M4 ROUTES TO ASSOCIATE MEMBERSHIP

1. Definition of Associate Member

A definition of an Associate Member used by the Conference of Engineering Societies of Western Europe and the United States, was adopted by the HKIE for the class of Associate Member:

An Associate Member is one who can apply in a responsible manner proven techniques which are commonly understood by those who are expert in a branch of engineering, or those techniques specially prescribed by professional engineers.

Under general professional engineering direction, or following established engineering techniques, he is capable of carrying out duties which may be found among the list of examples set out below.

In carrying out many of these duties, competent supervision of the work of skilled craftsmen will be necessary. The techniques employed demand acquired experience and knowledge of a particular branch of engineering, combined with the ability to work out the details of a task in the light of well-established practice.

An Associate Member requires an education and training sufficient to enable him to understand the reasons for and purpose of the operations for which he is responsible.

The following duties are typical of those carried out by Associate Members under the conditions referred to above.

Working on design and development of engineering plant and structures: erecting and commissioning of engineering equipment and structure; engineering drawing; estimating, inspecting and testing engineering construction and equipment; use of surveying instruments; operating, maintaining and repairing engineering machinery, plant and engineering services and locating defects therein; activities connected with research and development, testing of materials and components and sales engineering, servicing equipment and advising consumers."

The following competences (in four broad areas, namely Applying Engineering Knowledge, Developing Technical Solutions, Managing Engineering Work and Upkeeping Professional Acumen) set the standard expected of an Associate Member of the HKIE.

1. Comprehend and apply knowledge of widely accepted and applied procedures, processes, systems or methodologies;

2. Comprehend and apply knowledge of widely accepted and applied procedures, processes, systems or methodologies that is specific to Hong Kong;

3. Identify, clarify and analyse broadly-defined engineering problems in accordance with good practice for engineering;

4. Design or develop solutions to broadly-defined engineering problems in accordance with good practice for engineering;

5. Be responsible for making recommendations and/or decisions on part or all of one or more broadly-defined engineering activities;

6. Organise engineering activities;

7. Identify and assess engineering risk;

8. Conduct engineering activities to an ethical standard prescribed by the HKIE;

9. Recognise the reasonably foreseeable social, cultural, health, safety, sustainability and environmental effects of broadly-defined engineering activities generally;

10. Communicate clearly and effectively on broadly-defined engineering activities with members of an engineering team;

11. Maintain the currency of engineering knowledge and skills;

12. Exercise sound judgement in the course of broadly-defined engineering activities.

The Document of The HKIE Competence Standard for Associate Membership including Competences and Performance Indicators as enclosed in the Appendix provides more details on the above competence standard.

2. Academic Requirements

Academic qualifications that meet the requirements of the HKIE for the class of Associate Member are:-

(a) a Higher Diploma accredited/recognised by the HKIE; or

(b) a Higher Certificate accredited/recognised by the HKIE; or

(c) an accredited Higher Diploma or Higher Certificate as listed in an international agreement; or

(d) an engineering degree or above accredited/recognised by the HKIE .

Other qualifications in engineering or technology may be considered for the class of Associate Member based on an individual assessment. Candidates are required to complete Form 1/AQ and demonstrate their academic achievements by:-

(a) presenting programme transcripts and curriculum of individual course

(b) providing English translation as well as a copy of the original document on all information submitted if it is not in English

(c) presenting results of academic assessments made by an appropriate authority (e.g Engineering Council)

3. Training and Experience Requirements

3.1 General Requirements

Training and experience should include a period of induction, a period of basic training and a period devoted to acquiring both a broad and sound knowledge of

relevant engineering practice and competence in its application. Trainees should become familiar with the materials, tools and processes used both in their own branch and in related branches of engineering. It is important that they develop a flexible attitude so that they will be able to meet the challenge of rapidly changing technology. Training and experience should emphasise on both depth and breadth, particularly during the earlier period, so that a sound foundation is created on which can be built the specialised knowledge and competence required at a later stage.

