



## **The Hong Kong Institution of Engineers - Building Services Division**

### **PROFESSIONAL COURSE – COMPREHENSIVE BUILDING SERVICES ENGINEERING**

#### *Supported by*

The Hong Kong Polytechnic University – Department of Building Services Engineering (HK PolyU)  
The Chartered Institution of Building Services Engineers - Hong Kong Branch (CIBSE-HKB)  
The Institution of Engineering and Technology Hong Kong –Power & Energy Section (The IET HK-PES)  
The Hong Kong Electrical Contractors' Association Ltd (HKECA)  
Air Conditioning & Refrigeration Association of Hong Kong (ACRA)  
The American Society of Heating, Refrigerating and Air-Conditioning Engineers - Hong Kong Chapter  
(ASHRAE - HKC)

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#### ***Course Content Highlights***

**Session No. : 1**

**Topic :** LV Switchboard Construction and Protection

**Content :** The session will examine the critical elements of low voltage switchboard design, construction and different levels of protection. The circuit breakers for protection of low voltage switchboard and its outgoing circuits will be introduced. The relevant international standards and the key electrical characteristics of the low voltage switchboards and circuit breakers will also be covered.

**Date :** 5 June 2007

**Time :** 7:00pm -- 9:30pm

**Venue :** Lecture Theatre ST111, Hong Kong Polytechnic University

**Speaker :** Mr. Raymond Wong

- Project Manager, Fed-Supremetech Ltd.

Mr. Lawrence Ho

- Project Manager, Fed-Supremetech Ltd.

Mr. Gary Lee

- Product Marketing Engineer, Schneider Electric (Hong Kong) Limited

**Session No. : 2**

Topic : Testing and Commissioning of LV Switchboard and Associated Switchgear

Content : This is the second part of the session 1. It will concentrate on the testing requirements stipulated in the relevant international standards for low voltage switchboards and circuit breakers including type tests and routine tests. The test procedures, test equipment and acceptance criteria of routine tests will be discussed.

Date : 7 June 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Mr. Raymond Wong

- Project Manager, Fed-Supremetech Ltd.

Mr. Lawrence Ho

- Project Manager, Fed-Supremetech Ltd.

Mr. Gary Lee

- Product Marketing Engineer, Schneider Electric (Hong Kong) Limited

**Session No. : 3**

Topic : Efficient Operation of Multiple Chillers

Content : The session covers the parallel operation of multiple chillers under the year-round cooling load profile of a typical building at diverse internal and weather conditions. Energy saving measures and operational control strategies for improved energy performance are presented and barriers to achieving the optimum chiller performance are discussed.

Date : 14 June 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Dr. K. T. Chan, BSc, MBA, PhD, FCIBSE, MHKIE, CEng, RPE, MASHRAE

- Associate Professor, The Hong Kong Polytechnic University

**Session No. : 4**

Topic : The Latest Vertical Transportation System - Performance Assessment, Legislation and Technology

Content : Three different aspects of the latest vertical transportation system will be covered by the session. Benchmarking parameters for assessing lift performance will be introduced, and followed by an outline review on the latest control mechanisms of the Lifts and Escalators (Safety) Ordinance, in which the procedural requirements, general considerations in relation to brand/model approval of lift/escalator equipment and assessment of exemption applications for non-standard lift/escalator equipment will be covered. Lastly the latest lift technology will be presented for the audiences.

Date : 21 June 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Dr. Albert So, BSc (Eng), MPhil, PhD, CEng, MIEE, FCIBSE, MHKIE, RPE, SrMIEEE, REW(C0)

- Adjunct Professor of City Polytechnic of Hong Kong

Ir Lau Lik Kee, BEng, CEng, MIMechE, MHKIE

- Electrical & Mechanical Engineer/Lifts & Escalators, EMSD

Mr. Toni D. Angelo

- Director for Top Range Business and Customised Solutions,  
Schindler Lifts (Hong Kong) Ltd.

**Session No. : 5**

Topic : Principles of Performance-Based Fire Engineering Design

Content : The session covers the fundamental concepts and principles to be adopted when performance-based approach is applied in the fire engineering design of the building projects. Performance criteria, evacuation and smoke modelling will be discussed. It will also cover the major issues to be observed during the submission of the fire engineering reports to the authorities.

