



# ELECTRICAL ENGINEERING for NON ELECTRICAL ENGINEER

HRDF

## COURSE CODE: H-EE-01

LEVEL: Basic to Intermediate

LANGUAGE: Bahasa & English

## OVERVIEW

### Focus on Basic Concepts

This program focuses on the basic principles of industrial and commercial electrical power distribution design. Our trainer will first help you understand basic concepts for the direct current case and then extend them to single-phase and three-phase alternating currents.

He will also develop basic electrical concepts such as Voltage, Current, and Resistance. Emphasis will be on understanding the basic phenomena rather than the rigorous mathematical derivations. Instruction will assume that you have no prior electrical engineering formal education but are currently working in the field.

### Understand Electrical Principles

Electrical Energy is used everywhere and affects every technical careers. This program will introduce some of the basics of electrical engineering theories and concepts.

By participating in this program, you'll gain a general understanding of the general concepts of electrical energy generation, transmission, and distribution besides knowledge in the operating principles of relevant devices/ equipment.

## OBJECTIVES & LEARNING OUTCOMES

Upon completion of this program, participants will be able to:

- ⇒ Understand the Basic electrical concepts and definitions
- ⇒ Learn about Utility generation, transmission and distribution
- ⇒ Understand the System design philosophy
- ⇒ Understand Design procedures
- ⇒ Identify Electrical construction materials
- ⇒ Learn about Grounding and power quality concepts
- ⇒ Learn about Electric Machines

## COURSE DURATION

2 days (9am—5pm)

Tea Breaks: 10:30am & 3:30pm

Lunch: 1:00pm-2:00pm

**Note:** Please contact our office for Training Date or visit our website for details ([www.zohlgroup.com](http://www.zohlgroup.com))

## METHODOLOGY

This program will be conducted with:

- Interactive Lectures
- PowerPoint presentation
- Discussions | Practical Exercise
- Role Play | Case Study

## TARGET AUDIENCE

This program is suitable for Engineers and Technicians

## LOCATION

Mindset Discovery Center™@ZOHL, M2-6-08, Level 6, 8trium Tower 2, Bandar Sri Damansara, Kuala Lumpur (other Regions please contact our office)

## KEY TAKEAWAYS

*Electrical Engineering For Non Electrical Engineer is designed to any individuals, who are not intimately familiar with Electrical Engineering Principles and Practices. Through this course, delegates are expected to learn basic principles of electricity in a simple, easy to understand, format.*

*This course will enable attendees to accomplish straightforward and common calculations associated with voltage, current, power and power factor. Examples of electrical applications, in industrial settings, will be covered. Electrical, equipment, components, devices and test instrumentation will be discussed. Important concepts in electrical safety will be introduced.*

*This is a course on designing electrical systems used in industrial, commercial & residential installations.*

## COURSE CONTENT

### MODULE 1 - PRINCIPLES OF ELECTRICITY, AC AND DC

- AC - The Flow Of Electric Charge Periodically Reverses Direction
- DC - The Flow Of Electric Charge Is Only In One Direction

### MODULE 2 - ELECTRICAL CODE AND SAFETY

- Basic Electrical Code
- Basic Electrical Safety

### MODULE 3 - ELECTRICAL EQUIPMENT AND INSTRUMENTATION IN INDUSTRIAL APPLICATIONS

- Motors
- Transformers
- Switchgear
- Protection Devices
- Power/Energy Monitoring Systems

### MODULE 4 - ELECTRICAL CONTROL SYSTEMS

- PLCs
- Relay Ladder Logic
- Drives And Sensors
- Examples Of Automation Systems, Including AGVS And Robots

### MODULE 5 - UNDERSTANDING ELECTRICAL DRAWINGS AND DOCUMENTATION

- EPLAN

Note: Course Content subject to further review



Customized In-House Training Program is available in the following areas:

**Administrative Skills | Career Development | Human Resources | Personal Development | Sales & Marketing | Leadership & Management | Workplace Essentials | Entrepreneurship | Soft Skills | HSE | Engineering | Telecoms | IT**

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## COURSE FEE

**RM1,272** per person incl. 6% SST  
(Fee inclusive of Course Material, Attendance Certificate, and Meals)

## CERTIFICATE

Participants will be issued a Certificate of Attendance/Accomplishment upon successful completion of this training program. Full attendance is a pre-requisite.

