♦ **Registration fees**

Registration fees for the Induction Course are as follows:-

ACEM Member firms : RM 500 per person
Government/Semi-Government : RM 500 per person
Others/ IEM members : RM 600 per person

♦ **Channel of payment :-**

Direct pay to:-
The Association of Consulting Engineers Malaysia (Sarawak Branch).

Bank Account :
CIMB Bank - 8603527022.
(By DIRECT/ ONLINE BANKING TRANSACTION)

Submit the bank payment slip and registration form to ACEM(Sarawak Branch) Secretariat at acemsarawak@gmail.com by or before **8th September 2021 (Wednesday).**

The Completed registration form with payment slip will be allowed to share the link of the Webinar.

For further enquiries, please contact the ACEM (Sarawak Branch) Secretariat at **tel: 082-464692, fax: 082-571606** or **email: acemsarawak@gmail.com.**

♦ **Objective**

1. Introduce Professional C & S Consulting Engineering Service to new C & S Engineers.
2. Guide to further enchance the civil and structural engineers' skills in the engineering design environment.

♦ **Target of Audience**

Civil or Structural engineers with less than 2 years experience and new Civil or Structural engineers in government and semi-government departments assigned to civil or structural engineering design works.

♦ **Certificate of Attendance**

Certificate of Attendance will be issued to participants, subject to full attendance.

♦ **Course Notes**

Participants will receive email containing the course notes in PDF format.

Association of Consulting Engineers Malaysia (Sarawak Branch)

Webinar Induction Course for New Civil & Structural Engineers 2021

(ACEMSWK/INDC&S/01/2021)

Time : 9.00 am to 11.00 am (2 hours)

Date:

10/9/2021 (Friday)
11/9/2021 (Saturday)
17/9/2021 (Friday)
18/9/2021 (Saturday)
25/9/2021 (Saturday)
1/10/2021 (Friday)
8/10/2021 (Friday)
16/10/2021 (Saturday)

♦ **Course Contents**

A) Professional Practice

1. Laws and Regulations Governing the Engineering Profession
   - 1.1 The Registration of Engineers Act & Registration of Engineers Regulations
   - 1.2 Overview of Laws having relevance to the practice of Engineering ('Local Council Act', 'Town Planning Act', ' Roads, Drainage & Building Act', UBBL, 'Fire Services Act' etc) (list and brief description of function only).
   - 1.3 Overview of manuals and technical standards mandatory under statutory requirements (MSSM, SPAN Guidelines, JKR Arahan Teknik, LLM Codes) (list and brief description only).
   - 1.4 Route to registration as P.Eng

2. Concept of Professionalism and Engineer's Responsibility Towards Society & the Public
   - 2.1 Four key concepts in Professionalism (public interest, fiduciary interest, professional conduct, expert knowledge)
   - 2.2 Code of professional conduct
   - 2.3 The regulated professional and the unregulated professional
   - 2.4 Introduction to Civil Law Act, basic principles of torts, duty of care required of a professional, 'good Samaritan syndrome', fit-for-purpose etc.
   - 2.5 Common issues of Professional Conduct (letter of release, taking-over and supplanting, conflict of interest, responsibility in SI etc.)

B) Site (Geotechnical) Investigation For Building and Civil Works

1. Guidelines and Codes of Practice

2. Objectives, Stages, Scope and Planning of Geotechnical Investigation
   - 2.1 Civil Works
   - 2.2 Building Works

3. Investigation Methods and Procedures
   - 3.1 Preliminary investigation Surface/ Topographical maps/Geological maps/ Site history and reconnaissance
   - 3.2 Field measurement /instrumentation
   - 3.3 Measurement of properties in laboratory

4. Interpretation of Field and Laboratory Data

5. Geotechnical Data for the Design of Sub-Structures of Building Works
   - 5.1 Shallow foundation
   - 5.2 Deep foundation
   - 5.3 Basement

6. Geotechnical Data for the Design of Civil Works
   - 6.1 Retaining walls
   - 6.2 Slope stability
   - 6.3 Embankments
   - 6.4 Underground openings
   - 6.5 Marine structures, waterfront structures

C) Structures

1. Structural Analysis
   - 1.1 Materials / Cross Sectional Properties
   - 1.2 Methods of Structural Analysis
   - 1.3 Stiffness Method
   - 1.4 Approximate Methods

C) Structures

2. Concrete Design
   - 2.1 Durability and Fire Resistant
   - 2.2 Testing of Steel / Concrete
   - 2.3 Analysis and Design of Selected Structural Elements, Beams, Slabs etc
   - 2.4 Other Design Considerations

3. Some Aspects of Structural Steel Design in Practice

D) Earthworks in Development (Housing Projects)

1. Introduction
   - 1.1 Preliminary
   - 1.2 Layout
   - 1.3 Soil data
   - 1.4 Survey information

2. Design
   - 2.1 Preliminary
   - 2.2 Design criteria
   - 2.3 Submissions

3. Construction Stage
   - 3.1 Setting out
   - 3.2 Site clearing
   - 3.3 Temporary drainage
   - 3.4 Silt traps
   - 3.5 Compaction requirement
   - 3.6 Rock blasting
   - 3.7 DOE requirement
   - 3.8 Site monitoring and control

4. Other consideration
   - 4.1 Retaining walls
   - 4.2 Maintenance of completed platforms
   - 4.3 Erosion control

♦ **Course Contents**

E) Roads

1. Introduction
   - 1.1 Ancient roads
   - 1.2 Modern roads

2. Roads in Malaysia
   - 2.1 Road development
   - 2.2 Road classification and administration
   - 2.3 Design guidelines and standards
   - 2.4 Road classification/Hierarchy
   - 2.5 Design standards and roads

