

Engineering Graduate Training Scheme "A"

Structural 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 Professional Engineers.

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) on Form TD1 Part 2 as a part of the Assessment/Reassessment procedures.

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

3 Training Period - Nominally 3 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 Scheme "A" Graduate Training is designed to be the **fast track** by which a graduate can obtain full **professional status**. The **training** therefore **covers** both **Technical and Professional matters**.

5 Continuing Professional Development (CPD)

An **implicit part** of the Scheme "A" training is related to **CPD** which should be an integral and relevant part of the development of the graduate trainee.

6 Training Stages

- I Introduction.
- II Basic and Supplementary Training.
- III Engineering Design & Practice.
- IV Site Experience.
- V Engineering Management.

7 Training Programme Content

I Introduction (suggest 1 month in total)

- a) size, history, subsidiaries if any,
- b) products, markets and competitors,
- c) management structure and functions,
- d) communication systems,
- e) location and layout of the facilities,
- f) safety, health and welfare,
- g) joint consultation arrangements if any,
- h) specialist skills,
- i) work of related disciplines,
- j) management techniques,
- k) sources of guidance

II Basic and Supplementary Training

- a) introduction to structural drawings,
- b) familiarization with Code of Practice and Building Regulations,
- c) familiarization with structural materials and their manufacture,
- d) familiarization with common computer analysis and design programs.
- e) further study and training.

III Engineering Design and Practice

- a) research for available data or information
- b) supervise and interpret soil investigation,
- c) assess construction methods and forms of construction,
- d) develop design in collaboration with other disciplines,
- e) prepare and check structural calculations in:-
 - i) foundations,
 - ii) structural steel,
 - iii) reinforced concrete,
 - iv) temporary work,
 - v) other structural materials,
- f) prepare and check general arrangement and working drawings,
- g) prepare specifications and contract document,
- h) prepare cost estimate,
- i) other works.

IV Site Experience

- a) planning and programming of construction works,
- b) method of construction including the design of temporary works,
- c) knowledge of materials, their characteristic and quality control,
- d) supervision of construction including checking of setting out, materials and workmanship aspects.
- e) liaison with clients, contractors, suppliers and relevant authorities,

- f) measurement of works, preparation of site records and reports,
- g) monitoring of construction safety.

V Engineering Management

- a) tendering procedure,
- b) contract administration,
- c) professional ethics and responsibility.

- N.B.**
1. This guide should be read in conjunction with the Membership Admission Requirements booklet M3.
 2. To meet the requirements of the Institution's Approved Formal Training Scheme "A", 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.
 4. The minimum period of training in the structural engineering discipline must not be less than thirty six months.