## CIDB CCD Points

20 (for CIDB-Registered Companies) & upon approval from CIDB

## HRDF SBL KHAS

Claimable under HRDF SBL KHAS Scheme (for Companies contributing to HRDF)

## REGISTRATION METHOD

1. **Online:** [http://zohlgroup.com/hrdf\\_registration/](http://zohlgroup.com/hrdf_registration/) **OR**
2. Download this brochure at: <http://zohlgroup.com/all-brochures/> and fill up the required information. Then please fax to: 03.6279.0663
3. Or contact our office at: 03.6279 9276 / 013.398.1038

## FACILITATOR

**Sathy Vel Naidu** - Sathy has more than 25 years of experience in the Mechanical and Electrical (M&E) industry. Over the span of his career he has gained significant knowledge in project management, electrical systems troubleshooting & maintenance, and systems design & engineering. In addition to managing projects he has also started sharing his knowledge through training services under ZOHL Technical Programs.



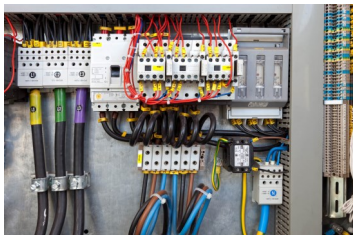
### **Education:**

- ◇ Electrical Chergeman License
- ◇ Certificate in Westinghouse Electrical Systems
- ◇ Power Systems Auditor for Procter & Gamble
- ◇ Radiation Safety Training for Honeywell TDC 3000

### **Experience:**

- ◇ Electrical Technician for Hitachi Electronics Devices Singapore
- ◇ Testing & commissioning supervisor for Toyo Engineering
- ◇ Asst Engineer for FPG Oleochemicals Sdn Bhd
- ◇ Maintenance Manager FPG Oleochemicals sdn Bhd
- ◇ Engineering Director at Pakat Perkasa Sdn Bhd
- ◇ Lightning & Earthing Protection Systems Trainer for Celcom
- ◇ Electrical Trainer for Leighton Offshore
- ◇ Technical Trainer @ZOHL

\*Note: Trainer availability is subject to change



## REGISTRATION FORM

**Participant#1:** \_\_\_\_\_

Position: \_\_\_\_\_

IC No: \_\_\_\_\_

**Participant#2:** \_\_\_\_\_

Position: \_\_\_\_\_

IC No: \_\_\_\_\_

**Training Date:** \_\_\_\_\_

**Training Venue:** \_\_\_\_\_

**Organization:** \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact Person: \_\_\_\_\_

Position: \_\_\_\_\_

Tel: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Company Website: \_\_\_\_\_

## **PAYMENT**

**CASH:** RM \_\_\_\_\_ **OR**

**CHEQUE** No: \_\_\_\_\_

Please fax your bank-in slip to 03.6279.0663 or scan your bank-in slip and email to [plbk@zohlgroup.com](mailto:plbk@zohlgroup.com)

\*Please make your cheque payable to:

**ZOHL Consultancy Sdn Bhd**



Account No:  
**514392303373**

Signature & Company Stamp

### **Note:**

- Date & venue of seminar subject to changes
- Payment must be made 7 days before the training date
- Registration cancelled 7 days prior to the event is subject to RM100 service charge per participant
- No refunds for notice received less than 7 days prior to the event. A substitution may be made at any time at no extra charge.
- Program content may change subject to revision by our consultants from time to time.
- Full fee is required with your registration. 5% Group discount is available - min 3 pax.

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Sebarang pertanyaan sila hubungi Cik Niesa

**ZOHL Consultancy Sdn Bhd** (332967-D)(SST ID:W10-1810-32000429)

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