Throughout the training/experience periods particular emphasis should be placed on developing to the appropriate level the ability to:

(a) use and communicate information;

(b) use a variety of hand and machine tools, measuring and controlling instruments, equipment, apparatus and computers as appropriate;

(c) choose materials and components and understand the processing of materials and the application of microprocessors and automation to his branch of engineering;

(d) understand the organisation of engineering activities and the associated financial and economic practices; and

(e) exercise diagnostic skills.

Training and experience should be directed to developing the ability to organise and give direction to the work of others, and trainees must obtain practical knowledge, competence and experience in useful work rather than by just observing the work of others.

3.2 Duration

Candidates for Associate Member must have received a minimum of two to four years training and experience depending on their academic qualifications and application routes.

4. Routes to Associate Membership

General Experience Routes

Two distinct routes are identified to enable candidates to qualify for Associate Members. Details are given below.

4.1 Route AM1

Requirements:

(a) A Higher Diploma accredited/recognised by the HKIE or equivalent in a relevant discipline.

(b) A minimum period of three years of experience is required with a maximum exemption of one-year pre-qualification experience. Any exemption granted will require assessment by the HKIE.

4.2 Route AM2

Requirements:

(a) A Higher Certificate accredited/recognised by the HKIE or equivalent in a relevant discipline.

(b) A minimum period of four years of experience is required with a maximum exemption of two-year pre-qualification experience for applicants who have completed apprentice training or one year exemption for applicants in cases of other pre-qualification training. Any exemption granted will require assessment by the HKIE.

Formal Training Route

In addition to the General Experience Routes, Formal Training Route is also available.

4.3 Route AM3

Requirements:

(a) A Higher Diploma accredited/recognised by the HKIE or equivalent in a relevant discipline.

(b) Two years of formal training approved by the HKIE in a relevant discipline.

(Note: This route is only applicable to the Disciplines with formal training scheme.)

Special Route

4.4 Route AM4

Requirements:

(a) An engineering degree or above accredited/recognised by the HKIE or equivalent in a relevant discipline.

(b) Have completed Scheme "A" Training or a minimum period of three years of engineering experience.

5. Procedure

5.1 Candidates should submit a completed HKIE form for Application for the Class of Associate Member or Additional Discipline (Form 1/AMD) with two supporters, one Corporate Member and one Associate Member. At least one of them should be in the same Discipline as the candidate's. They should complete the necessary periods of training and experience by the date of submission.

5.2 Together with the application form, candidates are required to submit certified true copies of their academic qualifications, a report on his training and experience, a

record of CPD and samples of recent works like drawings, calculations, photographs as detailed below, or as prescribed in the Information on Admission to Specific Discipline.

5.3 The HKIE may at any time refer a submission back to the candidate for specific reasons.

The application will be assessed based on the submission to ensure that the applicants have satisfied the HKIE Competence Standard for Associate Membership.

5.4 Candidates will be notified of their Assessment results as soon as a decision has been made and ratified by the Council. Indications of the areas of weakness or failure to meet the required standard will be given to unsuccessful candidates, but the HKIE will not enter into any further correspondence concerning the decision.

6. Submissions required from Candidates

6.1 Report on Training and Experience

The objective of this report is to inform the Assessors about the candidate's training and experience (Section 3 "Training and Experience Requirements"). The report provides evidence to demonstrate that the candidate meets the HKIE Competence Standard for Associate Membership. It should be concise, around 800 words, in English, typewritten on single sided A4 paper. At the top of the report, the candidate must set out the specific periods of training and experience that they have acquired in chronological order, giving inclusive dates in months and years.

The report must not be a mere inventory of work prepared and executed. Candidates should:

(a) describe in chronological order the tasks in which they have been employed, state the precise position they have occupied in each case and describe clearly the degree of responsibility they have been assigned;

(b) use the first person (I, me, my) to show their personal contribution;
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(c) indicate the size and cost of the works;

(d) provide evidence to demonstrate that the competences set out in the HKIE Competence Standard for Associate Membership are achieved by adding notations in the right margin for the competences (C1, C2……etc.) next to the passage of text. At most four relevant competences should be quoted at a time.

HKIE log book for training schemes which fulfills the above requirements of (a), (b), (c) & (d) will be accepted in lieu of report on training and experience.

