

Professional Short Course in Electrical Engineering

Organized by:



ELECTRICAL DIVISION
電機分部



The Professional Short Course in Electrical Engineering is a series of classes designed to cover different aspects of electrical systems in Hong Kong which are under active development and discussion. They are targeted at engineers, both experienced and young, from different sectors of the electrical industry who seek to refresh or acquire emerging knowledge of the focus topics in electrical engineering. Facilitated by subject experts in practice, the professional short course will benefit the participants by learning through practical design experience sharing and case studies.



The 2018 Course comprises of 4 classes:

- Class 1 –** Pioneering BIM Application in Hong Kong for Enhancing Buildings Operation and Maintenance
- Class 2 –** High Tier Data Centre Design
- Class 3 –** Technical Solutions to Deal with Climate Change - Key Consideration of Grid connection of Renewable Energy System
- Class 4 –** New Development of Vertical Transportation Systems in Buildings

Date

- Class (1) 7 Mar 2018 (2) 9 Mar 2018
(3) 14 Mar 2018 (4) 16 Mar 2018

Time

7:00 – 9:00pm

Venue

Class 1, 2, 4 Room 1030 Hong Kong Scout Centre,
Class 3 Room 1106, Hong Kong Scout Centre
Austin Road, Tsim Sha Tsui

Fee

\$450 per class (HKIE member)
\$550 per class (non-HKIE member)

Registration

Prior registration is required. The class size is limited to 60. Applications will be accepted on a first-come first-served basis. Both HKIE members and non-HKIE members are welcome to enroll in any of the 4 classes.

For registration, please complete the Enrollment Form with a crossed cheque made payable to "The HKIE – Electrical Division", and return to **UG8 Newport Centre, 116 Ma Tau Kok Road, To Kwa Wan, Kowloon (Attn: Ms. Pamela Cheng)**. Successful applicants shall be notified by email.

For enquiries, please contact

Ms Candy Leung at 6172-0084 or via email: lheiman@mtr.com.hk

Certificate

Attendance certificate will be issued for each class.

A short quiz will also be organized at the end of each class to reinforce the knowledge learnt in class. The top 4 outstanding students will be presented with an award at the HKIE-Electrical Division Annual Dinner 2018.

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Course Outline

Class 1 Pioneering BIM Application in Hong Kong for Enhancing Buildings Operation and Maintenance

Building Information Modelling (BIM) has rapidly emerged in architecture, engineering and construction (AEC) industry but its application in the long building operation and maintenance (O&M) lifecycle is little investigated. This class aims to share the framework of the EMSD BIM-Asset Management (BIM-AM) System and how it could enhance buildings O&M with showcases and live demonstrations. The essential asset information and BIM modelling requirements would be discussed. The topics below will be covered:-

- BIM applications for Mechanical, Electrical and Plumbing (MEP) systems design, construction and O&M stages;
- Novel architecture of EMSD BIM-AM System;
- Benefits in fault and incident handling (e.g. fault reporting, pre-diagnosis, on-site repair);
- EMSD BIM Standards and Guidelines;
- Practical workflow demonstrations of asset information input with BIM model ready for system handover; and
- Future development of BIM-AM System and its extension to smart city application.

Speakers: Ir HY CHAN Steve; Mr. CM YIM; Mr. PH YUEN Francis & Mr. KH CHAN Davy from Electrical and Mechanical Services Department, The Government of the HKSAR

Class 2 High Tier Data Centre Design

With the official launch of Smart City by the Government of HKSAR, innovation and technology will be impacting everyone in the city. For electrical engineers, we are updating our skills to meet the needs from the society and provide High Tier Data Centres which will be replacing older data centres implemented during the internet boom in the 90s.

This class intends to focus on the “High Tier” requirements for data centres as viewed by different stakeholders in the industry. As “High Tier” has referred by Government in their Lease Modification and also many end users, a good understanding of the Tier classification III and IV as referred by Uptime Institute and under the Telecommunications Industry Association (TIA) standard ANSI/TIA-942-A is essential. The myths on the reliability figures and 2N systems for Tier IV shall be discussed.

Instead of seeing data centres as energy eating monster, carefully designed data centres meeting best practices from ASHRAE Technical Committee TC 9.9 can lower energy costs. High reliability does not always equate to low energy efficiency. It is hoped after completion of the course, the attendees will gain design knowledge of the “High Tier” data centres and appreciate the essence to meet those requirements.

Speaker: Ir Michael WAYE from AECOM

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Course Outline

Class 3 Technical Solutions to Deal with Climate Change - Key Consideration of Grid Connection of Renewable Energy System

To avoid causing irreversible damage to the earth's environment and to deal with climate change, the development of renewable energy systems (RES) is a major trend in power industry nowadays. The increasing penetration of RES can impose additional consideration to the electric grid's operation and add challenges to the existing distribution network's protection system.

To maintain a highly reliable power system for a metropolitan city like Hong Kong, utilities need to impose technical requirements to the customer-owned RES for grid connection to ensure not causing any potential harm to properties or people, or jeopardizing the stability of the network whilst enabling RES integration.

This class aims at providing some key consideration of power grid with penetration of RES and the requirements to the customer-owned RES for grid connection.

Speakers: Dr. CY CHAN & Mr. WH YIM from CLP Power Hong Kong Limited

Class 4 New Development of Vertical Transportation Systems in Buildings

With the increasing number of floors in high-rise buildings, new efficient and innovative vertical transportation systems are becoming even more important in the operation of buildings. There are many interesting developments in this area in recent years. The class will cover systems such as double-deck lifts, twin lifts, and destination management systems, as well as the associated traffic analysis. Related systems such as efficient regeneration drives, linear motor drives of lifts, circulating multi-car lift system, and Maglev multi-car lifts system will also be discussed.

Speaker: Ir Dr. Edward WC LO from the Hong Kong Polytechnic University

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Enrollment Form

Title Dr. Ir Mr. Ms. Others: _____

Full Name _____(English)_____ (Chinese)

Company _____

Position _____

Email _____ **Tel** _____

Postal Address _____

HKIE member Non-HKIE member
(Membership no.: _____)

I would like to enroll in the following class(es):

Class 1 Class 2 Class 3 Class 4 Total: _____ class(es)

and enclose a cheque in HK\$ _____ (\$450 /class for HKIE member,
cheque no.: _____ \$550 /class for non-HKIE member)

Notes:

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