

The Green Environment & Energy Saving Certified Professional in Indoor Air Quality



GEES CP IAQ stands for Green Environment & Energy Saving Certified Professional in Indoor Air Quality. This credential program is accredited by Academy of Intelligent Building Certification (AIBC, Academy of Intelligent Building Certification). The candidate for GEES CP IAQ is required to attend a total of 27- hour classroom including laboratory training and 2- hour examination for accreditation.

The 27-hour training covers items related to building indoor air quality from building design, construction, operation, IAQ measurement to certification etc. Due to program comprehensive contents, GEES CP IAQ has been recognized by UL Environment, which is a worldwide leading organization in certification and validation. GEES CP IAQ is authorized to perform indoor air quality measurement according to various standards, including LEED, HK IAQ scheme etc. with analysis support from UL laboratory in Nansha, Guangdong Province, PRC. GEES CP IAQ holder is also recognized by UL's Building Indoor Air Quality certification program (please refer to page 4 for detail information about UL BIAQ program) to perform consultancy services helping clients to achieve related certification with regards to Building Indoor Air Quality. Each attendee will receive a 27-hour CPD certificate after completion of the course.

Date: 9th, 16th, 21st, 23rd Oct 2016 (Four Days)

Time: 9:00 am- 6:00 pm

Venue: Hong Kong (incl. Laboratory training in UL Lab, Nansha, PRC)

Audience:

This credential program is ideal for architect, project manager, IAQ manager of facilities management field, MEP consultant, green building consultant, developer, sustainability coordinator, energy manager and auditor, carbon auditor, building services engineers, air-conditioning engineer, registered professional engineers, HKAS accredited IAQ signatory and IAQ Inspector, LEED AP or other similar accredited professionals, or anyone interested in understanding indoor air quality issues and the way to improve IAQ for a better indoor environment.

Eligibility

The prerequisites to qualify for the certification process have been designed to take into account the possible diversity of education and practical experience an individual may have. However each CP IAQ candidate must meet one of the following criteria with the pass of exam:

- A **LEED AP** with at least **two(2)** years experience in IAQ management.
- An **engineering degree and/or R.P.E. and/or P.E. and/or LEED GA**, with at least **three (3)** years experience in IAQ management.
- A **science or business degree**, with at least **five (5)** years experience in IAQ management.
- A two-year **technical diploma or certificate**, with **eight (8)** years experience in IAQ management.

(Note: One letter of reference and verification of employment must be submitted. Application forms with evidence of years of experience should be submitted for GEES CP IAQ status application. For exemption, application stating reasons for exemption should be sent in. Min. requirement for attending exam: 70 % of class training, lab is a must.)

Speakers



Mr C K Cheung

RPE, Registered EMS, Energy & Carbon Auditor
Founding President of the Hong Kong Institution of Certified Auditors
Vice-President of the Hong Kong & Macau Environmental & IAQ Association
International EMS Peer Evaluator for International Accreditation Forum IAF-MLA
Ex-Senior Officer of the HK Government Accreditation Service (HKAS) in charge of the IAQ Program



Ir Alain Tang

CEng, MIET, MCIBSE, FHKIE, CEM, REA, LEED AP (O+M)
VP, GEES Group
Past Chairman, Control, Automation & Instrumentation Division, Hong Kong Institution of Engineers Council Member, Hong Kong Institution of Engineers



Dr John Shan

PhD
Environmental program manager of UL
Former researcher in Fudan University
10-year experience in chemistry, UK

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THE ACADEMY OF INTELLIGENT
BUILDING CERTIFICATION
智能建築認證學院



Course outline

GEES CP IAQ Course (Unit 1 to Unit 10)

Unit 1

Setting the Scene for IAQ Issues

- Ambient air quality and IAQ and their health impacts to our society at large
- Economic impacts due to poor IAQ and related market value related to enhancing IAQ indoor
- General applicable to offices, hotels, kindergartens, schools, training centers, indoor gaming halls, elderly houses, airports, residential buildings, shopping malls and restaurants
- Special application to casinos, smoking rooms, car parks, light industrial buildings and heavy industry plants
- Very special applicable to health care premises and hospitals
- Walkthrough inspection to determine the IAQ conditions and problems
- Mitigation measures of poor IAQ

Unit 4

International standard ISO requirements on IAQ inspection, sampling & testing and certification:

- ISO 17020 (IAQ Inspection Agency Organization)
- ISO 17025 (IAQ Sampling & Testing Laboratory)
- ISO 17065 (IAQ Certification Body)
- CNAS, HOKLAS, APHA-(US) and IAS-(US) accreditation requirements for the IAQ testing, inspection & certification service providers

Unit 5

Local Hong Kong & Macau IAQ certification schemes:

- Hong Kong Government Environmental Protection Department “Excellent” & “Good” class IAQ certification requirements
- Macau Government’s Health Department IAQ requirements for Casino Smoking Areas
- Special IAQ requirements to smoking rooms in casinos & airports

Unit 2

IAQ & Ambient Air Contaminant and Pollutant Parameters: Physical, Chemical and Micro-biological components

- Physical parameters include temperature, humidity, air speed, PM10 & PM2.5
- Chemical parameters include CO, CO2, NO2, radon, TVOC, HCHO, O3 & B[a]P
- Microbiological parameters include total bacteria & fungus
- Moisture measurement for building materials and building components
- Ambient pollutant parameters include CO, CO2, NH4, NOx, SO2, PM2.5, TSP, Greenhouse Gases, etc.

