

		Course title: <i>Design of analog integrated circuits</i>		
Course code	Course status	Semester	Number of ECTS credits	Lecture hours
<i>PA1204</i>	<i>Elective</i>	<i>II</i>	<i>5</i>	<i>3L+1E</i>

Study program: Graduate academic studies, ELECTRICAL ENGINEERING, study program: Electronics, Telecommunications and Computer engineering (studies last for 4 semesters, 120 ECTS credits).	
Prerequisites: No prerequisites required.	
Course aims: Students will be introduced in the basic design of analog integrated circuits: Different types of amplifiers, current transmitter, circuits with switching capacitors, transconductors, elements controlled by voltage, translinear loop and noise.	
Teacher(s) first and last names: Prof. Dr Nikša Tadić	
Studying method: Lectures, exercises, consultations.	
Course synopsis:	
Preliminary week	Preparation and semester enrolment.
I week	Current mirror with the increased range of output voltage and increased output resistance
II week	Two-level operational amplifier
III week	Folded cascode operacioni pojačavač
IV week	Differential oerational amplifier
V week	Feedback circuit of a signalwith average valuei
VI week	<i>I colloquium</i>
VII week	Free week
VIII week	Current transmitters
IX week	Circuits with switching capacitors
X week	Transconductors
XI week	Elements controlled by the voltage
XII week	Circuits with translinear loops
XIII week	<i>II colloquium</i>
XIV week	Noise in time domain
XV week	Noise i frequency domain
XVI week	<i>Final exam</i>
Final week	Administrative procedures.
XVIII-XXI week	Additional lessons, correction of the final exam and administrative procedures.
STUDENT WORKLOAD	
<u>per week</u> 5 credits x 40/30 = 6 h and 40 min Working hours structure: 3 h for lectures 1 h for exercises 0,5 h for lab.exercises 2 h i 10 min for individual work including consultations	<u>per semester</u> Teaching and the final exam: (6 h 40 min) x 16 = 106 h 40 min Necessary preparation (before semester): 2 x (6 h i 40 min) = 13 h and 20 min Total work hours for the course: 5x30 = 150 h Additional hours for preparing correction of the final exam, including the exam taking: up to 30hours. Working hours structure: 106 h and 40 min. (Lectures)+13 h and 20 min. (Preparation)+30 h (Additional work)
Lessons attendance is mandatory for students, as well as doing homeworks and colloquiums, etc.	
Literature: [1] P. R. Gray, P. J. Hurst, S. H. Lewis, and R. G. Meyer, <i>Analysis and Design of Analog integrated Circuits</i> , 4 th edition, New York: John Wiley & Sons, 2001. [2] D. Johns, and K. Martin, <i>Analog Integrated Circuit Design</i> , New York: John Wiley & Sons, 1997.	
The forms of knowledge testing and grading: - Homeworks - 10 points, - 2 colloquiums - 20 points (40 points in total) - Final exam - 50 points. Student gets the passing grade by collecting 50 points at least.	
Special remarks for the course	

Teacher(s) who provided the information: Prof. Dr Nikša Tadić

Note: