Professional Short Course 2021 –

Latest Regulations and New Technology in Electrical Engineering

The 2021 Course comprises of 4 classes:

Class 1 – MEP Design Approach and IoT Solutions for EV Charging Facilities

Class 2 – Smart Energy : The Digital Era of Low Voltage Assemblies

Class 3 – Major Revisions of Code of Practice for the Electricity (Wiring) Regulations 2020 Edition

Class 4 – PV System Design and Performance Optimization

DATE Class (1) 11 Mar 2021 (2) 15 Mar 2021
(3) 25 Mar 2021 (4) 1 Apr 2021

TIME 7:00 – 9:00pm

MODE In-class & Online Lectures

VENUE of In-class Lectures

Hong Kong Scout Centre in Tsim Sha Tsui
OR HKIE Headquarters in Causeway Bay

FEE $300 per class (HKIE member)
$400 per class (non-HKIE member)

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 exploration. 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 matter experts in practice, the professional short course will benefit the participants by learning through practical experience sharing and case studies.

CERTIFICATE

Attendance certificate will be issued for each in-class and online class participant. A short quiz will also be organised at the end of each class to reinforce the knowledge learnt in class. Best performing student of each class will be presented with an award at the HKIE-Electrical Division Annual Dinner or other Divisional event .

LANGUAGE

Cantonese (supplemented with English presentation materials)

HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會
Electrical Division 電機分部

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Organised by: THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會

Electrical Division 電機分部

Registration

Prior registration is required. The total In-class and Online Lecture size is limited to 70 and 300 respectively for each class. Applications will be accepted on a first-come first-served basis. Unsuccessful In-class Lecture applications will be transferred to Online Lecture automatically. Both HKIE members and non-HKIE members are welcome to enroll on any of the 4 classes.

For registration, please register via the link *https://tinyurl.com/ProfessionalShortCourse* and print and return the completed online enrollment form with a crossed cheque made payable to "The HKIE – Electrical Division" to *UG8 Newport Centre, 116 Ma Tau Kok Road, To Kwa Wan, Kowloon (Attn: Ms. Pamela Cheng)*. Successful applicants shall be notified by email.

In-class Lecture

In view of the recent COVID-19 situation in Hong Kong, the following special arrangement will be applied for the In-class Lecture:-

1. Applicants MUST put on a surgical mask during the class;
2. Applicants' body temperature will be checked before entering the class room;
3. Social distancing will be maintained for in-class arrangement; and
4. In-class may be changed to Online class subject to the COVID-19 situation in Hong Kong. All applicants enrolled on In-class will be assigned to Online class automatically if the In-class is canceled, and they will be notified well beforehand on any of such change.

Online Lecture

An app "Zoom" will be used (https://zoomnow.net/).

Each successful applicant will be provided with an unique link to access the Online Lecture.

Participants should arrange for their own desktop, notebook or smartphone with a stable network environment to join the Online Lecture. Other operational details will be sent to participants close to the corresponding lecture holding date.

Applicants MUST provide an email address in the application form, which is essential for registering into the Online Lecture platform.

Note

We reserve the right to change speaker(s) and/or the class contents without prior notice.

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Course Outline

Class 1 MEP Design Approach and IoT Solutions for EV Charging Facilities

Part I: Mechanical, Electrical and Plumbing (MEP) Design Approach for EV Charging

Provision of one charger to serve one EV in a car park is not an economical and environmentally friendly solution. Chargers, cables, containments, big switches, protection, annual checking and maintenance all would become burdens to the owners. "Share Resources" approach, on the other hand, would be a good solution that has less impact to the building services installations and later easier facilities management. Part I of this class will introduce the present design method, especially the "share resources" approach of EV charging system. Different chargers with different functions, concepts like diversity, load management, power supply and control logic would also be introduced.

Part II: IoT Solutions for EV Charging

"Share Resources" approach for EV charging requires a good IoT platform. Part II of this class will introduce the major components that must be provided in this IoT platform, viz the "Charger Management System (CMS)", that would allow "share resources" to be deployed smoothly and at the ease of operation and maintenance. Real cases would also be demonstrated and the feedbacks from the customers which path the way for the future development would also be discussed.

Speakers:

Dr Benjamin HO, Senior Lecturer, from University of Hong Kong
Mr Paul TSANG, Chief Operation Officer , from I-Charge Solutions Internal Company Limited

Class 2 Smart Energy: The Digital Era of Low Voltage Assemblies

Hong Kong enjoys an extremely reliable energy supply that excels in many top cities over the world. Despite the provision of such a highly reliable energy supply, there is a growing call to innovate for a greener and smarter energy. The low voltage industry, as a critical component to electrical system, is still yet to transform. The class will cover the revolution and development of low voltage components, adaptability of IoT technologies, applications of cloud computation, the open standard and cyber security conformance, as well as the future trend of intelligent operations.

Speaker:

Mr Keith WONG, Head of Digital Business, Smart Infrastructure, from Siemens HK & Macau

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Course Outline

Class 3 Major revisions of Code of Practice for the Electricity (Wiring) Regulations 2020 Edition

To keep abreast of the latest technology development and safety requirements of electrical installations, EMSD has conducted a review exercise with key stakeholders in the trade as well as professional and academic institutions on the "Code of Practice for the Electricity (Wiring) Regulations" (the CoP). The new edition of the CoP was issued on 31 Dec 2020. Subsequent to a grace period of one year, this new edition will come into effect on 31 Dec 2021 to replace the 2015 edition.

This class will introduce the major revisions in the new edition of the CoP, including the recommended adoption of arc fault detection devices (AFDDs), requirements on USB outlets, renewable energy power system, charging facilities for electric vehicles and installation for modular integrated construction, etc. Related legislative and safety requirements as well as analysis on electrical incident cases will also be covered.

Speaker:
Ir Johnson SZE, Engineer, from Electrical and Mechanical Services Department

Class 4 PV System Design and Performance Optimization

Hong Kong has limited solar resources. However, the Feed-in-Tariff (FiT) Scheme promoted by the Government and offered by CLP and HK Electric allows building owners to install solar PV system and recover initial investment at a shorter period. Despite the fact that there are over 10,000 project applications, the ultimate installed capacity will still be very limited due to land scarcity and other factors. Therefore, full utilization of rooftop areas is a key for successful development.

In this class, the speakers would share the experience in design and project execution including i) Site surveys and system design; ii) Cost estimation and project financial viability assessment; iii) Installation methodology; iv) System testing & commissioning; and v) Operations and maintenance activities.

Speakers:
Ir Roger YANG, Director; Mr Jimmy WU, Senior Manager; Mr Alan CHAN, Manager and Mr Jason WONG, Manager, from Distributed Energy, CLPe Solutions Limited