

Formal Training Scheme to Associate Membership

Civil 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 and is designed to meet the experiences listed in the MTG. This 'plan' shall be presented for approval (to HKIE) 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 2 years

The **length** of the **training** is based on **meeting the objectives** and **not** determined by **time**. The periods shown below are therefore indicators only of the time that a normal trainee would take to meet the relevant objectives. The training period could be and often is longer 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 the HKIE.

5 Continuing Professional Development (CPD)

An **implicit part** of the Training Scheme for Associate Members is **CPD** which should be an integral and relevant part of the development of the trainee.

6 Training Stages

- I Introduction
- II Design and Associated Office Practice
- III Site Experience
- IV General

7. Training Programme Content

I Introduction (suggest one week in total)

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| 1. | size and history | D |
| 2. | management structure and functions | D |
| 3. | communication systems | C |
| 4. | training programmes & career development | C |

II Design and Associated Office Practice (minimum 6 months in total)

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| 1. | Organisation of design and associated offices. | C |
| 2. | Programme of design work. | D |
| 3. | Familiarization with standards, codes of practice and design manuals. | C |
| 4. | Examination of site investigation records in deciding outline solutions taking due consideration of possible alternative designs and their costs. | D |
| 5. | Site inspection and survey for design. | D |
| 6. | Testing of samples to obtain design data and proper use of testing equipment. | D |
| 7. | Feasibility studies including economic considerations. | D |
| 8. | Civil engineering design of permanent and/or temporary works and preparation of drawings. | C |
| 9. | Methods of construction including safety considerations. | C |
| 10. | Taking off quantities and preparation of bills of quantities to standard methods of measurement. | C |
| 11. | Estimating costs. | C |
| 12. | Knowledge of conditions of contract and specifications. | D |
| 13. | Tender preparation and evaluation. | D |

III Site Experience (minimum 12 months in total)

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| 1. | Planning and programming of construction. | C |
| 2. | Resource planning, allocation and control. | D |
| 3. | Methods of construction and their proper sequence, including design of temporary works. | C |
| 4. | Setting out of works and knowledge of surveying instruments. | C |
| 5. | Mechanical plant including knowledge of use, capacity, output and cost. | D |
| 6. | Materials including their cost, storage and handling problems, quality and other characteristics. | D |
| 7. | Testing materials. | C |
| 8. | Measurement of works. | C |
| 9. | Valuation of variations including variation orders. | C |
| 10. | Interim statements and certificates. | D |
| 11. | Site safety. | C |
| 12. | Liaison with other organisations and the public. | D |
| 13. | Site administration including control and management of subcontracts. | D |
| 14. | Site records and reports. | C |

IV General (applicable to both office experience and site experience) (the balance)

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| 1. | Staff relationship, human resource planning, motivation and enforcement. | C |
| 2. | Professional ethics and responsibility. | C |
| 3. | Statutory requirements, laws and ordinances affecting project implementation. | C |
| 4. | Report writing and presentation. | C |
| 5. | Financial forecasting, budgeting and cost control. | D |
| 6. | Conditions of contract, their compliance and limitations. | D |
| 7. | Appreciation of computer techniques and their limitations. | D |

- Note:**
- 1. The programme set out is for guidance only but substantial departure should not be made without prior consultation with the Institution. Employers should endeavour to provide training to their trainees in as many areas as possible appropriate to the sector of employment. Items marked C are considered to be core training modules and items marked D are considered desirable modules.*
 - 2. For training for the Civil Division there are requirements for minimum total periods of training both on site and in an office; however many of the modules to be covered are applicable to either or both of these situations and cannot be separated. The diversity of core modules requires that there is flexibility in the allotment of time spent on each one to suit the particular job circumstances and to specify the minimum duration for each module is neither desirable nor practical.*
 - 3. This guide should be read in conjunction with Routes to Associate Membership (M4) Information booklet.*
 - 4. To meet the requirements of the Institution's Approved Formal Training Scheme for Associate Members trainees must be under the supervision of an approved Engineering Supervisor and have followed an approved formal training scheme.*
 - 5. During his training, each trainee is required to maintain a diary, a CPD Log Book, a Training Record of Objectives and a Training Log Book.*
 - 6. The minimum period of training in the civil engineering discipline must not be less than twenty-four months.*