Course name: EE 335 – Introduction to Electronics Laboratory				**Department:** Electrical and Electronics Engineering				
Semester	**Methods of Education**							**Credit (ECTS)**
	Lecture	Recitation/	Lab	Project/Field Study	Homework	Other	Total	1
5			28				28	
Language	English							
Compulsory/Elective	Compulsory							
Prerequisites	EE 325 - Introduction to Electronics							
Course Contents	Semiconductor Diodes, Rectification, Zener Diodes, Clipper, Clampers, Bipolar Junction Transistors (BJT): Transistor Models, Bipolar Transistor Biasing,Common Emitter Amplifier (CE), Common Collector Amplifier (CC),Common Base Amplifier (CB), Input Resistance ,Current Gain ,Voltage Gain , Types of FETs , operation and Construction, MOSFET Operation and Construction Field Effect Transistor (MOSFET) Amplifier:Biasing of FETs ,Analysis and Design of Common Source (CS), Common Drain (CD), and Common Gate (CG) Amplifiers, Input Resistance ,Current Gain ,Voltage Gain ,Output Resistance							
Course Objectives	To know the operation and the structure of the electronics devices like diodes, bipolar transistor and field effect transistors. To design rectifier circuit, clipping and clamping circuits. To design and analysis of different types of amplifiers. To develop skills to prepare effective project report							
Learning Outcomes and Competences	Learn basic operating principles and equivalent circuits for nonlinear semiconductor devices including diodes, bipolar junction transistors, and field effect transistors. Learn how to analyze and design basic analog electronic circuits, such as rectifiers, BJT and FETamplifiers, and opamps							
Textbook and /or References	Razavi, Fundamentals of Microelectronics, 2nd. Ed., Wiley, 2012. Adel &. Sedra and Kenneth C. Smith; Microelectronic circuits; 3rd Ed; Saunders College Pub.; 1991. Jacob Milkman and Arvin Grabel; Microelectronics; 2nd Ed; McGraw - Hill Pub.; 1988.							
Assessment Criteria			**If any, mark as (X)**	**Percentage (%)**				
	Midterm Exams		X	30				
	Quizzes							
	Homework							
	Projects							
	Term Paper							
	Laboratory work		X	30				
	Attendance							
	Final Exam		X	40				
Instructor								
Week	**Subject**							
1	Investigation of Diode							
2	Construction of Diode Characteristic							
3	Full Wave Rectifier							
4	Full Wave Bridge Rectifier							
5	Investigation of Zener Diode							
6	Investigation of Parallel Regulated Rectifiers							
7	Investigation of Serial Regulated Rectifiers							
8	Investigation of Serial Regulated Rectifiers							
9	**Midterm**							
10	Class A amplifiers							
11	Class B amplifiers							
12	Class C amplifiers							
13	JFET'S Input Characteristic							
14	JFET'S Output Characteristic							
15	JFET'S Output Characteristic							