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Course number and name	**EE 4350: Power Systems Analysis II**
Credits and contact hours	3 credits and 3 hours
Course coordinator	
Textbook	a-Power Systems Analysis, 2 nd edition, H. Sadaat, McGraw-Hill Higher Education, 2002.
Course Information	a. Prerequisites: EE 4340: Power Systems Analysis I c. Selective Elective
Topics to be covered	–Balanced short-circuits, including: series R-L circuit transients, synchronous machine transient, sub-transient, and steady-state models, inclusion of pre-fault currents by superposition. –Unbalanced three-phase short-circuits, including: developing sequence networks for power systems, developing sequence impedance matrices for power systems from the sequence networks, applying sequence networks and sequence impedance matrices to determine the system, currents and voltages under the application of unbalanced faults, selecting fuses and circuit breakers in power systems. –Power system protection, including instrument transformers, CTs and VTs., overcurrent, directional, impedance, and differential relays; fuses and reclosers, coordination of overcurrent devices, protecting lines, buses, and transformers. –Control of power system operation: power flow, scheduling generation, including the statistical nature of load, generator-voltage control, turbine-governor control, economic dispatch, including losses. –Power system stability: the swing equation, equal-area criterion, solution of the swing equation, design methods for improving stability