

**(0401738) Advanced Power Electronics and Drives (3 credit Hours)**

Review of power semiconductor devices: Analysis, design, and operation of power electronic and converter circuits. Power conversion from AC-to-DC, DC-to-DC, ACto-AC and DC-to-AC. Pulse width Modulation PWM, Voltage and Current Source Converters, Phase controlled converters. Resonant Converters. Switching power supplies. Advanced technologies of electric drive systems, system analysis and application, dc machine control, variable frequency operation of induction and synchronous machines, unbalanced operation, scaling laws, adjustable speed drives, adjustable torque drives. Latest development related converter technologies.