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: Nov 27-30 (Fri- Mon), 2015
Time: 9:00 am- 6:00 pm
Lab Training: 27 Nov (Fri), 2015
Exam: 13:00-17:00 pm, Nov 30 (Mon), 2015
Venue: Hong Kong

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

Eng, MIET, MCIBSE, FHKIE, CEM, REA, LEED AP (O+M)
VP*, GEES Group*
Immediate 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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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 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

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

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.

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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 IAQSystem for New Building

- Design of mechanically ventilation in HVAC systemto 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 - ASHRAR 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 ASHRAR 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, 27 Nov)


GC-MS


Chamber

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, 1m^3, 6m^3, 32m^3)
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	

Enrollment

	GEES CP IAQ Course		Registration Information	
	Early bird#	Regular Fee	Person(s)	Total
Member of organizer/co-organizer	HK$ 8,000	HK$ 9,000		
Company Discount*	HK$ 9,000	HK$ 10,000		
Member of supporting organization	HK$ 10,000	HK$ 11,000		
Others	HK$ 11,000	HK$ 12,000		
		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 prior to 30th Oct

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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Co-organizers:

UL

環境保護師學會 Institution of Environmentalists

Supporting organizations:

CQC

ACSD 亞洲持續發展中心 Asian Centre for Sustainable Development

aee The Association of Energy Engineers Hong Kong Chapter

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

AGC 港慧顧問有限公司 Asian Gateway Consultants Ltd

Asian Institute of Built Environment

AIIB Asian Institute of Intelligent Buildings

HKAEE 香港能源工程師學會 Hong Kong Association of Energy Engineers

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

港專

HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會 Control, Automation & Instrumentation Division 控制・自動化及儀器儀表分部

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

IFMA Hong Kong Chapter International Facility Management Association

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