EE322-3: Power Production and Distribution

Course code and name	EE322-3: Power Production and Distribution
Credits units	3 Credit units
Contact hours	5 Contact hours: 2 lecture, 1 tutorial and 2 practical
Instructor name	Pr. Fathi Ghodbane
Textbook	Electric Power Distribution, A.A.Pabla, 2004, 878 pages, ISBN 00714478
Other supplemental materials	- Electric Power Generation, Transmission, and Distribution, Electric Power Engineering seies, Leonard L. Grisby, 789 pages, Third Edition, CRC press Taylor and Francis group. ASIN : B008NF84PW - The Electric Power System: Generation, Transmission & Distribution Made Simple Paperback, Ahmed Mousa, – March 7, 2018, ISBN- 13 978- 1365956492.
Specific course information	
a. Course description	The focus of this course has studied the power Systems, Power Plants, Transmission line parameters and mechanical design of overhead transmission lines, underground cables, and Corona effect.
b. Prerequisite	EE213-2
c. Required / Elective	Required
Course Learning Outcomes	
<u>CLO of the Lecture Activities:</u> CLO1: Recognize possible methods of power production transport and distribution. CLO2: Understand the basic concepts, design and estimation of distribution system, substation. CLO3: Calculate the resistance, inductance and capacitance of transmission line. CLO4: Estimate the characteristics and performance of transmission line. CLO5: Demonstrate the knowledge related to the construction of synchronous generator and its operational conditions from the point of view of loading. CLO6: Estimate the sag and tension of conductor an overhead transmission line.	

CLO7: Analyze the Corona phenomena and calculate the Corona power loss of transmission line.

CLO of the Laboratory Activities:

CLO1: Verify theory and to improve knowledge learned in class.

CLO2: Formulate and solve problems related to theory.

CLO3: Design and safety conducts an experimental procedure.

CLO4: Independently perform accurate quantitative measurements, interpret experimental results, perform calculations on these results and draw a reasonable, accurate conclusion.

CLO5: Communicate critical analysis of scientific information through written reports.

CLO6: Be integrated inside a group of work and respect the team working.

Brief list of topics to be covered

- Electrical power plant
- Renewable and non-renewable energy
- Characteristics and transmission line performance
- Resistance and inductance on T.L - Capacitance on T. L.
- Synchronous machine: steady state and transient operations
- Difference between sag and tension
- Corona phenomena Analysis, Corona power loss

Mapping Course Learning Outcomes to Student Outcomes

	Lecture Activities						
	SO1	SO2	SO3	SO4	SO5	SO6	SO7
CLO1							
CLO2							
CLO3							
CLO4							
CLO5							
CLO6							
CLO7							

	Laboratory Activities						
	SO1	SO2	SO3	SO4	SO5	SO6	SO7
CLO1							
CLO2							
CLO3							
CLO4							
CLO5							
CLO6							