

Zarqa University

Faculty of Engineering
Department: Electrical Engineering
Course title: **Power System
Distribution and Transmission
0904563**



Prerequisite: **0904425 + 0904561]**
Instructor: **dr wasif al saluos**
Lecture's time: **S, Tu,TH 12-13**
Semester: **2**
Office Hours:**10-11**

Course description:

This course covers the fundamentals of Basic principles; distribution systems layout, transmission line systems; distribution transformers: types; connections; harmonics; insulators; distribution equipment: circuit breakers; and lightning protection; distribution station and substations, faults.

Aims of the course:

1. Introduce the students to design distribution systems layout;
2. To study power distribution layout; distribution transformers, generation: types; connections
3. To study transmission line and insulators requirements.
4. To study distribution elements and equipment.
5. To design distribution station and substations. Study the faults.
- 6- Design requirement of transmission line as highest of towers and clearance Between lines and grounds.

Intended Learning Outcomes (ILOs): Power System Distribution and Transmission

- 1-Identify the Basic principles in power systems and main resources of energy.
- 2- Identify the **Components** of Transmission systems
- 3-Represent physical system in a block diagram and draw distribution systems layout
- 4-Evaluate system stability and carry out system parameters analysis by regulation calculation.
- 5- Evaluate power system element performance by calculate power losses.
- 6-Specify and analyze the main **components** of transmission systems
- 7-Design all elements and requirement of transmission line.
- 8- Calculate of the safety clearance distance required.
- 9- Specify power system faults and how to correct it.



Course structures:

Week	C. Hrs	ILOs	Topics	Teaching Procedure	Assessment methods
1	3	1	Introduction to Basic principles in power systems.	Power point	board
2	3	1	Main resources of energy	Power point	Board
3	3	1,2,3	Distribution systems layout	Power point	board
4	3	1,2,3	Transmission systems	Power point	board
5	3	2	Over head transmission line, towers and insulators	Power point	board
6	3	2,4,5	AC and DC transmission line and calculation. Exam I	Example solution	board
7	3	7,8	transmission line elements calculation	Power point	Board
8		2,4,5,6	EHV and corona		
9	3	2,4	. Distribution station and Substations	Power point	board
10	3	4,2,1	distribution transformers: types; and connections	Power point	board
11	3	2,3	Exam II circuit breakers; and lightning protection	Power point	board
12	3	4,7,8	Regulation calculation and Power factors	Power point	board
13	3	2,4	Distribution systems	Power point	board
14	3	2,4,7	Distribution systems Calculations	Example solution	board
15	3	9	Faults and Review,	Example solution	
16			Final Exam		

References:

Transmission and Distribution Electrical Engineering

Third edition

Dr C. R. Bayliss CEng FIET and

B. J. Hardy ACGI CEng FIET



Assessment Methods:

Methods	Grade	Date
First exam	20	9/4/2017
Secend exam	20	2/5/2017
homwork	5	
Quiz exam and	5	
Final exam	50	

