# **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.