3. Route Selection and Planning
   - 3.1 Traffic study
   - 3.2 The reconnaissance survey
   - 3.3 Land

4. Design Control and Criteria
   - 4.1 Topography and land use
   - 4.2 Traffic
   - 4.3 Design vehicle characteristics
   - 4.4 Speed
   - 4.5 Capacity

5. Elements of Design
   - 5.1 Sight distance
   - 5.2 Horizontal alignment
   - 5.3 Vertical alignment
   - 5.4 Combination of horizontal and vertical alignment
   - 5.5 Cross section elements
   - 5.6 Other elements affecting geometric design

6. Junction Design
   - 6.1 Design of at-grade intersections
   - 6.2 Design of interchanges

7. Cost Estimate

F) Drainage

1. Introduction

2. Hydrological Concepts

3. Rapid Disposal vs. Control-at-Source

4. Urbanisation and its impact on Runoff

5. Water Quantity and Water Quantity Management

6. Design of Drainage Systems
   - 6.1 Design Average Recurrence Interval (ARI)
   - 6.2 Flood estimation
   - 6.3 Hydraulic analyses
   - 6.4 OSD, detention and retention storages
   - 6.5 Flood routing analyses

7. MSMA and MSMA2

8. Erosion and sediment control measures

9. Drainage Analyses and Design Software

G) Traffic

1. Traffic Impact Assessment
   - 1.1 Introduction
   - 1.2 Technical guidelines
   - 1.3 Categories of assessment

2. Transport Planning
   - 2.1 Trip generation
   - 2.2 Trip distribution
   - 2.3 Trip assignment
   - 2.4 Modal choice
   - 2.5 Parking studies

3. Capacity and level of service concept
   - 3.1 Unsignalised junctions and intersections
   - 3.2 Signalised junctions and intersections
   - 3.3 Roadway
   - 3.4 Other transportation facilities

H) Water supply

1. Guidelines for water supply submission
   - 1.1 Introduction
   - 1.2 Preliminary stage
   - 1.3 Where to submit water supply application

2. Procedures for submission of water supply application

3. Application and Approval Stage
   - 3.1 Application for water supply
   - 3.2 Processing and approval by Water Authority
   - 3.3 Submission of proposed design, documents and plans
   - 3.4 Approval of design, document and plans

4. Construction and supervision stage

5. Testing and turning-on of water supply

6. Handing over stage

7. Technical Requirement for Water Supply Installations
   - 7.1 General
   - 7.2 Water demand, design criteria
   - 7.3 Materials in water supply reticulation installation
   - 7.4 Booster pumping station
   - 7.5 Service reservoirs and trunk mains

8. Internal plumbing

♦ **Course Contents**

I) Sewerage

1. Introduction
   - 1.1 Preliminary
   - 1.2 Authorities' requirement
   - 1.3 Submission

2. Design stage
   - 2.1 Preliminary design
   - 2.2 Design criteria
   - 2.3 Preparation of drawings
   - 2.4 Submission to Authorities

3. Central Sewerage Treatment Plants
   - 3.1 Types of approved systems

4. Construction Stage
   - 4.1 Control of workmanship
   - 4.2 Water tightness testing
   - 4.3 Handing over to IWK

Induction Course for New Civil and Structural Engineers 2021

Programme

Date : 10/9/2021, 11/9/2021, 17/9/2021, 18/9/2021, 25/9/2021, 1/10/2021, 8/10/2021 & 16/10/2021

Time : 9.00 am – 11.00 am (2 hours)

Venue : Zoom Platform

	10.09.2021 (Friday)			**25.09.2021 (Saturday)**
Topic	**Professional Practice**		**Topic**	**Roads and Drainage**
Speaker	**Ir. William Tan Khoon Lee**		**Speaker**	**Ir. Dennis Wong Hee Chiong**
	11.09.2021 (Saturday)			**01.10.2021 (Friday)**
Topic	**Structures**		**Topic**	**Water Supply**
Speaker	**Ir. Anthony Law Ngo King**		**Speaker**	**Ir. Chai Kwang Cheng**
	17.09.2021 (Friday)			**08.10.2021 (Friday)**
Topic	**Site (Geotechnical) Investigation for Building & Civil Works**		**Topic**	**Sewerage**
Speaker	**Dr. Choo Chung Siung**		**Speaker**	**Ir. Annastesia Sulastri Bt. Salleh**
	18.09.2021 (Saturday)			**16.10.2021 (Saturday)**
Topic	**Traffic**		**Topic**	**Earthwork and Development (Housing Projects)**
Speaker	**Ir. Pooh Yih Fang**		**Speaker**	**Ir. Ong Chet Yun**

REGISTRATION FORM

(Returned the form before 8 September 2021)

Name (1)	
Hp No	
NRIC	
Email (personal)	
Login (no nickname)	
BEM No	

Name (2)	
Hp No	
NRIC	
Email (personal)	
Login (no nickname)	
BEM No	

REGISTRATION FORM

(Returned the form before 8 September 2021)

Name (3)	
Hp No	
NRIC	
Email (personal)	
Login (no nickname)	
BEM No	

Name (4)	
Hp No	
NRIC	
Email (personal)	
Login (no nickname)	
BEM No	

REGISTRATION FORM

(Returned the form before 8 September 2021)

Registration fees : (*Please tick (√) where is applicable*.)

( ) ACEM members/firms : RM 500 /person

( ) Government/Semi-Government : RM 500 / person

( ) Others/ IEM members : RM 600 /person

The approval will be made on the registration form with payment.

Name of organization :

_____

_____

Address :

_____

_____

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Tel no : _____

Fax No : _____ ____

Email: _____