



# INDOOR AIR QUALITY ON CONSTRUCTION SITES - 1<sup>ST</sup> RUN

## Synopsis:

Although construction is commonly considered an “outdoor” activity, workers typically spend a significant amount of time at work in “indoor” environments, under roof, carrying out works such as screeding and plastering. This is especially so for residential, commercial, industrial and institutional projects, which was estimated to take up 70% of construction demand in 2017. Within a confined indoor work environment, potential hazards to the workers’ health may arise. We should expect, and take the necessary precautions to ensure, that indoor construction environments are safe workplaces. Indoor air pollutants are typically complex mixtures of low level contaminants, and can comprise physical, chemical and microbiological agents. Being cognizant of the sources of these indoor air quality hazards, the health risks they can pose and ways to safeguard our health is crucial to ensure that our well-being is not compromised in the course of performing our jobs.

## Course Objective

The objective of this course is to present an overview of the indoor air quality health hazards that may be encountered by personnel on a construction site environment, addressing questions such as: What are some indoor air contaminants and where do they come from? How do these contaminants get into the body, and what are the health effects they can cause? Finally, what are some measures and good work practices that can be taken to address these indoor air quality concerns?

## Target Audience

This course is suitable for site supervisors, engineers and technical officers. Participants will acquire the necessary knowledge on indoor-air related health risks on construction sites as well as relevant control strategies targeting these risks. This greater awareness will help us to adopt good work practices in order to mitigate the risks to our health arising from these indoor air quality issues.

Course Details	
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**Date:** 10 July 2018 (Tuesday)

**TIME:** 6.15pm – 9.30pm (3Hrs)

**CPD:** 3 PDU, 3SDU, 2STU(Safety) – (All To Be Confirmed)

**Fees:** \$128.40 (IES Member) \$149.80 (Non Member)

**Venue:** IES Academy @ Jurong East, 80 Jurong East St 21, #04-10 Devan Nair Institute, Singapore 609607





## Course Outline

1	<b>Introduction</b>	General principles of indoor air quality Construction sites and the indoor work environment
2	<b>Indoor air quality guidelines in Singapore</b>	
3	<b>Indoor air contaminants on construction sites</b>	Including combustion by-products, volatile organic compounds, particulates, microbial contaminants
4	<b>Exposure to indoor air contaminants</b>	Health effects associated with the exposure to indoor air contaminants
5	<b>Physical agents concerning indoor air quality on construction sites</b>	Including radiation, temperature extremes, ergonomics
6	<b>Good work practices and control strategies</b>	Including source substitution, ventilation, exposure control

## Trainer's CV

**Dr Edmund Low** received his PhD in Environmental Engineering from Yale University. He currently lectures at the National University of Singapore, on topics ranging from quantitative methods to environmental pollution. He has more than 10 years of research and professional experience spanning the application of computational modelling and engineering principles to address issues in public health, air and water quality. Prior to his current appointment, he was senior engineer at the National Environment Agency, where he was involved in environmental monitoring and assessment programmes in Singapore, including the setting up of the country's first islandwide continuous coastal water quality monitoring system. He has provided advice for formulating control strategies against pollution sources, and has also carried out impact assessment studies of climate and urban land use changes on Singapore catchments.

