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Engineering Competency Development Programme Guidelines

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1. INTRODUCTION

1.1 Definition

This document presents the Engineering Competency Development (ECD) Programme Guidelines, which is the primary document to be referred to in facilitating the planning and execution of the programme by the IEM. The other but secondary references are the IEM's Professional Interview Guidelines and the IEM's Structured Training Programme Guidelines.

1.2 Glossary and Interpretation

Glossary

- **Board of Engineers**, or abbreviated as BEM, is the regulatory body responsible for the registration of individuals practicing the profession of engineering in Malaysia in accordance with the Engineers Registration Act 167) and its subsequent Amendments.
- **IEM** is the abbreviation for “The Institution of Engineers, Malaysia”
- **IEM Corporate Member** means a member of IEM who has been admitted or transferred into the grade of Member (MIEM), Senior Member (SMIEM) or Fellow (FIEM) upon satisfying the IEM Council that he has attained such standard and criteria as set by the Council, being evidence of his proficiency as a professional engineer.
- **IEM Graduate Member** means a member of IEM who has been admitted or transferred into the grade of Graduate Member (Grad. IEM).
- **IEM ECD Programme** means the training programme organized by IEM to provide guidance to a proper practical training for IEM Graduate Member to fulfil the requirements for his transfer to be a Corporate Member of IEM and attain registered Professional Engineer status with BEM.
- **ECD Logbook** means the formatted book document issued by the IEM to the mentee for the latter to record in chronological order his training and experience. This logbook can be downloaded from the website.
- **Member** means a Corporate Member of the Institution of Engineers, Malaysia.

- **Mentor** means an IEM Corporate Member of the same discipline, who has been assigned to supervise the practical training of an IEM Graduate Member under the IEM ECD Programme.
- **Mentee** means an IEM Graduate Member who has chosen or opted to undergo practical training supervised by an IEM Corporate Member of the same discipline under the ECD Programme.
- **Professional Interview Guidelines** is the document servicing an IEM Graduate Member to facilitate preparation to attend a Professional Interview, issued upon the IEM Graduate Member's official registration with the IEM to attend the Professional Interview.
- **Structured Training Programme Guidelines** is a set information intended to advise participants of an implemented Structured Training Programme of the programme's content and description, work plans and activities, as well as requirements and rules for participation.
- **Supervising Engineer** means an engineer in-practice – whether or not is a registered Professional Engineer and/or an IEM Corporate Member of the same engineering discipline – who has personal knowledge of the roles and responsibilities of, and who has been employed within the same organization as, a standing or an applicant Mentee.

Interpretation

Unless the context requires otherwise:

- words in the singular include the plural and vice versa;
- words importing the masculine gender include the feminine gender.

2. IEM ECD PROGRAMME

The Engineering Competency Development (ECD) Programme or previously known as the Log Book Training Scheme (LBTS) was established by the IEM to provide proper practical training with guidance for its Graduate Members entering into the profession of engineering and to ensure that such training conforms to the Rules and Regulations concerning the admission of Corporate Members and towards allowing Graduate Engineers attain the Professional Engineers status with the BEM.

Before sitting for the Professional Interview, a candidate shall have a minimum 3 years practical experience upon registration as a Graduate Engineer with the BEM with a minimum of 1 year under supervision of a Professional Engineer (P.Eng) of the same discipline in Malaysia.

The IEM ECD programme provides participant IEM Graduate Members with an ECD Mentor to guide them on their Professional Interview (PI) journey and application. Through the programme, a Graduate Member (Mentee) will be progressively monitored, assessed, and advised by a Corporate Member Engineer (Mentor) of the same professional engineering discipline, concerning the former's planned and acquired practical experience, competencies and developmental training.

The IEM Graduate Members (Mentees) may choose any one of the following participating options:

- Mentorship with IEM ECD logbook submission
- Mentorship without IEM ECD logbook submission.

The IEM ECD logbook assists the Graduate Members (Mentees) to record in chronological order his:

- a) Records of Competencies Attained [Section I] in preparation for his PI Training and Experience (Portfolio of Evidence) Report
- b) Practical Training Records [Section II] in preparation of his Technical Annex required to complete the submission of his Professional Interview documents.

For **Mentorship with IEM ECD Logbook Submission**, the minimum period of mentorship is one year provided the Mentee has 2 or more years of relevant working experience. Fresh graduates will be required to complete a minimum of three (3) years of such mentored training. Depending on the level of experience of the IEM Graduate Member (Mentee), the competencies acquired and the readiness of documentation for the PI, a Mentor may recommend and the ECD Sub-Committee may support the Mentee to proceed with the Professional Interview upon completion of three (3) years of relevant working experience.