6.2 Samples of Recent Works

The candidate is required to submit samples of recent works in support of his application, such as drawings, reports, plans, calculations, photographs as appropriate.

6.3 Continuing Professional Development (CPD) Record

Candidates should provide a CPD record to show that they have met the minimum required number of CPD hours. Please refer to Section 8 "CPD Requirements and Guidelines" for details.

All documents should be the candidate's own work and must be verified by a Corporate Member/Associate Member of the HKIE or the candidate's employer.

All documents submitted will be treated as confidential and will be returned to the candidates. Candidates should, however, retain copies of all documents submitted as the HKIE does not accept responsibility for any loss or damage of documents.

7. Mature Route

A Mature Candidate is a person with considerable responsible experience at the level of Associate Member but who may not possess the recognised academic qualifications currently acceptable to the HKIE for Associate Member.

7.1 Eligibility

Candidates for admission to Associate Membership via the Mature Route should:

7.1.1 be at least 35 years old at the date of application;

7.1.2 have had experience in posts of generally increasing responsibility in a relevant branch of engineering over a period of at least 15 years; and

7.1.3 have attained a position demonstrating a level of competence that would have met the requirements for the class of Associate Member if they have the required academic qualifications.

7.2 Procedure

7.2.1 Candidates should submit a completed HKIE form for Application for the Class of Associate Member or Additional Discipline (Form 1/AMD) with two supporters, one Corporate Member and one Associate Member. At least one of them should be in the same Discipline as the candidate's. They should complete the necessary periods of training and experience by the date of submission.

7.2.2 If candidature is approved, candidates shall submit a report on their training and experience within a period of six months.

7.2.3 Candidates' report will be assessed by a panel on behalf of the HKIE. If the report is considered unsatisfactory, candidates may be given an opportunity to present the report again after modification. The report will be treated confidentially.

7.2.4 The application will be assessed based on the submission to ensure that the applicants have satisfied the HKIE Competence Standard for Associate Membership.

7.2.5 Candidates will be notified of their Assessment results as soon as a decision has been made and ratified by the Council. Indications of the areas of weakness or failure to meet the required standard will be given to unsuccessful candidates, but the HKIE will not enter into any further correspondence concerning the decision.

7.3 Submissions required from Candidates

7.3.1 Report on Training and Experience

The report on training and experience should be concise, between 1,600 and 2,400 words, in English, typewritten on single-sided A4 paper. At the top of the report, candidates must set out the specific periods of training and experience that they have acquired in chronological order, giving inclusive dates in months and years.

The report must not be a mere inventory of work prepared and executed. Candidates should:

(a) describe in chronological order the tasks in which they have been employed, state the precise position they have occupied in each case and describe clearly the degree of responsibility they have been assigned;

(b) use the first person (I, me, my) to show their personal contribution;

(c) indicate the size and cost of the works;

(d) elaborate on any particular problems they have encountered and how they arrived at viable solutions;

(e) provide evidence to demonstrate that the competences set out in the HKIE Competence Standard for Associate Membership are achieved by adding notations in the right margin for the competences (C1, C2…etc.) next to the passage of text. At most four relevant competences should be quoted at a time.

7.3.2 Continuing Professional Development (CPD) Record

Candidates should provide a CPD record to show that they have met the minimum required number of CPD hours. Please refer to Section 8 “CPD Requirements and Guidelines” for details.

All documents should be the candidate’s own work and must be verified by a Corporate Member/Associate Member of the HKIE or the candidate’s employer.

All documents submitted will be treated as confidential and will be returned to the candidates. Candidates should, however, retain copies of all documents submitted as the HKIE does not accept responsibility for any loss or damage of documents.

8. Continuing Professional Development (CPD) Requirements and Guidelines

8.1 Introduction

Continuing Professional Development (CPD) is an ongoing necessity in the ever changing technological world. Practising professional engineers should aim to remain competent throughout their careers so that they can properly carry out their various duties. Engineers need to take opportunities to update their depth and breadth of knowledge and expertise, and develop the personal qualities required to fulfil their roles in industry and in society.

