Engineering Accreditation Council
Engineering Technology Accreditation Council
BOARD OF ENGINEERS MALAYSIA

GUIDELINES NO. 005

GUIDING PRINCIPLES ON TEACHING-LEARNING AND ASSESSMENT IMPLEMENTATION DURING COVID-19 PANDEMIC

1.0 INTRODUCTION

These guiding principles are intended to assist all EAC and ETAC accredited programmes in maintaining the education quality standards during the COVID-19 pandemic while ensuring compliance to the relevant Manual/Standards, in particular: -

i. Engineering Programme Accreditation Manual 2017,
ii. Engineering Programme Accreditation Standard 2020 (pending BEM approval),
iii. Engineering Technology Programme Accreditation Standard 2019, and
iv. Engineering Technician Education Programme Accreditation Standard 2019.

2.0 GENERAL

The accreditation process focuses on the outcomes and the internal systems developed by the IHL to ensure that the graduates are adequately prepared to enter the engineering profession. In view of the current situation, the purpose of accreditation shall not be compromised. Suggestions are hereby given to serve the said intention.

2.1 All programmes are to ensure the attainment of the 12 Programme Outcomes (POs) as stipulated in the Manual/Standards. All alternative assessments must be designed or formulated based on the intended learning outcomes. Scenario or case study types of questions could be used as an alternative to the Psychomotor and Affective POs during the COVID-19 pandemic.

2.2 All programmes are advised to implement substantial equivalent assessments to the current assessments. Continuous assessments implemented could be continued with *take home* exams and assignments. The programme is expected to undertake precautionary measures in handling integrity issues.

2.3 All programmes must ensure all students at least have a **minimum** access to all e-learning (synchronous or asynchronous) and online assessments, if the online teaching-learning and assessment are to be implemented.

3.0 TEACHING-LEARNING AND ASSESSMENT IMPLEMENTATION

The teaching-learning and assessment methods shall be appropriate to, consistent with, and support the attainment or achievement of the POs.

3.1 Final Year Project (FYP)

All FYP need to continue as per the relevant clauses in the Manual/Standards. (Clause 6.3 Criterion 3: Academic Curriculum, EAC Manual 2017, and Clause 8.3 Criterion 3: Academic Curriculum, Engineering Technology and Engineering Technician Education Standards 2019).

For EAC accredited engineering programmes, FYP can be conducted using computer-based simulation and presenting literature critique.

For engineering technician (Diploma level) and engineering technology programmes (Degree level) under ETAC, FYP can utilise appropriate modern technology, emphasising the need to make use of computers and multimedia technology.

Ongoing FYP at the final semester and focusing on experimental projects can still be carried out with possibility of extension of time to complete. Whilst ongoing FYP at the initiation stage which focused on experimental projects are encouraged to realign as simulation work or computer-based technology according to the offered programme.

3.2 Industrial Training (IT)

All students who are currently undergoing IT during term holiday with one (1) semester prior to graduation; and halted due to the Movement Control Order (MCO), can continue the remaining IT exposure after the completion of the said final semester. This is only applicable to the existing cohort who is affected by COVID-19.

3.3 Courses with Extensive Laboratory Work (Lab)

Courses where laboratory experiments cannot be implemented during MCO, they can be replaced later when the situation permits. Optional to the above, it is worth considering to reinforce learning via e-lab or simulation-based laboratory experiments.

3.4 Integrated Design Project (IDP) / Design Project (DP)

For EAC accredited engineering programmes, all IDP shall involve complex engineering problems and design systems, components or processes integrating (culminating) core areas and meeting specific needs, as per clause 6.3 Criterion 3: Academic Curriculum, EAC Manual 2017. The teamwork effort and complex engineering activities characteristics should continue accordingly. The scope may be considered complete to the extent of producing prototyping design and

equivalent. Computer-based simulation and presentation of critical design problem solving are acceptable.

For engineering technician (Diploma level) and engineering technology programmes (Degree level) under ETAC, all DP shall include broadly-defined applied engineering problems/well defined applied engineering problems; and design systems, components or processes integrating core areas and meeting specified needs, as per Clause 8.3 Criterion 3: Academic Curriculum, Engineering Technology and Engineering Technician Education Standards 2019.

3.5 Final Examinations (FE)

All courses that have FE may use any available assessment method viable to the programme including on-line. Precautionary measures in handling integrity issues must be ensured. Programmes need to show evidence on the attainment of all the 12 Programme Outcomes with a systematic Quality Management System.

4.0 VALIDITY

4.1 The above guiding principles are applicable to all accredited programmes under EAC and ETAC of BEM with effect from the stipulated date until the COVID-19 pandemic is under adequate control by the Government of Malaysia.

[Approved by Board on 31st March 2020]

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