Unit 3

Measurement Techniques, Sampling Protocol & Testing Methodology of the IAQ parameters

All sampling & testing should be in accordance with the relevant standard requirements in BS, EN, GB, ASTM and ISO.

The IAQ regulations of different jurisdictions have to be followed and compiled with as follows:

- Real-time on-site monitoring
- On-site sampling and laboratory analytical testing
- CNAS, HOKLAS, APHA-(US) and IAS-(US) accreditation for credibility and trustworthy of the test results
- Measurement & testing uncertainty and traceability of the measured results to national & international standards of SI units and reference standard materials to NIST
- Competency requirements of the IAQ inspectors & test operators as well as IAQ inspection & Certification signatory
- Realization of the solutions / strategies at design / construction / operation stage to improve the IAQ

Note: Only students who pass all the exams will be granted with GEES CP IAQ and UL BIAQ AP credentials. The organizers reserve the rights to amend the course contents (with slight variations), change speakers, training venue and date as situation arises.

Unit 6

HK, Macau, China & US “Green Building Certification Scheme” – IAQ Components

- HK BEAM Plus for new buildings Version 1.2 - IAQ requirements
- LEED v4 - IAQ requirements
- China 3-Star - IAQ requirements
- ULE Building Indoor Air Quality Certification system

Unit 8

Construction IAQ Management & Control

- Ventilation - ASHRAE 62.1-2010, sections 4-7 or EN 15251-2007 and EN 13779-2007
- Monitoring - ASHRAE 62.1-2010
- Indoor air Contamination Prevention - the exhaust rates determined in EQ Prerequisite Minimum Indoor Air Quality Performance or a minimum of 2.54 l/s per square meter
- Filtration - ASHRAE 52.2-2007 and EN 779
- Exterior Contamination prevention - NAAQS
- General Emissions & Additional VOC Content - CDPH Standard Method, CARB - Suggested Control Measure or the Hong Kong Air Pollution Control (VOC) Regulation. For example standards such as ISO 11890, Part 1; ASTM D6886; or ISO 11890-2
- Composite Wood–Airborne toxic control measure
- Furniture - ANSI/BIFMA - Furniture Sustainability Standard, Sections 7.6.1 and 7.6.2

Unit 10

Laboratory training (Please refer to next page.)

Unit 7

Design and Construction of IAQ System for New Building

- Design of mechanically ventilation in HVAC system to comply with the standard requirements in ASHRAE 62.1, EN 15251-2007 and EN 13779-2007, GB50376, GB/T18883 and GB3095, etc.
- Air purification and filtering system - ASHRAE 52.2-2007 and EN 779
- Green materials purchase & green labelling
- Architectural design to mitigate poor IAQ & enhance good IAQ
- Natural ventilation & mixed-mode ventilation

Unit 9

Operation & Maintenance of the IAQ Management and Solutions for IAQ Problems Encountered (IFMA SFP Program)

- Ventilation management - ASHRAE 62.1-2010, sections 4-7, CEN Standards EN 15251-2007 and EN 13779-2007
- Air purification & filtration control - use and maintenance of mechanical, chemical, UV light filters & biological filters for germs & bacteria, HEPA filters and active carbon filters for B[a]P and electro-static precipitators for treatment of PM2.5 & PM10 to ASHRAE 52.2-2007 and CEN Standards EN 779-2002
- Regular inspection and maintenance of the HVAC system
- Application of cleaning products / materials for the HVAC system

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UL BIAQ

—Indoor Air Quality Certification for Buildings

The UL Indoor Air Quality Building Certification Program is the world's first comprehensive indoor air quality certification and preventative maintenance program. It addresses moisture, mold, VOCs, odors and other aspects of indoor air quality and provides the certification holder with a UL Certification Mark to communicate the achievement to their customers and stakeholders. People who are qualified with UL BIAQ AP can help with the certification process of UL BIAQ projects.



What did UL do?

Building IAQ certification is delivered in three phases.

Phase 1 consists of the initial building assessment and evaluation.

Phase 2 includes training of staff and introduction to IAQ and moisture management.

Phase 3 is the annual monitoring of the building to maintain the certification.

In total, Building IAQ is designed to fill in gaps in current building management programs; specifically, to help identify and prevent IAQ issues during building design, construction and operations. UL helps to identify weak spots in construction plans and potential health impacts in existing buildings. We also work with building owners and management to develop preventive solutions or remediation plans.