**REGISTRATION FORM**

Indoor Air Quality On Construction Sites – 1 <sup>st</sup> Run							
<b>Date:</b>	10 July 2018, Tuesday						
<b>Time:</b>	6.15pm – 9.30pm						
<b>Duration:</b>	3 Hrs						
<b>Venue:</b>	IES Academy@Jurong East 80 Jurong East Street 21 #04-10 Devan Nair Institute S(609607)						
<b>Course Fee:</b>	\$128.40 (IES Members); \$149.80 (Non Members)						
<b>CPD Programme:</b>	3 PDU, 3 SDU, 2 STU(Safety) - All To be confirmed						
<b>Course Coordinator:</b>	Lee Woon (Ms) Contact: 6461 1250 / Email: hon.lw@iesnet.org.sg						
<b>Closing Date for Registration:</b>	2 July 2018 or till class is full (whichever comes first)						
<b>Participant's Details:</b>							
Name:				NRIC/Fin:			
Company:				Designation:			
Address:							
				Postal Code:			
Office No:			Mobile:			Fax:	
Email: <i>(for sending of confirmation)</i>							
Please indicate:	<input type="checkbox"/> IES Member No:		<input type="checkbox"/> Non Member		<input type="checkbox"/> RTO/RE/PE No:		
	<input type="checkbox"/> Sponsored by Company		<input type="checkbox"/> Special Meal Request ~ Vegetarian (no egg, garlic and onion)				
<b>Contact Person</b> (eg: HR/Accounts Department, if sponsored)							
Name:				Designation:			
Office No:			Mobile:			Fax:	
Email:							
Address: <i>(for mailing of invoices &amp; receipts)</i>							
<b>Payment:</b>	Cash/Nets/Cheque No:			Amount:			
<ul style="list-style-type: none"> <li>➤ Cheque to be made payable to '<b>ENGINEERS SINGAPORE PTE LTD</b>'</li> <li>➤ Course fee is inclusive of 7% GST</li> </ul>							
<b>Acceptance of Terms &amp; Conditions for Registration of IES Academy Courses / Events</b>							
I have read, deemed understood and accept the Terms & Conditions of IES Academy courses and events.							
Name:							
Signature:			Date:				

## **TERMS & CONDITIONS COURSE REGISTRATION**

### **Registration**

Any registration, whether online, fax or by email, will be based on a first-come-first-served basis and will only be confirmed upon receipt of full payment by Engineers Singapore Pte Ltd unless otherwise invoice to company.

All registrations must be submitted with duly completed registration form.

### **Closing Date & Payment**

The closing date of the event will be 1 week prior to event commencement date. Cheques should be crossed 'A/C payee only' and made payable to 'ENGINEERS SINGAPORE PTE LTD', with the Date of event, Title of The Event and participants' name indicated clearly on the back of the cheque, and post to:

Attn: Lee Woon  
IES Academy@Jurong East  
80 Jurong East Street 21 #04-10  
Devan Nair Institute for Employment & Employability  
Singapore 609607

### **Confirmation of Registration**

Confirmation of registration will be given at least one week before the commencement date of event via email. If you do not receive the said confirmation email, you are required to contact IES Academy at general admin immediately at 6463 9211 (office).

IESA reserves the right to allow only confirmed and paid registrants to attend the Event.

### **Withdrawals/Refunds of Fees**

Written notice at least 1 week in advance before the commencement of the event

Full course fee shall be refunded subjected to 4.5% transaction charge

➤ NO refund otherwise.

No-show of participant would not be accepted as a valid reason for withdrawal/refund.

One time replacement is allowed only if written notice is received by us at least 1 week before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees.

### **Cancellation/Postponement**

Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IESA reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

**SkillsFuture Credit (SFC)** "All Singaporeans aged 25 and above can use their \$500 SkillsFuture Credit from the government to pay for a wide range of approved skills-related courses. Visit the SkillsFuture Credit website ([www.skillsfuture.sg/credit](http://www.skillsfuture.sg/credit)) to choose from the courses available on the SkillsFuture Credit course directory."

Please visit [https://www.ies.org.sg/ies/skillsfuture\\_&\\_UTAP.pdf](https://www.ies.org.sg/ies/skillsfuture_&_UTAP.pdf) for more information on SFC & UTAP claim.

### **Personal Data Protection Act**

By registration, you consent to the processing by Institution of Engineers, Singapore of personal data, including your sensitive personal data as defined in the Data Protection Act 2014 for the proper purposes of Institution of Engineers, Singapore (IES). You undertake to observe the provisions of the Data Protection Act 2014 in relation to any personal data you may hold and process as a Members of Institution of Engineers, Singapore, and you agree to indemnify Institution of Engineers, Singapore from liability for any claims or damages that may arise from the processing of this data. For more information kindly refer to: [www.ies.org.sg/PDPA](http://www.ies.org.sg/PDPA).

### **Enquiries**

For further enquiries, please contact IESA general office at Tel: 6463 9211.

