Course number and name	**EE 3370: Power Electronics**
Credits and contact hours	3 credits and 3 hours
Course coordinator	
Textbook	a. Power Electronics, Circuits, Devices and Applications, M. Rashid, 3rd Edition. Prentice-Hall, 2003. b. Schematic Capture with Cadence PSpice, M. E. Herniter, 3rd Edition. c. Spice for Power Electronics and Electric Power, M. Rashid,1st Edition. d. Elements of Power Electronics, P. T. Krien, 1st Edition, Oxford University Press, 1998. e. Introduction to Power Electronics D. W. Hart, 1st Edition, Prentice- Hall, 1998.
Course Information	a. Prerequisites: EE 3200 Electronics II, and EE 2300 Electrical Machinery I b. Selective Elective
Topics to be covered	– Energy conversion and the future trends, Switching semiconductor devices, diodes, transistors, thyristors, power considerations, and harmonics, Switch circuit analysis, Measures of quality – AC-DC rectifiers, diodes circuits, single-phase and three-phase, AC-DC controlled rectifiers, thyristor circuits, single-phase and three-phase, natural and forced commutations – DC-AC inverters, single-phase and three-phase, PWM inverters, DC-DC switch mode converters, buck, boost, buck-boost, cuk, chopper circuits, AC-AC converters, cycloconverters, single phase, three phase –Control of Converters, Applications, motor controls, power suppliers