Course Syllabus

Course Code and Name	**EE 26451 – Electrical Power Systems – 1**
Credit and contact hours	**3 (2, 1, 1) (Lecture, Tutorial, Lab)**
Required or Elective	**Required**
Level / Year	**Level (7) / Year (4)**
Course Prerequisite	**EE 26323 Electric Circuits -2**
Textbook	S. Haykin, Communication Systems, Wiley, 2009.
Course Description	This course covers the following topics: Overview on modern power system (Generation – Transmission – Distribution - Consumption) – Synchronous Machine and Transformer modeling in power system – Per Unit Calculation System – Series Impedance of Transmission Line – Capacitance of Transmission Line - Transmission Line modeling (Short, Medium and Long Transmission Line) – Transmission Line Parameters – Current and Voltage relations in TLs – Single Line Diagram – Impedance and Reactance Diagram - Short circuit conditions (symmetrical three phase S.C.) – Economic Operation and Optimal Generation Dispatch – Power Tariff System.
Brief List of Topics to be Covered	1- Overview on Modern Power System 2- Generator and Transformer Models and Per Unit Calculation System 3- Series Impedance of Transmission Line – Capacitance of Transmission Line 4- Transmission Line modeling (Short, Medium and Long Transmission Line) – Transmission Line Parameters - Current and Voltage relations in TLs 5- Single Line Diagram – Impedance and Reactance Diagram 6- Short circuit conditions (symmetrical three phase S.C.) 7- Economic Operation and Optimal Generation Dispatch 8- Power Tariff System
Course is prerequisite for	• EE26453 Renewable and Conventional Energy Conversion • EE26554 Electrical Power Systems – 2 • EE26555 Computer applications in Power Systems • EE26556 Electrical Power Systems Protection • EE26457 Smart Grids and Distribution System • EE26459 Power System Control • EE26458 High Voltage Engineering