



ET-121 Basic Electronics (1 Credit Hour)	
Pre-Requisite	None
Theory/Lab	Lab
Course Instructor	Engr. Huma Iqbal, Lab Engineer
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Lab	Electronics Engineering, Third Floor, Electrical Engineering Building, CET, UOS.

Course Outline	
<ul style="list-style-type: none"> ➤ Semiconductor Diodes: Conduction in Solids; Doners and acceptors, Impurities, Simple Diode Circuits, Biasing and applications Rectifiers and power supplies, Special purpose diode, Zener diodes ➤ Bipolar Junction Transistor (BJT), Field Effect Transistor (FET); JFET, MOSFET, Construction, Biasing and working as amplifiers ➤ Operational amplifiers and relevant circuits such as summer, integrator, differentiator etc. 	
Lab	Title
1	Introduction to Laboratory Equipments
2	Characteristics of P-N Junction diode
3	Half wave Rectifier with and without Filters
4	Full wave Rectifier with and without Filters
5	Biased series and parallel Clipper circuits
6	Biased series and parallel Clamper circuits
7	Characteristics of Zener diode and Regulations
8	Output Characteristics and Operating Regions of BJTs
9	Common Emitter Amplifier Configuration
10	Transistor as a switch in Multisim
11	JFET Drain and Transfer Characteristics
12	Characteristics of MOSFET in enhancement and depletion mode
13	Design Project

Course Learning Outcomes (CLOs)			
CLO	Description	Domain	PLO
CLO-1	Describe the knowledge based on lab experiments related to Different Semiconductor devices and Operational amplifiers.	C-2	PLO-1
CLO-2	Construct and Analyze (characteristics, various configuration) different electronic devices like diodes, BJT's, FET's, MOSFET's and Op-AMP	P-3	PLO-2
CLO-3	Respond individually or as a team.	A-2	PLO-9

Mapping of CLOs to Assessment Modules			
Assessment Module	CLO-1	CLO-2	CLO-3
Quizzes	√	√	
Rubric	√	√	√
Viva	√	√	
Project	√	√	√

Grading Policy (Theory)	
Rubric	60%
Viva	20%
Quiz	10%
Project	10%