Date : 26 June 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Dr. N K Fong, BSc, PhD, HKIE

- Assistant Professor, The Hong Kong Polytechnic University

Ir Dr. S M Lo, PhD, FHis, FRICS, MSFPE, MIFireE, MHKIE, Authorized Person

- Associate Head and Associate Professor, City University of Hong Kong

**Session No. : 6**

**Topic :** Application With Case Studies For Performance-Based Fire Engineering Design  
**Content :** Case studies will be used as examples to demonstrate how the principles of performance-based fire engineering as taught in Session No. 5 be applied in the projects. The session will discuss on the non-conformance issues, acceptable criteria and how the engineering design can meet the performance criteria.

**Date :** 28 June 2007

**Time :** 7:00pm -- 9:30pm

**Venue :** Lecture Theatre ST111, Hong Kong Polytechnic University

**Speaker :** Ir Dr. Richard Yuen, BSc, MSc, PhD, CEng, MCIBSE, MHKIE, MIFireE, MSFPE, RPE

- Associate Professor, City University of Hong Kong

Ir Kenneth Li, BSc(Eng), MSc(Eng), MBA, MCMES, CEng, MIMechE, MCIBSE, MHKIE, RPE

- Director & Vice President, Parsons Brinckerhoff (Asia) Ltd.

**Session No. : 7**

**Topic :** In-depth Study on Motor Control Centre Planning and Installations

**Content :** The session covers the basic presentation of control drawings, the arrangement of control units & inter – connection of power distribution, the design and operation considerations and the maintenance strategy.

**Date :** 3 July 2007

**Time :** 7:00pm -- 9:30pm

**Venue :** Lecture Theatre ST111, Hong Kong Polytechnic University

**Speaker :** Mr. Sherman Tong, BEng(Hons), MSc, MIET

- Manager, Meco Electrical Industries Limited

**Session No. : 8**

Topic : HV / LV Generator, UPS and Harmonics - Case Studies on Planning & Installation

Content : The course contains two different parts. In the first part design layout arrangement of the HV/LV Generator including the requirements of plant room, cooling and ventilation, exhaust emission, fuel storage system and BS interfacing will be introduced. Case studies will also be used to illustrate the critical installation issues and demonstrate how to comply with the latest statutory requirement. In the second part case studies in UPS applications and the consideration of harmonic issues will be discussed.

Date : 5 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Peter Long, MSc, MBA, CEng, MIEE, HKIE  
- Manager - E&M Equipment Generation Systems Department, The Jardine Engineering Corporation, Limited  
Mr. Dick Chan  
- Marketing Manager, Pentagon Technology (Asia) Ltd.

**Session No. : 9**

Topic : High Voltage Power Distribution Systems in Buildings : Different Configurations & Protection Systems

Content : The session aims to present an overview of high voltage power distribution networks with discussion on the benefits of application, configuration design to match with load demands and supply reliability, general protection systems and present protection schemes. A detailed examination of the major elements of protection process like instrument transformers, protection relays and different protection schemes will also be included.

Date : 12 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Dr. N. F. Chin, BSc, MSc, Ph.D. CEng., FIET, FHKIE, Sr.MIEEE  
- Director, PowerNets Marketing Limited  
Ir Thomas K.C. Chan, PgD, MSc, CEng, FIET, FCIBSE, R.P.E., FHKIE, MIEEE  
- Director & Vice President, Parsons Brinckerhoff (Asia) Limited

**Session No. : 10**

Topic : Cooling Load Calculation and Chiller Plant Design

Content : The session covers the analysis of cooling load components, revision of design criteria and common methods for reducing cooling loads and hence reduce the plant capacity. Air-cooled and water-cooled chiller plants design criteria and constraints are presented. Key design considerations for an effective and efficient chiller plant are discussed.

Date : 17 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Herbert Lam, BEng, MSc (Eng), MSc (Const. Mgt.), CEng, MCIBSE, MHKIE, MIFireE, RPE

- Vice President, Parsons Brinckerhoff (Asia) Limited

**Session No. : 11**

Topic : The Legal Status, Obligations and Authorities of Building Services Engineers

Content : The society is more supplicated now and the legal positions of engineers have changed. This seminar will explain the present legal rights and duties of engineers, with the examples of Yuet Wah Mansion and Short-Piling cases.

