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Department of Electrical Engineering	
Modeling of Electrical Engineering Systems (63364)	
Total Credits	**3**
major compulsory	
Prerequisites	P1 : Systems &Signal Analysis (69230) OR System &Signal Analysis (63373)

Course Contents

Matlab environment; Manipulating matrices with Matlab; Matlab expressions; Plotting and editing plots with Matlab; Programming with Matlab; Simulating electrical systems using Matlab; Simulink basics; Creating Simulink models; Manipulating and analyzing Simulink models; Modeling electrical systems using Simulink;

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Ability to apply mathematics, science and engineering principles for modelling and simulating electrical systems.	A	30 %
2	Ability to conduct computer experiments; Analyze and interpret simulation outputs using Matlab and/or simulink.	K	40 %
3	Ability to design electrical systems using matlab and/or simulink to meet desired criteria.	C	30 %

Textbook and/ or Refrences

1. Dynamic Simulation of Electric Machinery Using MATLAB/SIMULINK Chee-Mun Ong 2. SimPowerSystems Users Guide 3. Introduction to Simulink with Engineering Applications - Steven T. Karris 4. Introduction to MATLAB for Engineers - William J. Palm III 5. Dynamic System Simulation for MATLAB SIMULINK

Assessment Criteria	Percent (%)
First Exam	15 %
Second Exam	15 %
Projects	30 %
Final Exam	40 %

Course Plan

Week	Topic
1	Matlab overview
2	Arrays , functions
3	Loops , Advance plotting
4	Simulink model building; commonly used blocks
5	Continuous and discrete blocks, logic blooks
6	lookup tables, port system library and signal routing library
7	Sink ,source and user defined function libraries
8-11	Simpowersystem library
12-14	Simulation of electrical system examples
15	Project discussion
16	Final Exam