

Course Syllabus

Course Code and Name	EE 26554 – Electrical Power Systems – 2
Credit and contact hours	2 (1, 1, 1) (Lecture, Tutorial, Lab)
Required or Elective	Required
Level / Year	Level (9) / Year (5)
Course Prerequisite	EE 26451 Electrical Power Systems – 1
Textbook	S. Mitra, Digital Signal Processing: A Computer-Based Approach, Mc-Graw Hill, 2011.
Course Description	This course covers the following topics: Admittance and Impedance Model of power system – symmetrical three phase faults in power systems - Symmetrical components – Unsymmetrical faults: single line to ground, line-to-line and Double line-to-ground faults – Earthing impedance - Power Flow problem and Solutions - Gauss-Sidel, Newton-Raphson methods and Fast decoupled technique for load flow - Power System Stability: Rotor Dynamics and the Swing Equation - The Power-Angle Equation - Equal area criterion – Multi machine Stability Studies – Inertia constant and angular momentum - step-by-step method of solution, critical clearing angle and time.
Brief List of Topics to be Covered	<ol style="list-style-type: none">1- Admittance Model and Bus Admittance Matrix. Impedance Model.2- Symmetrical faults. Symmetrical components.3- Unsymmetrical Faults in Power System (SLD – LL – DLG faults).4- Power Flow problem and Solutions - Gauss-Sidel, Newton-Raphson methods and fast decoupled technique for load flow.5- Power System Stability: the Swing Equation - The Power Angle Equation - Equal area criterion – Multi machine Stability Studies – step by step solution method, critical clearing angle and time.
Course is prerequisite for	-