For **Mentorship without IEM ECD Logbook Submission**, fresh Graduate Engineers may choose between using the IEM ECD logbook or the IEM PI Form A401 to record their practical training, competence and experience. The Mentor will assist in advising and reviewing his documentation.

The distinction between the two pathways for IEM Graduate Members (Mentees) is:

- Mentorship with IEM ECD logbook submission: Mentees have a direct access route (without PI Assessment) for the Professional Interview (PI).
- Mentorship without IEM ECD logbook submission: Mentees are treated as normal PI applicants with PI Assessment before the Professional Interview (PI).

3. TERMS OF REFERENCE

The terms of reference for ECD Programme are as follows:

3.1 Scope and Work Objectives

- Registration for the ECD Programme by Mentee.
- Mentee to indicate whether he chooses to carry out mentorship with or without logbook submission.
- Selection of a Mentor by Mentee based on engineering discipline and area of specialisation.
- Initial acquaintance and (training and experience) baseline assessment session between Mentee and prospective Mentor(s)
- Endorsement of the selected Mentor and type option of mentorship by the IEM
- Conduct of the ECD Programme (details in section 3.2 below)
- Issuance of an official notification by the IEM stating the Mentee's successful completion of the ECD Programme (with logbook submission), and the option of attending the Professional Interview (where applicable).

3.2 Conduct of ECD Programme

- Registration of Mentor under ECD Programme.
- Interested IEM Corporate Member who wish and volunteer to register as Mentor shall be registered by the Secretariat and the list of Mentors shall be maintained and kept under review by the IEM.
- The interested Mentor shall submit to the Secretariat his intention to become Mentor on the prescribed Form. The qualifying requirements of a Mentor are as follows: -
 - ✓ Must be a Corporate Member (FIEM, SMIEM or MIEM) for at least 3 years; AND
 - ✓ Must be a Professional Engineer (PE) registered with the Board of Engineers, Malaysia (BEM) AND;
 - ✓ Must attend the IEM Professional Interview 2.0 (PI 2.0) Workshop at least once.

- A Mentor:
 - ✓ Must not have more than three (3) Mentees at any time, AND;
 - ✓ Must be in the same or related discipline with the Mentee.
- He shall undertake to report any change of circumstances which may prevent him from providing proper training to the candidate.

Mentorship with IEM ECD Logbook Submission

- The Mentee shall perform his practical training under the ECD Programme as per the IEM ECD 2.0 logbook format.
- The Mentee may download the logbook format from the IEM website and maintain the logbook in order for the Mentor to provide his review and comments (P. Eng stamp and endorsement).
- For fresh graduates, the logbook shall be recorded and updated every three (3) months until the completion of a minimum of thirty-six (36) months, or three (3) years of post-graduation experience, under the supervision of a Mentor endorsed by the IEM. The Mentee is expected to continually review the experiential exposures and training (staff development) with his Mentor at least once every three months (quarterly) for guidance and verification. At the end of each year (12 months), the logbook is to be submitted to IEM for endorsement.
- For Mentees with relevant working experience, the minimum period of mentorship shall be:
 - ✓ One (1) year if the Mentee has two (2) or more years of relevant working experience.
 - ✓ Two (2) years if the Mentee has more than one (1) year but less than two (2) years of relevant working experience.

During the mentorship period, the logbook shall be recorded and updated every three (3) months. The Mentee is expected to continually review the experiential exposures and training (staff development) with his Mentor at least once every three months (quarterly) for guidance and verification. At the end of the mentorship period (12 or 24 months, as applicable), the logbook is to be submitted to IEM for review by the ECD Sub-Committee.

- On completion of the logbook, the Mentor shall advise and guide the Mentee on the requirements and the process needed for the Mentee to become a Corporate Member of IEM and a Professional Engineer with BEM.

- Content of Logbook:
 - It is expected that all the relevant training and experience matters be recorded in chronological order and such activities be properly vouched together with activities associated with the IEM and other engineering profession entities.
 - Examples of topical matters expected to be included in the logbook are as follows: -
 - Surveys, Investigations and Reports
 - Design and Drawing Office
 - Workshop and Site Activities
 - Estimation and Cost Control
 - Project and Contract Management
 - Production, Quality Control and Manufacturing Processes
 - Organization, Supervision and Administration
 - Technical Sales
 - Research & Development and Teaching.

