

**THE HONG KONG INSTITUTION OF ENGINEERS
ENGINEERING GRADUATE TRAINING SCHEME “A”**

MODEL TRAINING GUIDE

MARINE & NAVAL ARCHITECTURE ENGINEERING

Model Training Guide (MTG)

The Model Training Guide is a guide to Companies on the practical experiences considered relevant in the formal training of potential Professional Engineers.

Training Programme (TP)

The Training Programme is the plan prepared by a Company which is designed to meet the experiences listed in the MTG and to meet the objectives set out in the Record of Objectives. This ‘plan’ is presented for approval on Form TD1 Part 2 as a part of the Assessment/Reassessment procedures.

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 indicators only of the time that a trainee would normally take to meet the relevant objectives.

Training Aim

It is important to note that the Scheme “A” Graduate Training is designed to be a fast track by which a graduate can obtain full professional status. The training therefore covers both Technical and Professional matters.

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.

Training Programme Content

The Training Programme should contain three consecutive stages outlined in Section 1.1, Section 2 and Section 3. Section 1.2 should be included implicitly throughout the entire programme and implemented in parallel with Section 1.1, Section 2 and Section 3.

1. Common Core Objectives

1.1 General Concept (Training Period : 1 Week)

A general introduction of the history, role, organization and activities in relation to:

- (a) The Hong Kong Institution of Engineers
- (b) The Profession of Marine Engineering and/or Naval Architecture
- (c) The Company

(d) The General Public and Environment

1.2 Professional Development (This part of training should be conducted in parallel with Section 1.1, Section 2 and Section 3)

A development of correct concept and experience of implementation in relation to:

- (a) Professional Conduct, including "Rules of Conduct" related to the Professional Institution, Employers/ Clients, Colleagues and General Public.
- (b) Professional Responsibilities, including Ethics, Codes of Behaviour, Professionalism, Occupational Safety and Health and Environmental Protection.
- (c) Continuing Professional Development, including Technology Advancement, Professional Competence, Resources and Project Management Skills.
- (d) Personal Qualities Development, including Communication Skill, Professional and Social Confidence, Innovative Ability and Leadership.

2. Core Objectives

2.1 Engineering Fundamentals (Training Period: 3 months)

A development of knowledge and skill in relation to Application of Materials, Material Shaping, Forming and Joining Processes, Operational Reliability and Engineering Design Fundamentals.

2.2 Engineering Analysis and Creativity (Training Period: 3 months)

A development of knowledge and skill in relation to Definition of Problem, Recommendation of Practical Solutions, Application of Standards and Decision on Final Solution. The trainee is also encouraged to analyse problems from different perspective and creative thinking.

2.3 Engineering Applications and Innovation (Training Period: 9 months)

A development of knowledge and skill in relation to Implementation of Engineering Practices, Application of Scientific Principles, Production of Specifications, Preparation of Contracts, Consideration of Environmental Protection, Implementation of Quality Control and Safety at Work. The trainee is required to develop / demonstrate innovative ability in engineering application.

2.4 Engineering Administration and Management (Training Period: 4 months)

A development of knowledge and skill in relation to Consideration of Company's Organization, Planning, Programming and Budgeting of a Project, Use of Social and Inter-personal Skill, Use of Internal and

External Communication Media.

3. Specific Objectives (Training Period: 5 months)

Objectives to be fulfilled in this training period should be related to the Marine Engineering and/or Naval Architecture industry, as well as the Company's business rather than the general case as with the Core Objectives. These Objectives should be proposed by the Employers and approved by The Hong Kong Institution of Engineers.

N.B.

1. The minimum training period must not be less than 24 months.
2. The programme set out is for guidance only but substantial departure should not be made. Employers should endeavour to provide training to their trainees in as many areas as possible as is appropriate to the sector of employment.
3. This guide should be read in conjunction with Section 3 of the Membership Admission Requirements booklet.
4. During their training, each trainee is required to maintain a Graduate Training Log Book, CPD Logbook and Record of Objectives.