

Course Unit Descriptor

<b>Study Programme:</b> Power, Electronic and Telecommunication Engineering (Microcomputer Electronics)			
<b>Course Unit Title:</b> Analog Microelectronic Circuits			
<b>Course Unit Code:</b> EM301A			
<b>Name of Lecturer(s):</b> Kalman Babković			
<b>Type and Level of Studies:</b> Bachelor level			
<b>Course Status (compulsory/elective):</b> compulsory			
<b>Semester (winter/summer):</b> winter			
<b>Language of instruction:</b> english			
<b>Mode of course unit delivery (face-to-face/distance learning):</b> face-to-face			
<b>Number of ECTS Allocated:</b> 6			
<b>Prerequisites</b> Computer aided design of analogue integrated circuits, Telecommunication electronics			
<b>Course Aims:</b> Acquiring basic knowledge in the fields of analog microelectronic circuits, amplifiers, feedback, sine-wave oscillators, power supplies and converters. The students will be prepared for electronic circuit simulation. Acquiring basic knowledge needed for analog integrated circuit design.			
<b>Learning Outcomes:</b> Ability to analyze and basic knowledge to design: voltage and power amplifiers, amplifiers with various frequency characteristics, amplifiers with feedback, operational amplifier circuits, sine-wave oscillators, power supplies. Acquiring the basic knowledge to design analog and basic digital integrated circuits.			
<b>Syllabus:</b> Single- and multi-stage amplifiers, differential amplifiers, frequency characteristics of amplifier, power amplifiers, analysis of electronic circuits in SPICE, amplifiers with feedback, operational amplifiers, stability of feedback amplifiers, sine-wave oscillators, power supplies, active filters, polarization of analog integrated circuits, AD and DA converters.			
<b>Required Reading:</b> Relevant literature in English			
<b>Weekly Contact Hours:</b> 6	<b>Lectures:</b> 3	<b>Practical work:</b> 3	
<b>Teaching Methods:</b> Lectures; Computer Practice; Laboratory Practice; Consultation.			
<b>Knowledge Assessment (maximum of 100 points):</b> 100			
<b>Pre-exam obligations</b>	points	<b>Final exam</b>	points
Laboratory exercise defence	25	Written Part of the Exam	65
Laboratory exercise attendance	5		
Lecture attendance	5		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			