Course Code EPE-815	Credit Hours (Th-Pr) 3.0-0	**Electric Power Generation Transmission and Distribution (Elective)**	Contact Hrs/Week (Th-Pr) 3.0-0	Total Contact Hrs (Th-Pr) 45-0

Course Outline:

1. The course will give students a comprehensive overview about the electric power systems starting from generation to the end utilization. The course is designed to develop a sound understanding in students about the generation of electricity from conventional as well as non-conventional sources of energy, dispatch of electricity through transmission network, design and analysis of transmission system and the utilization of electricity through the distribution network. Load forecasting and load modelling will also be discussed briefly in the course

Eligibility Criteria:

2. B.E (Electrical Engineering)

Recommended Books:

S. No.	Title	Author(s)	Assigned Code	Remarks
1	Electric Power Generation Transmission and Distribution	Leonard L. Grigsby	LL	Text
2	Electric Power Transmission System Engineering	Turan Gonen	TG	Text
3	Transmission and Distribution Electrical Engineering	Colin Bayliss and Brian Hardy	CB	Reference

Learning outcome:

Students after taking this course will be able to :

- Understand the operation of power systems
- Can model the transmission and distribution systems
- Forecast and model the load of a small scale community

Topics Covered:

No.	Topics	Text Book	Contact Hours
a.	**Electric Power Generation (Non-Conventional Methods)** 1. Wind Power 2. Photovoltaic Fundamentals 3. Advance Energy Technologies 4.Water	LL	8
b.	**Electric Power Generation (Conventional Methods)** 1. Hydro Electric Power Generation 2. Synchronous Machinery 3. Thermal Generating Plants 4. Distributed Utilities	LL	8
c.	**Transmission System** Transmission Line Structure Insulators and Accessories Transmission Line Parameters Sag and Tension of Conductor Corona and Noise Lightning Protection Reactive Power Compensation	LL	10
d.	**Distribution Systems** 1. Power System Loads 2. Distribution System Modelling and Analysis 3. Power Supply for Sensitive Loads Distribution Short Circuit Protection	LL	10
e.	**Electric Power Utilization** 1. Metering of Electric Power and Energy 2. Loads, Load Characterization, Load Forecasting and Modelling 3. Electric Power Utilization (Motors)	LL	9