Professional Short Course 2025

ELECTRIFYING A GREENER LIVING

Class 1
Advanced Maintenance and Condition Assessment Techniques for Medium Voltage Switchgears and Cables

Class 2
How AI-Powered Digital Twin Platform Empowering Construction Data Traceable, Transparent, and Trustworthy?

Class 3
Introduction to Microgrid Systems: Core Concepts and Practices

Class 4
Next-generation UPS unlocking the Potential of Distributed Energy Resources for Sustainability

DATE: 4 Mar 2025 (Tue)
11 Mar 2025 (Tue)
13 Mar 2025 (Thu)
18 Mar 2025 (Tue)

TIME: 7 pm - 9 pm

MODE: Face-to-face Class

VENUE: Chan Yat Mei Sophie Room,
9/F Island Beverley,
No. 1 Great George Street,
Causeway Bay, Hong Kong

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

For enquiries, please contact **Ms SUEN Ting Ting**

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ABOUT:

The Professional Short Course in Electrical Engineering is a series of classes designed to cover different aspects of electrical systems which are under active development and exploration in Hong Kong. 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.

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

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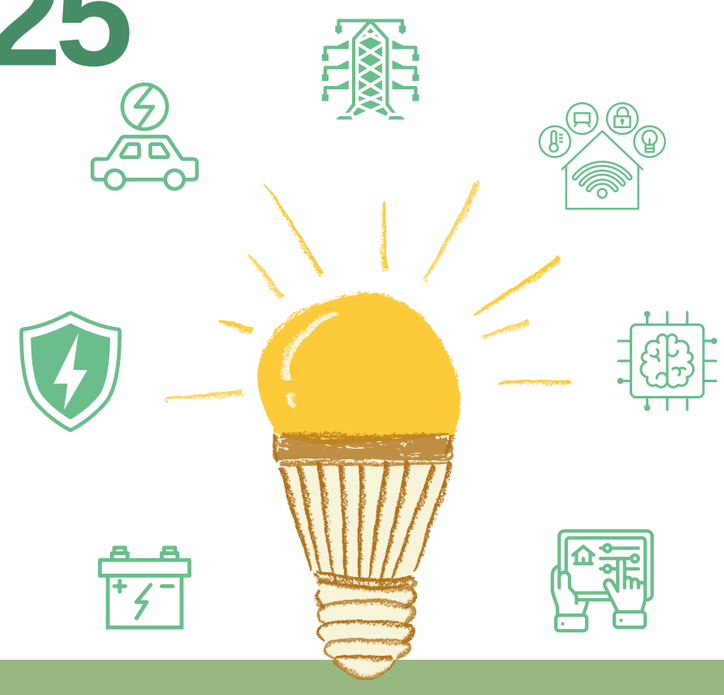

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REGISTRATION:

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 on any or all of the classes.

Registration via the link ***https://forms.gle/983XSTBgAufWbSRMA*** and print and return the completed online enrollment form with a crossed cheque made payable to "The HKIE – Electrical Division" to *9/F Island Beverley, No. 1 Great George Street, Causeway Bay, Hong Kong (Attn: Ir Y.K. Chu)*. Successful applicants shall be notified by email.

LANGUAGE:

Cantonese (Class 1 to 4) and Putonghua (Class 4)
Supplemented with English presentation materials

CERTIFICATE:

Attendance certificate will be issued to each participant. A short quiz will also be organised at the end of each class to reinforce the knowledge learnt in class. Award will be presented to the best performing student of each class.

Note:

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

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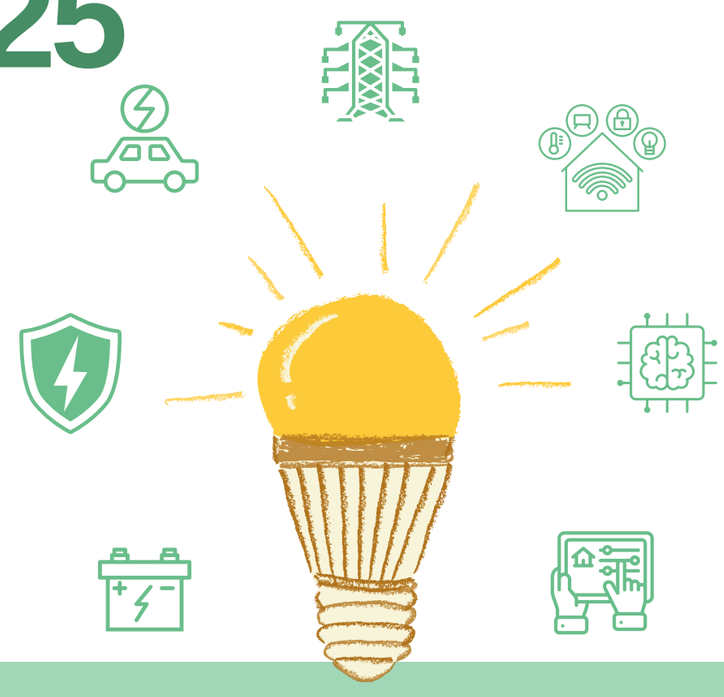

Course Outline

Class 1: Advanced Maintenance and Condition Assessment Techniques for Medium Voltage Switchgears and Cables

Date - 4 Mar 2025 (Tue)

The class will cover the advanced techniques for maintenance and condition assessment of the medium voltage switchgears. Various condition monitoring tools, such as partial discharge detection, switchgear operation time and operation coil's current profile, are used to detect and predict the incipient defects in the cable terminations, operation mechanisms and other insulation parts will be introduced to participants.

