

Discipline	Analog Circuits code: 5062 Semester – /winter/		
Specialty	Electronics		
ECTS credits: 7	Form of assessment: Exam		
Lecturer	Associate Professor, PhD Ekaterina Dimitrova Room: 501E Phone: +359 52 383 340 E-mail: ekaterinad@tu-varna.bg		
Department	Department of Electronics and Microelectronics		
Faculty	Faculty of Computer Sciences and Automation		
Learning objectives			
<p>The lecture course "Analog Circuit Engineering" aims to acquaint students with the principles of operation and application of a wide range of electronic circuits and devices with analogue action. The goal-oriented tasks help students learn the basic methods and tools for analysing the properties and parameters of such circuits as well as the approaches to synthesizing analog electronic circuits. The main topics are: General Information on Electronic Systems and Amplifiers; Feedbacks in electronic systems; DC and AC Amplifiers with Bipolar Junction Transistors; Power Amplifiers; Operational Amplifiers; Linear and Nonlinear applications of Operational Amplifiers; Signal generators; Specific Analog Circuits</p>			
CONTENTS:			
Training Area			Hours lectures
			Hours seminar exercises

Basic concepts in electronic systems – types of signals, artefacts and noise, stages in electronic system design.	1	1
Basics of electronic amplifiers.	2	2
Feedback loops in electronics amplifier circuits.	3	2
Power supply in transistor circuits.	2	2
Transistor amplifier circuits.	2	2
Power amplifiers.	2	2
Operational amplifiers.	3	3
Applications of linear operational amplifiers.	4	4
Non-linear operational amplifier devices.	2	2
Signal generators.	3	3
Analog circuits and devices with special application.	6	6
<b>TOTAL: 60 h</b>	<b>30</b>	<b>30</b>