8.2 The HKIE CPD Definition

CPD is a systematic maintenance, improvement and broadening of relevant knowledge and skills, and the development of these qualities necessary for successfully carrying out professional duties throughout an engineer's career. It aims at enhancing individual worth, and thus corporate performance.

CPD applies to Corporate Members, Associate Members and to engineers in the pre-Corporate Member stage and pre-Associate Member stage.

8.3 General Scope of CPD

CPD covers matters of direct technical relevance as well as broader studies that are of importance to HKIE members to further their careers. These include professional ethics, communication, environmental matters, financial management, leadership skills, legal aspects, marketing, and occupational safety and health.

Engineers are encouraged to undertake a balanced approach to CPD activities which should include Technical Matters of their own Discipline, i.e. Discipline-Specific Technical Matters (DSTM), and Health & Safety (H&S), which includes Occupational Safety and Health subjects. CPD activities not directly related to their own Discipline, or Other Technical Matters (OTM), and General Professional Matters (GPM), which include ethics, professionalism, communication, or legal matters etc., are also part of the scope that the CPD activities should cover.

8.4 General Format of CPD

The format of CPD activities include, but not limited to, participating in and organising courses, lectures, seminars/symposia, conferences, presentations, workshops, industrial attachments and visits, e-learning and professional activities. These may be provided by the HKIE, the engineering profession, and a variety of other organisations.

8.5 CPD Requirements

The HKIE specifies a minimum CPD requirement including minimum number of hours in different categories for those at the (a) pre-Corporate Member stage, (b) pre-Associate Member stage, (c) Associate Member stage on a voluntary and self-regulating basis, and (d) Corporate Member stage on a mandatory basis. A candidates' CPD record will be taken into account when considering their applications for different classes of Membership as appropriate.

8.5.1 CPD Requirements for Candidates applying to become Associate Members

Routes	CPD Requirement	Scope of CPD
Formal Training Route	A minimum average of **45 hours per year** from the commencement date of the training scheme, up to applying for Assessment.	CPD hours must include the following areas: (i) Discipline-Specific Technical Matters (DSTM) A relatively higher percentage of CPD hours should be in this category, while fulfilling the following minimum requirements in other categories. (ii) Health & Safety (H&S) including Occupational Safety and Health, Other Technical Matters (OTM) and General Professional Matters (GPM) Minimum 6 hours total each year.
General Experience Route / Mature Route / Special Route	A minimum average of **45 hours per year** for the 2 years immediately prior to their applications for Assessment.	

8.5.2 CPD Requirements for Associate Members

Class of Members	CPD Requirement	Scope of CPD
Associate Members	A minimum of **30 hours per year** on a **self-regulatory and voluntary** basis.	CPD covers matters of direct technical relevance as well as broader studies also of importance to the HKIE members in the furtherance of their careers such as communication, environmental matters, financial management, leadership skills, legal aspects, marketing, occupational safety and health and professional ethics.

If a CPD activity lasts more than ten hours in one day or spans over a number of days, the date and time of the activity each day should be recorded clearly. Lunch hours or dinner hours within a CPD activity, or time spent on transportation should not be counted towards the associated CPD hours. In-house CPD activities should account for a maximum of 50% of CPD hours claimed.

The HKIE does not pre-approve CPD activities. Associate Members and candidates in the pre-Associate Member stage must consider whether or not an activity fits the CPD definition in their own particular circumstances.

For the pre-Associate Member stage it is for the **Engineering Supervisor** (for Formal Training Route) or a **Responsible Person** (i.e. normally an appropriate senior person in the employing organisation, preferably a Corporate Member or Associate Member of the HKIE as may be appropriate) should decide whether the CPD activity fits CPD criteria.

Some modules in postgraduate degree programmes may be helpful towards the candidate's professional development and may match the HKIE CPD criteria. In such cases, the candidates should seek the endorsement of the relevant modules from their Engineering Supervisor or Responsible Person.

Record of Continuing Professional Development

Date (s)	Start & End Time	Name of CPD Activity	Organiser	Category	CPD Hours Claimed	Endorsement by ES/RP

Remarks:

(a) The column headed "Name of CPD Activity" should record the CPD activity title and the major topics covered. For scope and format of CPD activities, please refer to "General Scope of CPD" and "General Format of CPD" of this Section.