Impact

UL's innovative and comprehensive building IAQ certification is designed to help improve indoor environments to mitigate risks to workers, students or residents and also help built environment professionals:

- Reduced maintenance costs
- Reduced absenteeism and increased productivity
- Reduced building downtime
- Decreased compliance risk and uncertainty
- Reduced vacancies and raised occupancy rates
- Differentiation, brand enhancement, and demonstration of market leadership
- Reduced documentation and certification effort for green building programs such as LEED® and Green Globes®

Laboratory Training (Nansha, 21 Oct)

Process

- 1) Presentation on sampling – Theory part
- 2) Practice on sampling – actual operation
- 3) Lab tour
(to see how samples be tested as well as normal VOC chamber testing process)
(Note: Max. 15 people at one time for lab tour)
- 4) Introduction of UL BIAQ program
- 5) Exam (for the credential of UL BIAQ AP)

Involved instruments

Chamber (90L, 1m³, 6m³, 32m³)

Dust Track (PM1, PM2.5, PM10)

Analysis instruments (HPLC—Aldehyde test, GC-MS—VOC test)



REGISTRATION FORM

Seating is limited. Registration deadline is ONE WEEK PRIOR to seminar date.

Confirmation of seat after payment received.

Please deposit payment to L GEES Limited account# 078-505302-838 at HSBC,

Then email deposit slip and registration form to training@lgees-ltd.com

Name	_____	Email	_____
Company	_____	Position	_____
Organization	_____	Membership No.	_____
Mobile	_____	Company phone	_____

Please tick which course to be applied

- ☐ GEES CP IAQ Course in **HK, 9th, 16th, 21st, 23rd Oct 2016 (Four Days)**
- ☐ Intended class if above not available, Please state your preferred dates: _____

Enrollment

	GEES CP IAQ Course		Registration Information	
	Early bird [#]	Regular Fee	Person(s)	Total
Member of organizer/co-organizer	HK\$ 9,000	HK\$ 10,000		
Company Discount*	HK\$ 10,000	HK\$ 11,000		
Member of supporting organization	HK\$ 11,000	HK\$ 12,000		
Others	HK\$ 12,000	HK\$ 13,000		
Total				

Note:

The organizers reserve all rights to cancel the training and/or the exam. All fees will be refunded to the registrants.

The course fee does not include transportation fees and accommodation.

* Company Discount applies if 3 or more individuals from the same company enroll at the same time. This cannot be applied together with other discount.

[#] Early bird: Registration one month earlier

Remarks:

- 1) For more information, please check [LGEES training website](#)
- 2) For any enquiry please contact us at training@lgees-ltd.com

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Course remarks from alumni

Tak Kam Dover Chung GEES CP IAQ / UL BIAQ AP

Chair of IAQ Committee in GEES



After course, I have taken several GEES events: 1. Meeting with IFMA. 2. Meeting with HKGBC. 3. took part IFMA conference. 4. Participate practical walk through with teachers. And now, I am the IAQ Committee chair in GEES. I want to develop in IAQ professional aspect that I would like to take part relevant events. The important factor is how can we have job opportunity within a year, that we would practice from learning course.



Wing Hong IP GEES CP IAQ/ UL BIAQ AP / BEAM Pro / RPE

Service Manager of Environmental Pioneers& Solution limited

Time goes fast, it was over half year after the training. Thank you for the training arrangement. The course provided me a lot of information and it is informative. It is a great learning experience and visit to the testing centre at Nansha. My personal opinion is: if the course could provide practical on-site walk through inspection and demonstration training on identify of location of sampling collection point would be more impressive and interesting for the trainees.

Shuwen Han GEES CP IAQ/ UL BIAQ AP

Temco Technologies (Hong Kong) Limited



I think the course is good for us to acquire knowledge in IAQ. Course speakers are wonderful, not only because of their personal enchantment but because of their rich experience in IAQ. The cases and materials they shared are really good. The following activities with GEES students after IAQ course to perform a walkthrough make me know more about ISO standards. Look forward to the next learning chance with GEES.



GEES GROUP:

Thanks for all your support. According to students' suggestions, we update our courses this time, and more IAQ cases and materials will be shared in the next training. After courses, IAQ CPD activities will be held to help students practice what they have learned during the courses. Welcome to join us!

Organizers:



Co-organizers:

Supporting organization:



香港註冊通風系統承建商協會
HONG KONG REGISTERED VENTILATION CONTRACTORS ASSOCIATION



HKARMS

香港風險管理與安全協會
Hong Kong Association of Risk Management and Safety



工程界社促會
Association of Engineering Professionals
in Society Ltd



IFMA™ Hong Kong Chapter
International Facility Management Association



Hong Kong Institution of Certified Auditors
香港專業審核師學會



The Association of Energy Engineers
Hong Kong Chapter



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Institution of Environmentalists

