



**IES
GREEN PLAN**
Advancing the Singapore Green Plan 2030

ABC WATERS PROFESSIONALS COURSE – CORE MODULE CU 4

(Design, Construction and Maintenance of Bioretention
Systems) 16th Run

Organised By: IES Academy Pte Ltd



Dates of Course	:	17 & 18 October 2024 (Thursday & Friday)
Time of Course	:	9.00am to 1.00pm / 9.00am to 6.00pm
CPD Programme	:	PDU / 10 PDU (QECP) / CPD (All to be confirmed)
Venue	:	IES Academy Pte Ltd 80 Jurong East Street 21, #04-10, S (609607)
Fee (incl. GST)	:	\$501.40 (IES/SIA/SILA Members) \$588.60 (Non Members)

Supported by:



ABC WATERS PROFESSIONALS COURSE – CORE MODULE CU 4 – 16th Run

Design, Construction and Maintenance of Bioretention Systems

INTRODUCTION

Two-thirds of Singapore functions as local catchment areas. Under the Active, Beautiful, Clean Waters (ABC Waters) Programme, PUB has embarked on a journey to harness the full potential of our waters by integrating them with our environment. Over the past 2 to 3 years, other public agencies and private developers have also embraced the ABC Waters Design that leads to improvement in waters quality, enhanced biodiversity and new recreational space for people to get closer to water.

To build up the expertise of industry professionals in ABC Waters design features, the ABC Waters Professional Programme was launched in September 2011. Comprising four core modules and four elective modules, the programme covers the concepts, design, implementation and maintenance of ABC Waters design features.

Participants who complete all four core modules plus any two elective modules and meet the registration criteria of IES/SIA/SILA, would be eligible to be registered as an ABC Waters Professional. Details on the registration criteria can be found at the websites of IES, SIA and SILA. Participants who complete any single module would receive certificate of attendance for the module completed.

In line with the revisions to the Code of Practice on Surface Waters Drainage, developers/owners shall engage an ABC Waters Professional to design, oversee the construction of and develop a maintenance plan for the ABC Waters Design features. The developer/owner shall submit the concept design and design calculations, endorsed by the ABC Waters professional, to PUB as part of their Development Control (DC) submission.

On an annual basis, developers/owners shall also submit a Certificate of Inspection on ABC Waters design features, endorsed by an ABC Waters Professional, if applicable. The Certificate of Inspection shall include a declaration on whether the features have been inspected and are maintained satisfactorily and functioning well.

These new requirements on the endorsement of plans by ABC Waters Professionals will take effect from 1 January 2014 onwards.

ABC WATERS PROFESSIONALS COURSE – CORE MODULE CU 4 – 16th Run

Design, Construction and Maintenance of Bioretention Systems

Course Schedule

Day 1		
Time	Course Description	Speaker
8.30am – 9.00am	Registration	
9.00am - 9.30am	ABC Waters Professional Programme - Overall Course Roadmap - Overview of Bioretention Systems - Application and types: Conventional (incl submerged), Soak Away, Modular systems	Er. Simon Wong
9.30am – 10.30am	Engineering design of bioretention basin & bioretention swales - Design considerations for bioretention systems	Er. Simon Wong
10.30am – 10.45am	Tea Break	
10.45am – 11.45am	Step-by-step worked example for bioretention basin (conventional) and Bioretention Swale	Er. Simon Wong
11.45am - 12.45pm	Template Application: Hands On Practice on bioretention basin and swale calculation - Worked example for bioretention swale	Mr Lim Hong Yi
	END OF DAY 1	

Course Schedule

Day 2		
Time	Course Description	Speaker
8.30am – 9.00am	Registration	
9AM - 11AM	Landscape Design of Bioretention systems - Landscape design principles for bioretention systems - Plant selection - Maintenance considerations for good design Hands On exercise	Mr Koh Jiann Bin
11am - 11.15am	Tea Break	
11.15am - 12.45pm	Construction of bioretention basin - Site considerations and constraints - Construction sequence - Materials specifications: geotextile, subsoil pipes etc, preparation of filter media - In-site testing for Hydraulic Conductivity - Safety	Mr Koh Jiann Bin
12.45pm - 1.45pm	Lunch Break	
1.45pm - 2.45pm	Maintenance of bioretention systems	Mr Koh Jiann Bin
2.45pm - 4.45pm	Construction of bioretention basin II - Erosion Control Measures	Dr Ong Chee Wee
	Soil Specifications for Bioretention Systems - Soil composition and considerations for conventional (incl submerged), soak away - Soil testing for hydraulic conductivity - Particle Size Distribution for different layers in bioretention system - Pit-test for in-site soil test	
4.45pm - 5pm	Tea Break	
5pm - 6pm	Assessment Quiz	

Speakers' Profile

Er. Simon Wong T J

Er. Simon Wong T. J. is the Director of the Civil & Environmental Engineering (CEE) Division in Surbana Jurong Pte Ltd. As a registered Professional Engineer with the PE Board of Singapore, he has more than 25 years of working experience in the field of civil engineering and urban water management, both in Singapore and overseas. He has been involved in various drainage projects and flood studies, and also ABC Waters projects since becoming an ABC Waters Professional in 2013. In the overseas master-planning projects that he undertakes, he endeavours to incorporate ABC Waters design concept into the planning where possible, sharing the knowledge gained in Singapore with other countries.