(b) Under the column headed "Organiser", please use "(I)" to indicate internal CPD organised in-house.

(c) Formal Training Scheme trainees have to indicate the category of the CPD activity under the column headed "Category". Abbreviations may be used for relevant categories, e.g. DSTM, H&S, OTM, GPM etc,

(d) ES = Engineering Supervisor, RP = Responsible Person

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9. CPD Requirements for Associate Members (Voluntary Scheme)

Associate Members are encouraged to undertake a minimum of 30 CPD hours each year on a self-regulatory and voluntary basis.

Associate Members are required to record their CPD days and complete a Declaration Form, which will be attached with the membership subscription advice. This is a self-assessment and self-declaration exercise aimed at promoting CPD among Associate Members.

Note to Associate Members admitted via Paper Assessment

Associate Members of the HKIE are eligible to apply for registration as International Engineering Technologists under the International Engineering Technologist Agreement (IETA). Associate Members admitted via paper assessment starting from 1 November 2023 applying for registration under IETA will be required to undertake an interview assessment prior to registration, in addition to satisfying other existing requirements.

Please refer to the HKIE website for the latest version of the information booklets and application forms for Membership and Formal Training Scheme to Associate Membership:
https://www.hkie.org.hk/en/membership/download_mem2/
https://hkie.org.hk/en/quali/dlftstam

Appendix

The HKIE Competence Standard for Associate Membership including Competences and Performance Indicators

1. Competence Standard

A competence standard is an indication of an expected level of performance. The competence-based assessments conducted by the Hong Kong Institution of Engineers (the HKIE) require candidates to provide sufficient outcome evidence to demonstrate that they are able to consistently apply knowledge and skills to the standard expected of an Associate Member of the HKIE.

2. Format

The HKIE Competence Standard for Associate Members consists of the following:

- Competences: these represent broad areas of engineering competence and set the standard expected for recognition as Associate Members of the HKIE.

- Performance indicators (bullet points under each competence): these provide further details to elaborate the meaning of each competence thereby enabling the candidates and Assessors to have a clear understanding of the abilities required to demonstrate each competence. The performance indicators are neither minimum requirements nor exhaustive elaboration of the concerned Competence.

- Definitions: these provide a critical component of the standard and need to be considered carefully by the candidates when they are preparing their portfolio of evidence to demonstrate that they meet the competence standard.

3. Paper Assessment

The candidates applying for Associate Membership are expected to provide outcome evidence of their current competence in their submission as a demonstration of meeting all the competences. The HKIE will consider the totality of the outcome evidences provided and make a holistic assessment as to whether a candidate meets the HKIE Competence Standard for Associate Membership.

4. Definitions

4.1 Discipline

"Discipline" means a field of engineering in which a member can practically be competent to practice. The competence of the candidate will be assessed with respect to the expert knowledge and experience of the concerned Discipline.

4.2 Broadly-defined Engineering Activities

Broadly-defined engineering activities means activities or projects having some or all of the following characteristics:

a. involve the use of diverse resources including people, money, equipment, materials, information and technologies

b. require resolution of occasional interactions between technical, engineering and other issues

c. involve the application of new materials, techniques or processes in non-standard ways

d. require the application of normal operating procedures and processes

4.3 Broadly-defined Engineering Problems

Broadly-defined engineering problems have some or all of the following characteristics:

a. involve the application of well-proven analysis techniques with engineering knowledge to solve problems with well-accepted ways

b. involve diverse technical, engineering, and other issues#

c. involve stakeholders with diverse needs

d. are problems partially beyond the scope of standards or codes of practice

e. be parts of complex engineering problems

4.4 Method of Analysis

The techniques used in quantitative analysis will vary depending on the field of engineering practices which may include the use of computer, mathematical or reliability modeling, statistics, or other planning/modeling tools.

4.5 Design and Development

Design and development are a conceptual process used to bring together innovation, aesthetics and functionality to plan and create an artifact, product, process, component or system for solving an engineering problem. The design and/or development process may develop the shape, size and selection of material and components for engineering products/outcomes.

