

Óbuda University Bánki Donát Faculty of Mechanical and Safety Engineering				Institute of Mechatronics and Vehicle Engineering			
Subject title and code:		Electronics BMXEL93BNE				Credits: 5	
Full-time study		2		ac. 1		semester	
		year					
The course is available at:		mechatronical engineering					
Supervised by:		Dr. Nagy Andras		Instructors:		Dr. Nagy Andras	
Prerequisite (neptun code):		Electrotechnics, BMXET12BNF					
Weekly number of lessons							
Lecture: 2		Group seminar: 1		Lab: 1		Consultation:	
Way of assessment:		Exam		(Written)			
Online consultation (in case it's required): ... (BBB link)							
Edu. goal:		The aim of this university course is to teach students the fundamentals of analog electronics, focusing on signal amplification, semiconductor devices, and circuit analysis. Students will learn about the structure and operation of diodes, transistors (BJTs, JFETs, MOSFETs), and operational amplifiers, as well as how to design and analyze circuits using these components. The course covers both theoretical concepts and practical applications					
Schedule							
Education week		Topics					
1.		Physical and electrochemical fundamentals of semiconductors, PN junctions. The structure and operation of the semiconductor diode					
2.		Bipolar and FET transistors, their structure and operation					
3.		Transistor biasing					
4.		1st midterm exam					
5.		General amplifiers					
6.		Basic circuits of bipolar transistors					
7.		Basic circuits of FET transistors					
8.		2nd midterm exam					
9.		Structure, operation, and characteristics of operational amplifiers					
10.		Basic configurations of operational amplifiers					
11.		Multistage amplifiers					
12.		Power electronics					
13.		3rd midterm exam					
14.		Retake					
Mid-semester requirements							
Test		Assignment to be submitted		Szöveg beírásához kattintson vagy koppintson ide.			
amount	dates	amount	deadlines	amount	dates		
3	as described						
According to the HKR attendance of group seminars and lab exercises are mandatory.							
Other requirements for participation in sessions not covered by the regulations and restrictions on substitutions:							
Test		Assignment to be submitted		Szöveg beírásához kattintson vagy koppintson ide.			
maximum points available	minimum score required to pass /test	maximum points available	minimum score required to pass / assignment	maximum points available	minimum score required to pass /lab		
100points	40points	...points	...points	...points	...points		

Total number of points achievable in semester: ...points				
Grading thresholds	satisfactory 40 % and above	average 57 % and above	good 73 % and above	excellent 88 % and above
Other evaluation criteria:				
Receive a signature				
denied entry:				
Required references: Neamen, Donald A.: Semiconductor Physics and Devices: Basic Principles, 4th Edition (2012) McGraw-Hill Education ISBN: 978-0073529585				
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Quality assurance methods of the subject:				

Things, that are not included, can be found within the regulations of Óbuda University.