Date : 19 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir Barry Chin Chi Yung, B.Sc., MBA, LL.B., PCLL, Engineer, Lawyer

**Session No. : 12**

Topic : Water Supply System - Regulations, Design and Installation

Content : Speaker invited from WSD will discuss on the major issues in regulation relating to plumbing system and installation. Common mistakes during submissions will be highlighted for discussion. Various approaches in system design and related installation will also be addressed in the session.

Date : 24 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Mr. Y H Tam

- Senior Engineer, Water Supplies Department

Mr. William Cheung

- Vice President, Parsons Brinckerhoff (Asia) Ltd.

**Session No. : 13**

Topic : Drainage System Design and SARs Prevention

Content : The session will address on different approaches in drainage system design for high rise buildings. Actual examples will be discussed how the best practices in installation. Particular interest will also be paid on how SARS can be prevented with careful drainage system design and installation.

Date : 26 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Mr. William Cheung  
- Vice President, Parsons Brinckerhoff (Asia) Ltd.

**Session No. : 14**

Topic : P&D System Design and Installation for Special Buildings

Content : The session will focus on the special plumbing and drainage systems design and installation for some special buildings including hospitals and laboratories.

Date : 31 July 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir K. K. Lam, BSc., PGDMS, PGDEE, CEng, MHKIE, MCIBSE

**Session No. : 15**

Topic : Contract Arrangement for Building Services Industry (Past, Present and Future)

Content : The session will focus on the development of building services installations contracts/sub-contracts for government and private development projects since seventies, present and the future development to suit the market driven building development in Hong Kong.

Date : 2 August 2007

Time : 7:00pm -- 9:30pm

Venue : Lecture Theatre ST111, Hong Kong Polytechnic University

Speaker : Ir K. K. Fung, BSc, MSc, MBA, MA, CEng, MIEE, MCIBSE, HKIE, RPE, FCI Arb,  
Accredited Mediator

- Director, Paul Y - ITC (E&M) Contractors Ltd.

Ir C. K. Lau, BSc(Eng), MBA, CEng, MIEE, HKIE, RPE

- Group Director, Analogue Holdings Limited

**Session No. : 16**

Topic : ELV System Integration In Mega Scale Projects  
Content : The session will cover the advanced technologies in ELV systems including structural cabling, CABD, public address, CCMS, security systems, etc. and their applications in mega scale developments.  
Date : 7 August 2007  
Time : 7:00pm -- 9:30pm  
Venue : Lecture Theatre ST111, Hong Kong Polytechnic University  
Speaker : Ir Alex Wan, BEng, CEng, MIEE, MHKIE  
- Senior Associate, Parsons Brinckerhoff (Asia) Ltd.

**Session No. : 17**

Topic : Application of Computer Simulation for Ventilation System Design of Specific Areas  
Content : The session gives a precise and concise revisit of essential principles of ventilation and air quality control. The issues of concerns with conventional design methodologies for ventilation systems including well-mixed ventilation models and air changes are elaborated. The crucial understanding and concepts of ventilation efficiency is discussed. Advanced design strategies of ventilation systems for control on contaminants applying the state-of-the-art computation fluid dynamics techniques with practical case studies will be presented with in-depth discussions.  
Date : 9 August 2007  
Time : 7:00pm -- 9:30pm  
Venue : Lecture Theatre ST111, Hong Kong Polytechnic University  
Speaker : Ir Dr. Richard Yuen, BSc, MSc, PhD, CEng, MCIBSE, MHKIE, MIFireE, MSFPE, RPE  
- Associate Professor, City University of Hong Kong  
Ir Dr. W. K. Kwok, MSc (Eng), PhD, CEng, MIMechE, MHKIE, MCIBSE, MIFireE  
- Managing Director, Arch & Fire Professional (Int'l) Ltd.  
Dr. Alvin Lai, BEng, MPhil, PhD  
- Associate Professor, City University of Hong Kong

**Remark :** The organizer reserves the right to change the course content without prior notice when unforeseeable conditions arise.