Regarding the cable maintenance and assessment, the course shall cover the condition assessment techniques for medium voltage cables. By means of measuring the partial discharge, loss angle and etc, of the cable, the health condition of the cable can be determined and classified. Together with the condition of the cable, the follow-up action can be formulated and prioritized to enhance the reliability and availability of the cable system.

Several examples will be used to illustrate the evaluation process, test considerations, and challenges faced. With an overview of the maintenance and condition assessment philosophy and practical applications of medium voltage switchgears and cables, participants can have a full picture of the maintenance and condition assessment of medium voltage apparatus.

Speakers:

Mr. Ryan CHAN, Chief Construction and Maintenance Engineer from The Hongkong Electric Company Limited
Ir Dr Prewitt ZHU, Engineering Co-ordination Engineer from The Hongkong Electric Company Limited

Class 2: How AI-Powered Digital Twin Platform Empowering Construction Data Traceable, Transparent, and Trustworthy?

Date - 11 Mar 2025 (Tue)

In the ever-changing landscape of construction management, the integration of advanced technologies is essential for enhancing project efficiency and delivery. This class will offer a comprehensive exploration of two transformative technologies: Digital Twins and Generative AI. Participants will gain a deep understanding of how these innovations can revolutionize construction processes, improve data traceability, and foster transparency among all stakeholders.

The first part focuses on the concept of Digital Twins, which serve as virtual replicas of physical assets, enabling real-time monitoring and data integration. Participants will learn about the various applications of digital twins in construction, including risk management, quality assurance, and compliance tracking.

In the second part, the class delves into the role of Generative-AI in enhancing visualization and compliance within construction management. Participants will explore how generative AI can automate resources management, provide data-driven insights on safety, and streamline compliance processes. The session will highlight the use of large language models (LLMs) to analyze project documentation, ensuring adherence to regulations and standards. By automating compliance checks and generating real-time reports, generative AI empowers teams to make informed decisions and mitigate risks effectively.

Speaker:

Ir Terence LUI, Chief Executive Officer from Varadise Limited

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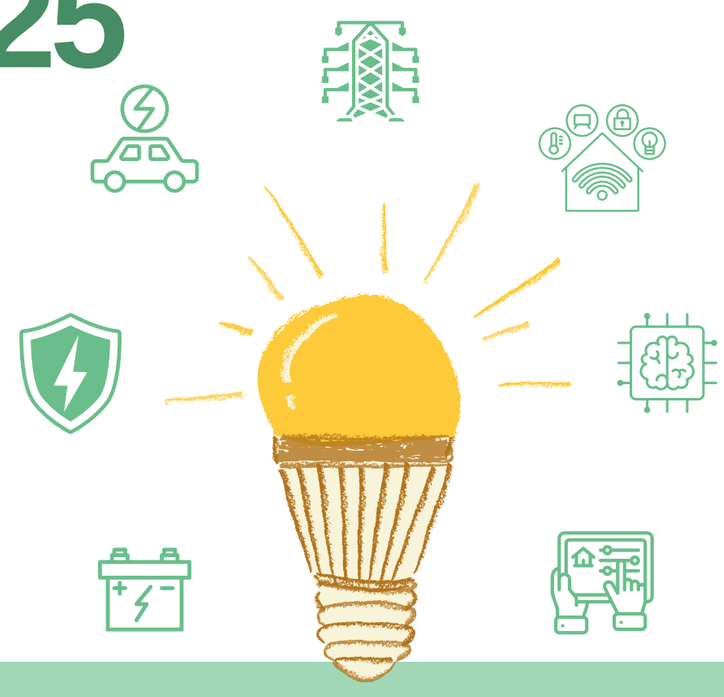

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Course Outline

Class 3: Introduction to Microgrid Systems: Core Concepts and Practices

Date - 13 Mar 2025 (Thu)

This class is tailored for engineers engaged in the design, implementation, maintenance, and optimization of microgrids. The course begins with an introduction to the basic premise of microgrids, including their fundamental elements and building blocks. We will cover the various operational modes and the specific requirements for each scenario. We will then explore the tools and techniques available for both grid-tied and islanded modes, emphasizing how these tools can enhance the flexibility and resilience of microgrid networks. The class concludes with a case study on the implementation of microgrid control, offering insights into result performance and the challenges encountered.

Speaker:

Mr. Hydren LAM, Senior Product Engineer from Siemens Limited

Class 4: Next-generation UPS unlocking the Potential of Distributed Energy Resources for Sustainability

Date - 18 Mar 2025 (Tue)

Distributed Energy Resources (DER) are a revolutionary way to generate renewable energy, providing resilience, flexibility and sustainability. DER technologies, such as solar panels and energy storage systems, provide many benefits to the new energy landscape, including a more sustainable approach with renewable energy.

First, key DERs technologies like solar photovoltaic (PV), energy storage systems (ESS), electric vehicle (EV) etc. and key DERs challenges in Hong Kong like limited space for ESS etc. will be introduced.

Second, the next-generation Uninterruptible Power Supply (UPS), comparison against traditional UPS and Battery Energy Storage System (BESS), how to meet the new energy landscape needs, and successful cases will be shared.

Speakers:

Ir Ian LEE, Head of Solution Architect from Schneider Electric (Hong Kong) Limited
Mr. Baochun SHI, Chief Technical Expert from Schneider Electric (China) Limited