Mentorship without IEM ECD Logbook Submission

- The Mentee shall perform his practical training under the ECD Programme using either:
 - the IEM ECD 2.0 logbook or
 - the IEM PI A401 form
 to record his practical training, competence and experience.
- The Mentee may download the logbook format or the IEM PI A401 form from the IEM website and maintain the logbook/PI A401 form for the Mentor to provide his review and comments.
- No submission of the logbook/PI A401 form to IEM is required during the mentorship period.
- The Mentor shall advise and guide the Mentee on the requirements and the process needed for the Mentee to become a Corporate Member of IEM and a Professional Engineer with BEM.

3.3 Roles and Responsibilities of Mentee

- It is the Mentee who choose the Mentor. Mentee shall ensure that the Mentor has the relevant experience in the field that he is working in so that he can get relevant advice.
- For **Mentorship with IEM ECD Logbook Submission**, Mentee is responsible for planning and arranging the appointment with Mentor on a regular basis, at least once every three (3) months. Meeting schedule and the mode of meeting shall be mutually agreed upon by both parties. Meetings could be face to face or conducted virtually via online platform and if possible be recorded.

Mentee shall prepare proper logged reports and documentation to be verified by the Mentor during the scheduled meeting. Alternatively, verification by Mentor of the documentation can be done via electronic endorsement and signatures.

Mentee is responsible for submitting his logbook document to the IEM annually for endorsement. Alternatively, Mentee may submit the logbook in electronic copy to IEM.

- For **Mentorship without IEM ECD Logbook Submission**, Mentee is responsible for planning and arranging the appointment with Mentor on a regular basis. Meeting schedule and the mode of meeting shall be mutually agreed upon by both parties.

Mentee shall prepare documentation (logbook/PI A401 form) to be reviewed by the Mentor during the scheduled meeting. No submission to IEM is required during the mentorship period. Upon advice from the Mentor, the Mentee may submit PI applications directly to IEM when ready without additional ECD approval.

- Mentee shall make the effort to get the training and experience (including competencies) necessary as required by Professional Interview Guidelines within the mentorship period.

- In the event that Mentee wishes to discontinue with the ECD Programme he needs to advise both the Mentor and IEM of his decision in writing.

3.4 Roles and Responsibilities of Mentor

- Mentor is to assess the Mentee's baseline capabilities and in relation to the developmental support, if any, from the Mentee's employer organization, to possibly enable the ECD Programme be accounted as part of the Mentee's staff development plan.
- If the Mentee's employer organization does not support the Mentee's staff development, the Mentor shall advise the Mentee on the possible requirements needed so that the Mentee can take appropriate action to gain the training and experience needed.
- For **Mentorship with IEM ECD Logbook Submission**, the Mentor needs to agree on a regular meeting schedule with Mentee, at least once every three (3) months, so that the latter's progress can be continually tracked. Alternatively, meetings could be conducted virtually via online platform and if possible be recorded.

It is advisable that Mentor pays a visit to the Mentee's employer organization to understand the Mentee's training and experience situation, towards facilitating the Mentor's baseline assessment on the Mentee's capabilities under the ECD Programme.

Mentor shall review and make advisory comments on the Mentee's training and experience and check for adequacy of the logbook report so that the Mentee can use it to prepare for the Professional Interview requirements. Alternatively, the comments and verification of the Mentor on the documentation can be done via electronic endorsement and signatures.

- For **Mentorship without IEM ECD Logbook Submission**, the Mentor needs to agree on a regular meeting schedule with Mentee so that the latter's progress can be continually tracked. Meeting schedule and the mode of meeting shall be mutually agreed upon by both parties.

Mentor shall review and make advisory comments on the Mentee's documentation (logbook/PI A401 form) and check for adequacy so that the Mentee can use it to submit PI applications directly to IEM when ready.

- The Mentor should ensure that he does not have any conflict of interest with Mentee's employer organization during ECD Programme period.
- When mentoring Mentees, Mentors are advised to ensure a cordial relationship and in accordance with the norms accepted by society.
- In the event the Mentor could not continue participating in the ECD Programme, the Mentor shall advisably on at least a month's notice advise both the Mentee and IEM on a replacement.
- After the completion of the ECD Programme, the Mentor shall continue to advise on the requirements and the process needed for the Mentee to sit for the Professional Interview and become a Corporate Member of IEM and a Professional Engineer with BEM.