



## E-LEARNING

100% online. May include pre-recorded session, live streaming/webinar and discussion forum, where applicable.

### ONLINE LEARNING VIA WEBINAR:

**DATE:** 12 & 13 Oct 2020

**TIME:** 9.00am to 5.30pm

**DELIVERY MODE:** e-learning via webinar and BCAA Learning Management System (LMS)

**FEE** (incl of GST): S\$650.00

Funding from Employment and Employability Institute (e2i) is available. The Nett Grant Amount is S\$303.74. To be eligible, you must (i) Be a Singaporean or Singapore Permanent Resident; (ii) Meet the Attendance Requirement; and (iii) Pass the Course. Course fee of S\$650 must be paid in full first. The funding grant amount shall be refunded to the successful applicants after successful completion of the course. To apply, please complete the grant application form available from the Online Storefront. Funding is subject to terms and conditions of e2i and BCA Academy.

### ASSESSMENT AND AWARD

e-Certificate of Attendance (e-COA) will be awarded to participants who meet the attendance requirement.

### CPD POINTS

**PEB:** -

**SGBC-GMAP:** -

# Green Mark for Super Low Energy Buildings – Active and Passive Strategies

## INTRODUCTION

BCA introduced the BCA Green Mark for Super Low Energy (GM SLE) in Sep 2018. This voluntary certification framework for SLE buildings provides recognition for best in-class energy efficient buildings in addition to their Green Mark ratings. It is applicable to new and existing non-residential buildings including commercial, industrial and institutional buildings as well as schools.

Passive and active strategies play a very important role in achieving super low energy buildings (SLEB). This course will highlight the possible utilisation of key passive and active strategies in Singapore, such as use of stack effects and solar chimney, hybrid ventilation, plug load management and smart control. Different areas under façade design and their key parameters will also be covered. In addition, the impact on indoor environment and integration of complicated passive and active systems will be discussed. A case study will be shared to demonstrate how such strategies are implemented in Singapore to achieve SLEB.

## CONTENTS

### DAY 1: PASSIVE DESIGN STRATEGIES

- GM SLE
- General Concept
- Examples of Good Natural Ventilation
- Hybrid Ventilation
- Natural Ventilation and Thermal Comfort
- Key Façade Parameters Affecting Façade Performance and Energy Consumption
- Other Possible Passive Strategies for Façade

### DAY 2: ACTIVE DESIGN STRATEGIES

- General Concept
- Active Strategies and their Importance in Achieving SLE Benchmarking and Evaluation
- Air-Conditioning and Mechanical Ventilation Strategies
- Energy Efficient Lighting and Control
- Plug Load Management
- Concept of Smart Control in Building
- Integration of Strategies for SLE

## LECTURERS

**Prof Wong Nyuk Hien**, Department of Building, School of Design and Environment (SDE), National University of Singapore (NUS)

Prof Wong is currently the Vice Dean for Research of SDE and professor in the Department of Building. Apart from the different appointments held in NUS, Prof Wong was also involved in several research projects related to Urban Heat Island, urban climatic mapping and greenery. He has also completed a number of research projects looking at the passive design of buildings and their associated thermal comfort. On top of this, Prof Wong was one of the key Principle Investigator for the development of the first Zero Energy Building at the BCA Academy. Over the years, he has published more than 300 international referred journal and conference papers and was the co-author of 9 books. He has also been invited to serve in various advisory committees locally and internationally.

**Mr Yong Ping Quen**, Technical Director, Building System & Diagnostics Pte Ltd

Mr Yong has more than 15 years of experience in energy and environmentally efficient green buildings. He is one of the pioneers in energy modelling and has been a BCA appointed independent energy modelling assessor for Green Mark projects since 2010. In addition, he is personally involved in numerous projects undertaken by BSD in Singapore, Malaysia, China, Indonesia and India. Mr Yong is also a Green Mark Advanced Accredited Professional (GM AAP), Green Building Index Facilitator (GBIF), Certified Energy Manager (CEM) and BCA Registered Energy Auditor.

## TARGET AUDIENCE

The course is designed for professionals who are keen to learn more about the different strategies in achieving GM SLEB, as well as those who have completed Certification Course for Green Mark Professionals (GMP) on or before 2018.

*Note: Professionals who will be / are taking the Certification Course for Green Mark Advanced Accredited Professional (GM AAP) need not attend this course.*



## REGISTRATION

To register, please log into our Online StoreFront (OSF) at <https://eservices.bcaa.edu.sg/registration/#/> Login or scan QRcode and search for course code **80041**