Lim Hong Yi

Hong Yi graduated with a Bachelor in Environmental Engineering from Nanyang Technological University and has 8 years of experience in the areas of hydrology, hydraulics, drainage and ABC Waters design. He was involved in a number of public and private civil infrastructure projects during his time with an engineering consultancy firm, notably the development of drainage masterplans for Mandai Park Development in Singapore and Kura Kura Bali, a resort island in Indonesia, as well as the ABC Waters Project at Sungei Api Api and Sungei Tampines. Hong Yi is currently an engineer in PUB and is involved in the implementation of ABC Waters projects, such as the recently completed Phase 2 ABC Waters Project at Jurong Lake.

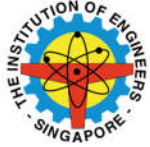
Mr Koh Jian Bin

Jiannbin has devoted his consulting practice to water-sensitive design in the urban environment for the past 10 years. He has extensive technical experience with the use of nature-based solutions to manage and express stormwater in urban spaces and parks. With his unique combination of expertise in design and engineering, Jiannbin applies transdisciplinary thinking and adopts an integrative design approach in his practice. Some of his recent works include the stormwater management design and master plan for a large national garden, the preliminary design for land-use revitalisation along a canal, and ABC Waters design for various HDB greenfield developments. He has worked with such clients as PUB, HDB, NParks, CDL, DPA, and ARUP. Jiannbin is a registered ABC Waters Professional and a committee member of the ABC Waters Programme. He is both a Chartered Engineer and an Accredited Landscape Architect. He is also a certified horticulturist (CUGE CPH) and arborist (ISA).

Dr. Ong Chee Wee, Victor

Dr. Ong has 24 years of postgraduate working experience in consultancy, research and construction firms in Singapore and Malaysia. He is a registered Specialist Professional Engineer (Geotechnical), Specialist Professional Engineer (Tunnelling), Professional Engineer (Civil), Qualified Erosion Control Professional (QECP), ABC Water Professional, Competent Person (CP) for Periodic Façade Inspection (PFI) and Design For Safety Professional (DfSP) in Singapore. Dr Ong obtained his PhD in Geotechnical Engineering from the National University of Singapore (NUS), and is currently serving on two International Technical Committees for International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE).

Dr Ong likes to share his knowledge and offer talks and professional training for practising engineers, university lecturers and students from Singapore, Malaysia and Vietnam. He gives talks and training on Tunnel Soil-Interaction and Deep Excavation and PLAXIS 2D & PLAXIS 3D respectively. Dr. Ong is also a registered Qualified Erosion Control Professionals (QECP) and two of his projects at HDB Sengkang N2C40 and Punggol West C8 have been awarded as PUB ECM Model Site.



REGISTRATION FORM

Date:	17 & 18 October 2024 (Thursday & Friday)		
Time:	9.00am to 5.00pm		
CPD Programme:	PDU (PEB/CEng), 6 QECP, 2 BOA-SIA, 4 SILA – <i>to be confirmed</i>		
Course Fees:	IES Members: \$501.40 / Non-Members: \$588.60		
Course Venue:	IES Academy@Jurong East 80 Jurong East Street 21 #04-10 Devan Nair Institute Singapore 609607		
Course Coordinator:	Nancie Neo; Email: nancie.neo@iesnet.org.sg		
Closing Date:	4 October 2024, Friday (<i>or earlier when all seats filled</i>)		
Participant's Details			
Name (as per NRIC):		NRIC/FIN:	
Company:		Designation:	
Billing Address:			
		Postal Code:	
Mobile:		Office:	
Email:			
Please indicate if any	<input type="checkbox"/> IES No:	<input type="checkbox"/> SILA/SIA No:	<input type="checkbox"/> Non-Member
	<input type="checkbox"/> PE/CE No:	<input type="checkbox"/> Company Sponsor	<input type="checkbox"/> Vegetarian
Contact Person (if different from above)			
Name:		Designation:	
Contact Number:			
Email:			
Payment Details (please indicate)			
<input type="checkbox"/> PayNow	<input type="checkbox"/> Bank Transfer	<input type="checkbox"/> Vendors@GOV:	
<input type="checkbox"/> Others:			
<p>➤ Course fee includes course materials & prevailing GST ➤ Certificate of Attendance is issue to participant with 100% attendance</p>			
Acceptance of Terms & Conditions for Registration of IES Academy Courses / Events I have read, deemed understood and agree to abide to Terms & Conditions for Registration of IES Academy courses / events.			
Name:	Signature & Date:		

TERMS & CONDITIONS ON COURSE REGISTRATION

Registration

Any registration, whether on-line or fax will be on a ***first-come-first-served basis*** and will only be confirmed upon receipt of full payment by IES Academy 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 or earlier. The invoice will be sent to you via email when the course is confirmed to run. Payment via **Bank Transfer and PayNow** available.

Confirmation of Registration

Confirmation of registration will be given at least 1 week before the commencement date via email. ***If you do not receive the said confirmation email, you are required to contact IESA at 6463 9211 during office hours.***

IESA reserves the right to allow only confirmed 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. IES 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.

PERSONAL DATA PROTECTION ACT

I consent to the processing by Institution of Engineers, Singapore of personal data, including sensitive personal data as defined in the Data Protection Act 2014, about me for the proper purposes of Institution of Engineers, Singapore (IES). I undertake to observe the provisions of the Data Protection Act 2014 in relation to any personal data I may myself hold and process as a Members of Institution of Engineers, Singapore, and I 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 [here](#).

Enquiries

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