

Course title: Mathematics applied in computer engineering

Course code	Course status	Semester	Number of ECTS credits	Lecture hours
132002066	Mandatory	II	7	3+2

Study program: Basic applied studies, ELECTRICAL ENGINEERING, study program: Computer engineering (studies last for 6 semesters, 180 ECTS credits).	
Prerequisites: No prerequisites required.	
Course aims: Students are introduced with some selected mathematic chapters, directly implemented in computer sciences.	
Teacher(s) and assistant(s): Ph.D. Ljubiša Stanković – teacher, Ph.D. Miloš Daković – assistant, Mr Snežana Vujošević – assistant	
Teaching method: Teaching lectures (including exercises), studying and individually doing home exercises. Consultations.	
Course synopsis: Analytical geometry. Line and plane equations in a space. Line equation in a plane.	
Preliminary weeks	Preparation and semester enrolment.
I week	Basic set operations and their properties.
II week	Relation concept, relation representation methods, relation composition
III week	Basics of Boolean algebra, Logical functions.
IV week	Minimization of logical functions, Incompletely defined logical functions
V week	Basics of coding theory, Codes for error detection and correction
VI week	First test
VII week	Free week
VIII week	Computation with approximate values, Recursive relations
IX week	Numerical methods (integration, differentiation, determination of the zeros of function)
X week	Numerical methods (interpolation methods and function approximation)
XI week	Basics of Fourier's analysis
XII week	Second test
XIII week	Basics of probability theory
XIV week	Statistics.
XV week	Graph theory.
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 credits x 40/30 = 9 hours and 20 minutes	Teaching and the final exam: (9 h 20 min) x 16 = 149 hours and 20 minutes.
Working hours structure:	Necessary preparation (before semester): 2 x (9 h 20 min) = 18 h and 40 min.
3 hours for teaching	Total work hours for the course: 7 x 30 hours = 210 hours
2 hours for exercises	Additional hours for preparing correction of the final exam, including the exam taking: up to 42 hours.
4 hours and 20 minutes for individual work (including consultations, doing home exercises, tests and final exam preparation).	Work hours structure:
	149 hours and 20 minutes (lectures) + 18 hours and 40 minutes (preparation) + 42 hours (additional work)
Lessons attendance is mandatory for students, as well as doing home exercises and both tests.	
Literature: Basic: Handout - Matematika u računarstvu za studijsku 2004/2005.g. Additional: A. Doerr, K. Lvasseur, Applied Discrete Structures for Computer Science, Science research association B. Kolman, R.C. Busby, Discrete Mathematical Structures for Computer Science	
The forms of knowledge testing and grading:	
- 5 home exercises carry 5 points total (1 point each)	
- Each test carries 22.5 points (45 points total).	
- Final exam carries 50 points.	
Student gets the passing grade by collecting 51 points at least.	
Special remarks for the course: Teaching lessons are organized for student groups of about 60 students.	

Teacher(s) who provided the information: Ph.D. Ljubiša Stanković

Remark: Additional course information: <http://www.dos.cg.ac.yu/mur>