

Assessment and subject description

Óbuda University		Institute of Microelectronics and Technology		
Kandó Kálmán Faculty of Electrical Engineering		Institute of Microelectronics and Technology		
Subject name and code: Analogue and digital circuits I., KMEAD14NEC, Credits: 4				
Full-time, Spring Semester				
Course: Mechatronic engineering				
Responsible:	Dr. Balázs Kovács. associate professor	Teaching staff:	Levente Bodrog, András Mészáros	
Prerequisites:		Electrical Engineering I.		
Contact hours per week:	Lecture: 1	Class discussion: 0	Lab hours: 2	Tutorial: 0
Assessment and evaluation:	Midterm grade			
Subject description				
Aims: The course aims to give an overview of the discrete and integrated digital circuits. Helps to understand, handle and design electronic circuits.				
Topics to be covered: differential amplifiers, current sources, oscillators, filters, multivibrator, digital circuits.				
Topics			Week	Lessons
1. Differential amplifiers Circuit diagrams, operation.			1.	2
2. Current sources BJT, operational amplifier design			3.	2
3. RLC circuits			5.	2
4. Filters Specs and design			7.	2
5. Oscillators			9.	2
6. Logical circuits I. Multivibrators			11.	2
7. Logical circuits II. TTL, BJT circuit families			13.	2
Laboratory subjects				
1. RLC circuits			4	
2. Pulse techniques			4	
3. Inductively-coupled oscillators			4	
4. BJT and FET current sources			4	
5. Symmetric amplifiers			4	
6. Operational amplifiers			4	
7. Supplement			4	
Assessment and evaluation				
<u>Requirements of the grade:</u>				
- The absenteeism rate should not exceed 30% of the class hours.				
- Two tests during the semester must be completed successfully.				
- All laboratory practices must be completed successfully.				
The grade is calculated: based on the test results and the laboratory grades.				
Suggested material				
Tietze, Schenk: Electronic Circuits				