



العدد :

التاريخ : / / ٢٠

Course number and name	EE 1200: Electronic Physics
Credits and contact hours	3 credits and 4 hours
Course coordinator	
Textbook	
Course Information	a. Prerequisites: High school math and physics b. Required
Topics to be covered	<p>–Energy Levels and Atomic Structures, Electron ballistics, Electrical conduction in Metals, Semiconductors, and Insulators</p> <p>–Semiconductors materials (Si, Ge and compound semiconductors), Semiconductors: extrinsic semiconductors, Fermi-level in semiconductor, Semiconductors) diffusion and carrier, Hall effect</p> <p>–Conductors: properties, atomic structure, and applications</p> <p>–Insulators: properties, atomic structure, and applications</p> <p>–Introduction to P-N junction:, P-N junction in equilibrium, current-voltage characteristics, operation and characteristics, capacitances in diode, Diode Circuit Applications, Rectifiers, zener diode voltage regulators, Diode Circuit Applications, Rectifiers, Zener diode voltage regulators, Multiplier voltage, Types of Semiconductor Diodes, clipping circuits, clamping, filters and smoothing circuits, Varactor diode, tunnel diode, photodiode, Light-emitting diode, Tunnel diode, solar cells, backward diode, Shottky diode, PIN diode.</p>