5. Individual Competence Requirements

The following competences set the standard expected for candidates seeking recognition as Associate Members by undertaking a competence-based assessment administered by the HKIE. The twelve competences are categorised into four broad areas as follows:

- Applying Engineering Knowledge (C1, C2, C11)
- Developing Technical Solutions (C3, C4)
- Managing Engineering Work (C5 C6, C7, C12)
- Upkeeping Professional Acumen (C8, C9, C10)

Competence 1 (C1)
Comprehend and apply knowledge of widely accepted and applied procedures, processes, systems or methodologies

a. possess engineering knowledge that provides bodies of knowledge for the accepted practice areas in an engineering discipline

b. seek advice, where necessary, to supplement own knowledge and experience

c. understand new engineering technology, and put into practice

Competence 2 (C2)
Comprehend and apply knowledge of widely accepted and applied procedures, processes, systems or methodologies that is specific to Hong Kong

a. demonstrate an awareness of the legal requirements and regulatory issues used in Hong Kong relevant to the Discipline under assessment by following the established procedures in routine work

b. demonstrate an awareness of and apply appropriately the Discipline engineering requirements in Hong Kong under assessment

Competence 3 (C3)
Identify, clarify and analyse broadly-defined engineering problems in accordance with good practice for engineering

a. identify and understand the scope of the problem

b. support the formulation of systematic, theory-based engineering fundamentals

c. support to collate information to substantiate possible conclusions

Competence 4 (C4)
Design or develop solutions to broadly-defined engineering problems in accordance with good practice for engineering

a. identify needs, requirements, constraints and performance criteria

b. design and develop possible solutions based on engineering principles

c. engage stakeholders in developing possible solutions

d. evaluate the pros and cons of the possible solutions and propose recommendations

e. plan and implement the solutions with reference to the established practice

Competence 5 (C5)
Be responsible for making recommendations and/or decisions on part or all of one or more broadly-defined engineering activities

a. take responsibility during the course and/or for the outcome of engineering activities of which he/she is responsible for

b. act appropriately and support the decision making process during the course and/or for the outcome of engineering activities undertaken

Competence 6 (C6)
Organise engineering activities

a. support scheduling and organising projects to deliver specified outcomes

b. support managing resources, including financial and physical resources in organising engineering projects

c. assist in managing engineering risk in work and operations according to the policies, procedures and protocols

d. follow the quality assurance procedures to manage engineering activities

Competence 7 (C7)
Identify and assess engineering risk

a. locate hazards and apportion frequency of occurrence

b. act appropriately in accordance with the corresponding risk management policies, procedures and protocols

Competence 8 (C8)
Conduct engineering activities to an ethical standard prescribed by the HKIE

a. demonstrate understanding of the HKIE Rules of Conduct

b. act appropriately in accordance with the HKIE Rules of Conduct (including demonstrating an awareness of limits of capability; acting with integrity and honesty and demonstrating self-management)

Competence 9 (C9)
Recognise the reasonably foreseeable social, cultural, health, safety, sustainability and environmental effects of broadly-defined engineering activities generally

a. consider and take into account the impact of engineering activities on social, culture, health, safety, sustainability and environment to avoid putting the public at risk

Competence 10 (C10)
Communicate clearly and effectively on broadly-defined engineering activities with members of an engineering team

a. use oral and written communication to convey clear message to team members that meet their needs and expectations

b. communicate using active listening skills and/or a range of media suitable to the team members and context

c. treat people with respect and develop empathy when communicating with others

d. operate and collaborate effectively with team members

Competence 11 (C11)
Maintain the currency of engineering knowledge and skills

a. demonstrate a commitment to extending and developing engineering knowledge and skills

b. participate in education, training, mentoring or other programmes contributing to his/her development

c. engage in collaborative activities to understand the new development of the engineering field

Competence 12 (C12)
Exercise sound judgement in the course of broadly-defined engineering activities

a. Identify possible solutions under the existing constraints of the activities

b. recommend the most appropriate solution for decision

c. demonstrate the ability to exercise sound engineering judgement as recognised by peers