Computer programming I

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
131003141	Mandatory	III	6	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. Passed final exams in courses **Basics of computer engineering I** and **II** desirable.

Course aims:

To familiarize students with basics of structural programming languages, with accent put on control-flow statements, functions, structures, operations with files, as well as elements of complex (linked) data types.

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

Ph.D. Igor Đurović – teacher
 M.Sc. Boris Marković – assistant
 M.Sc. Slobodan Đukanović – assistant
 M.Sc. Đuro Stojanović – 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 program languages.
II week	Programming terminology.
III week	Control-flow statements. Elementary data types.
IV week	Arrays and strings. Program structure in C programming language. Input and output.
V week	Pointers. Functions. Call by value. Functions - call by reference.
VI week	First test
VII week	Free week
VIII week	Recursion. Function as an argument of a function. Static and global variables.
IX week	Files. Structures, unions and enumerations.
X week	Program libraries.
XI week	Lists.
XII week	Second test
XIII week	Graph – basics.
XIV week	Trees. Binary trees.
XV week	Summary.
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>
Working hours: 6 credits x 40/30 = 8 hours.	Teaching and the final exam: (8 hours) x 16 = 128 hours.
Working hours structure: 2 hours for teaching 1 hour for exercises 2 hour for laboratory exercises 3 hours for individual work, including consultations.	Necessary preparation (before semester): 2 x (8 hours) = 16 hours. Total work hours for the course: 6 x 30 hours = 180 hours Additional hours for preparing correction of the final exam, including the exam taking: up to 36 hours. Work hours structure: 128 hours (lectures) + 16 hours (preparation) + 36 hours (additional work)

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

Literature: I. Đurović, S. Đukanović, V. Popović: Programski jezik C sa zbirkom urađenih zadataka, Univerzitet Crne Gore, Elektrotehnički fakultet, Podgorica, 2006.

The forms of knowledge testing and grading:

- Home exercises carry 5x1 points.
- Lessons attendance carries 5 points.
- Each test carries 20 points (40 points total).
- Final exam carries 50 points.

Student gets the passing grade by collecting 51 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