

Continual Quality Improvement for Professional Engineers Qualifications in Engineering Accreditation Programmes

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Engineering Programme Accreditation Standard 2020 stated Engineering Accreditation Council (EAC) is the body delegated by The Board of Engineers Malaysia (BEM) for accreditation of engineering degrees. The EAC is made of representatives of the BEM, The Institution of Engineers, Malaysia (IEM), Malaysian Qualifications Agency (MQA) and the Public Services Department (Jabatan Perkhidmatan Awam Malaysia (JPA)). The objective of accreditation is to ensure that graduates of the accredited engineering programmes meet the minimum academic requirements for registration as a graduate engineer with the BEM. In addition, the objective of accreditation is to ensure that Continual Quality Improvement (CQI) is being practiced by Institutions of Higher Learning (IHL). Accreditation may also serve as a tool to benchmark engineering programmes offered by IHLs in Malaysia.

The Bachelor of Engineering (Hons.) Civil (Infrastructure) programme offered by School of Civil Engineering, Universiti Teknologi MARA, cawangan Pulau Pinang has undergone accreditation exercises. Engineering Programme Accreditation Standard 2020 stated in the criterion 5 : Academic and Support Staff that every programme shall have a minimum of three (3) full-time Professional Engineers registered with the BEM and actively teach in the programme. For programmes with a total student enrolment exceeding 160, at least 30 percent of the actively teaching engineering academic staff shall be registered with the BEM as Professional Engineers or have equivalent certification from any International Professional Engineers Agreement (IPEA) or Asia-Pacific Economic Cooperation (APEC) signatories. In addition, IHLs may engage part-time staff with acceptable professional qualifications in the related engineering fields. Numbers of part time staff recruited shall not exceed 40% of the total staff. For the CQI in Bachelor of Engineering (Hons.) Civil (Infrastructure), School of Civil Engineering, Universiti Teknologi MARA, cawangan Pulau Pinang, Jawatankuasa Pembangunan Professional Engineers which is leaded by Assoc. Prof. Ir. Dr. Yee Hooi Min and with her team members Assoc. Prof. Ir. Dr. Damanhuri B. Jamalludin, Ir. Zulfairul Zakariah, Ir. Mohamad Irwan P. Harahap, Ir. Dr. Woo Yian Peen and Ir. Mohammad Zain have introduced a Mentor-Mentee System to increase the number of Professional Engineers.

Engineering Competency Development Program Guidelines 2021 stated the roles and responsibilities of Mentor such as review and make advisory comment on the Mentee's industrial training and experience and check for adequacy of the Log Book report so that the Mentee can use it to prepare for the Professional Interview requirement. The Mentor should particularly check that the minimum duration spent in activities for design, field and management experience. The Mentor shall encourage and support the Mentee to sit for the Professional Interview after the completion of the Mentee's industrial training and experience. The Mentor shall advise the requirement and the process needed for the Mentee to become a Professional Engineer with BEM.

Engineering Competency Development Program Guidelines 2021 stated the roles and responsibilities of Mentee such as planning and arranging the appointment with Mentor on a regular basis. Alternatively, meetings could be conducted virtually via online platform. Mentee shall prepare proper logged reports and documentation to be checked by the Mentor during the scheduled meeting. Mentee shall make the effort to get the training and experience necessary as required by Professional Interview Guidelines.

In conclusion, with this Mentor-Mentee System in the Bachelor of Engineering (Hons.) Civil (Infrastructure), School of Civil Engineering, Universiti Teknologi MARA, cawangan Pulau Pinang can let the curriculum more integrates theory with practice through adequate exposure to laboratory work and professional engineering practice. Besides, the mentor-mentee system can help to increase the numbers of academic staff with PE qualification.

References

1. Engineering Programme Accreditation Standard 2020, Engineering Accreditation Council, Board of Engineers Malaysia, 19 April 2020.
2. Engineering Competency Development Program Guidelines, The Institution of Engineers, Malaysia, March 2021.