

<b>COURSE</b>	Name	: Power System Design and Installation
	Code	: EE184810
	Credits	: 4
	Semester	: Elective

### Description of Course

In this course students perform step by step in the design of electrical and mechanical systems in the electrical distribution of homes, buildings and industries. Students learn to calculate and determine the equipment specifications, lighting techniques and protection systems used. In addition, students are also introduced to several standards that are often used in electrical system design.

### Learning Outcomes

#### Knowledge

(P02) Mastering the concepts and principles of engineering, and implementing them in the form of procedures for analysis and design in power systems, control systems, multimedia telecommunications, or electronics.

(P03) Mastering the concepts and principles of design procedure in power systems, control systems, multimedia telecommunications, or electronics.

#### Specific Skill

(KK02) Able to describe the completion of engineering problems in power systems, control systems, multimedia telecommunications, or electronics.

(KK03) Able to describe system design for problem solving in power systems, control systems, multimedia telecommunications, or electronics by concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

#### General Skill

(KU12) Able to implement information and communication technology (ICT) in the context of implementation of his/her work.

#### Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(S12) Working together to be able to make the most of his/her potential.

### Course Learning Outcomes

#### Knowledge

Mastering the concept and principles of engineering to plan the installation of buildings and industries. Learn and understand electrical problems in the industry. Planning electrical system for industry, lighting technique and able to improve the power quality in the industrial.

#### Specific Skill

Able to analyze the installation of buildings and industries. Learn and understand electrical problems in the industry. Planning electrical system for industry, lighting technique and able to improve the power quality in industrial.

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### General Skill

Able to use ETAP software, AutoCad to analyze building and industrial installations. Learn and understand electrical problems in the industry. Planning electrical system for industry, lighting technique and able to improve electrical quality in industry.

### Attitude

Shows a responsible attitude towards the work in the field expertise independently.

Working together to be able to take full advantage of their potential.

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### Main Subjects

1. Installation Drawing
2. Calculate the needs of electrical installation equipment and lighting used.
3. Planning industrial electricity distribution system, Modeling, simulating and analyzing electrical system in industry.
4. Selection of equipment to the needs and industrial environment, design of protection systems, grounding systems, power quality improvement due to industrial load and external disturbance.

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### Reference(s)

- [1] Ir. E. Setiawan, Instalasi Tenaga Listrik arus Kuat, I, II, III
- [2] PUIL 2000
- [3] Toran Gonen, Electric Power Distribution system Engineering, Mc.Graw-Hill.
- [4] Irwin Lazar, Electrical System Analysis and Design for Industrial Plants, Mc.Graw-Hill.
- [1] Wilson E. Kazibwe, Musoke H. Sendaula, Electrical Power Quality Control Techniques, Van Nostrand Reinhold, 1993

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### Prerequisite(s)

EE184511 Power System Analysis

EE184710 Power System Protection

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