

Formal Training Scheme to Associate Membership

Building Engineering

Model Training Guide

1 Model Training Guide (MTG)

The Model Training Guide is, as the name suggests, a guide to Companies on the practical experiences considered relevant in the formal training of potential Technologists.

2 Training Programme (TP)

The Training Programme is the plan prepared by a Company which is designed to meet the experiences listed in the MTG. This 'plan' is presented for approval (to HKIE) as a part of the Assessment/Reassessment procedures.

The TP must cover the experience necessary to ensure that Trainees can meet the objectives set out in the **Training Record-of-Objectives**.

3 Training Period - Nominally 2 years

The **length** of the **training** is based on **meeting the objectives** and **not** determined by **time**. The times shown below are therefore indicators only, the time that a normal trainee would take to meet the relevant objectives. The training period could and often be longer or in some cases shorter than the nominal training period.

4 Training Aim

It is important to note that the Training Scheme for Associate Members is designed to be the **fast track** by which a trainee can obtain the status of Associate Member of HKIE.

5 Continuing Professional Development (CPD)

An **implicit part** of the Training Scheme for Associate Members is related to **CPD** which should be an integral and relevant part of the development of the graduate trainee, mandatory CPD minimum 45 hours per year.

6. Training Stages

- I Common Core Objectives
- II Core Objectives in Building Engineering
- III Specific Objectives

7. Training Programme Content

(I) Common Core Objectives (Continuous developments throughout the programme)

- 1. HKIE Activities**
 - 1.1.1 History, role and organisation
 - 1.1.2 Developing links with HKIE
- 1.2 Professionalism**
- 1.3 General Personal Development**
- 1.4 Personal Qualities/Demonstrating**
- 1.5 Occupational Safety & Health (S&H)**
- 1.6 Environment**
- 1.7 Communication**
- 1.8 Human Resources**
- 1.9 Leadership & Management**
- 1.10 Own Organisation**
- 1.11 Technology/Business**

(II) Core Objectives in Building Engineering

- 1. Introduction (1 week)**
 - 1.1 Company history, structure, management system etc.
 - 1.2 Computer applications
 - 1.3 Safety policies, current legislation
- 2. Producing Work (51 weeks)**
 - 2.1 Contract administration, Procurement management, Design management
 - 2.2 Drawing/Information control
 - 2.3 Record keeping
 - 2.4 Information co-ordinate and checking
 - 2.5 Setting out
 - 2.6 Appreciation in the use of equipment/plant
 - 2.7 Planning work schedule
 - 2.8 Check work done/payment
 - 2.9 Resources management including materials, plant and equipment, manpower, and sub-contractors
 - 2.10 Safety work practices and process control
 - 2.11 Quality control, TQM, ISO various standards (9000 and 14000 series)
 - 2.12 Site Quality Assurance Systems
 - 2.13 Supervision on site – the roles of various parties
 - 2.14 Coordinate with Client/Consultant/Sub-Contractor
 - 2.15 Interface of Building services installation and builder's work
 - 2.16 Document Management System
 - 2.17 Engineering fundamentals including general falsework, formwork and temporary work
 - 2.18 Foundation and Geotechnical Engineering Works

- 3. Planning Work (12 weeks)**
 - 3.1 Identifying and defining a problem accurately
 - 3.2 General knowledge of national and international Standards, Codes of Practice, Legislation, Practice Notes, Technical Memoranda, etc.
 - 3.3 Able to produce the solution to a problem
 - 3.4 Problem solving
 - 3.5 Technical specifications
 - 3.6 Reviewing cost estimates, Cost Benefit Analysis and Life cycle costing
 - 3.7 Safety consideration in planning work
 - 3.8 Programming method
 - 3.9 Method statement and programming in different stages
 - 3.10 Resources Planning
 - 3.11 Environmental Planning

- 4. Pre-Contract Work (Optional 8 weeks)**
 - 4.1 Company's tendering process
 - 4.2 Understanding the tendering process, presentation and assessment
 - 4.3 Budgeting on projects

- 5. Post-Contract Work (Optional 4 weeks)**
 - 5.1 System and concept use
 - 5.2 Check work done for claims/charges/payment at Final Account
 - 5.3 Budgeting Review on building projects

(III) Specific Objective

The Specific Objective will be **complementary** in a more detailed way to the core objectives and it will be proposed by the Engineering Supervisor for approval by HKIE. Guidelines are given as follow:

- 1.1 Engineering Management and Administration
- 1.2 Defect checking during the construction and handover stage, testing procedures
- 1.3 Arrangement of Fire Service and Occupational Permit Inspection Projects
- 1.4 Customer liaison and services, maintenance work
- 1.5 Work Study Techniques
- 1.6 Safety and Environmental Audit
- 1.7 Quality Assurance System

- N.B.**
1. This guide should be read in conjunction with Routes to Associate Membership (M4) Information booklet.
 2. To meet the requirement of the Institution's Approved Formal Training Scheme for Associate Members, trainees must be under the supervision of an Engineering Supervisor and have followed an approved formal training scheme.
 3. During their training, each trainee is required to maintain a Training Log Book, a Training Record of Objectives and a CPD Log Book.