DRAFT TECHNOLOGY AND TECHNICAL PROGRAMME ACCREDITATION MANUAL 2017

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1.0 PROGRAMME OUTCOMES

Program Educational Objectives (PEO)

Program educational objectives are specific goals align with the vision and mission of the IHLs. The development of PEOs should reflect the interest of program's stakeholders and the expected achievements of graduate's professional career within certain years after graduation.

Program Learning Outcomes (PLO)

Program Learning outcomes are statements that describe expected student's knowledge, skills, understanding and ability to perform upon completion of a study.

Table below shows the generic program learning outcomes for each program level.

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Domain	Bachelor Degree (T6)	Advanced Diploma (T5)	Diploma (T4)	Certificate (T3)
Knowledge	Apply knowledge of technology fundamentals to **broadly-defined** procedures, processes, systems and methodologies in ***the field of study***	Possess relevant knowledge of technology fundamentals to **extended well-defined** procedures and practices in ***the field of study***	Possess relevant knowledge of technology fundamentals to **well-defined** procedures and practices in ***the field of study***	Possess basic knowledge of technology fundamentals to **routine** procedures and practices in ***the field of study***
Practical Skills and High Technology	Able to suggest and apply latest tools and techniques to solve **broadly- defined** problems	Able to apply current tools and techniques to solve **extended well-defined** problems	Able to apply current tools and techniques to solve **well-defined** problems	Able to apply current tools and techniques to solve **routine** problems
Analytical and Critical Thinking and Scientific Approach	Demonstrate strong analytical and critical thinking skills to solve **broadly- defined** problems in the field of study	Demonstrate analytical and critical thinking skills to solve **extended well-defined** problems in the field of study	Demonstrate analytical and critical thinking skills to solve **well-defined** problems in the field of study	Demonstrate basic analytical and critical thinking skills to solve *routine* problems in the field of study
Communication Skills	Able to **communicate and articulate** effectively in both verbal and written among technologist communities and society **at large.**	Able to **communicate** effectively in both verbal and written among technologist communities and society.	Able to **communicate** effectively in both verbal and written among technologist communities and society.	Able to demonstrate communication skills
Social and Responsibility in Society	Demonstrate understanding of the societal related issues	Demonstrate understanding of the societal related issues	Demonstrate understanding of the societal related issues	Demonstrate understanding of the societal related issues

and Technologist Community	and the consequent responsibilities relevant to **broadly-defined** technology practices.	and the consequent responsibilities relevant to **extended well-defined** technology practices.	and the consequent responsibilities relevant to **well-defined** technology practices.	and the consequent responsibilities relevant to **specifically defined** technology practices.
Lifelong learning and information management	Recognize the needs for professional development and to engage independent lifelong learning in **specialist technologists.**	Recognize the needs for career development and to engage independent lifelong learning in **specialized technical knowledge**	Recognize the needs for career development and to engage independent lifelong learning in **specialized technical knowledge**	Recognize the needs for career development and to engage in lifelong learning.
Entrepreneurs and Management Skills	demonstrate an awareness of management and technopreneurship practices in real perspective.	demonstrate an awareness of management and technopreneurship practices in real perspective.	demonstrate an awareness of management and technopreneurship practices in real perspective.	demonstrate an awareness of management and technopreneurship practices in real perspective.
Ethics and Professionalism	Demonstrate professionalism and social and ethical consideration	Demonstrate professionalism and social and ethical consideration	Demonstrate professionalism and social and ethical consideration	Demonstrate professionalism and social and ethical consideration
Teamwork and Leadership	Demonstrate leadership quality, mentoring and work effectively in **diverse teams.**	Demonstrate leadership quality and work effectively in **diverse technical teams.**	Demonstrate leadership quality and work effectively in **diverse technical teams.**	Demonstrate leadership quality and work effectively in a **technical team.**

2.0 CURRICULUM STRUCTURE

The development of curriculum structure for each program level must follow requirements as below;

Item (s)	Bachelor Degree (Level 6)	Advanced Diploma (Level 5)	Diploma (Level 4)	Certificate (Level 3)
Credit Hours	Minimum 120	Minimum 40	Minimum 90	Minimum 60
Studies Duration	Minimum 3 years	Minimum 1 year	Minimum 2 years	Minimum 1 ¼ years
Theory Component	Minimum 40%	Minimum 30%	Minimum 20%	Minimum 20%
Practical Component	Minimum 40%	Minimum 60%	Minimum 60%	Minimum 60%
Course Component				
Technology Component Consists of Common Core, Discipline Core, Final Year Project, Industrial Training related to field of study	Minimum 90 credit	Minimum 20 credit	Minimum 60 credit	Minimum 30 credit
General Component Consists of MPU courses, IHL Compulsory courses and others.	The remaining credit	The remaining credit	The remaining credit	The remaining credit

3.0 STUDENT SELECTION AND SUPPORT SERVICES

Student Selection

This section of the Programme Standards document concerns the recruitment of students into the individual programme of study. In general, admission policies of the programme need to comply with the prevailing policies of the Malaysian Ministry of Higher Education (MOHE).

"There are varying views on the best method of student selection. Whatever the method used, the Higher Education Provider (HEP) must be able to defend its consistency. The number of students to be admitted to the programme is determined by the capacity of the HEP and the number of qualified applicants. HEP admission and retention policies must not be compromised for the sole purpose of maintaining a desired enrolment. If a HEP operates geographically-separated campuses or if the programme is a collaborative one, the selection and assignment of all students must be consistent with national policies" (COPPA, 2008, pp.17).

The criteria for student admission into the Engineering and Engineering Technology programmes are provided in the following paragraphs. These criteria are developed with the national higher education policies pertaining to minimum student entry requirement in mind. HEPs must take into consideration any specific policies that may apply to their individual institution.

Note: When students with specific disabilities (e.g. Color Blindness) are present, the institution has the responsibility of notifying the student of the limitations to employability

Student Selection Criteria

Certificate In Technology

i. Pass SPM/SPMV or its equivalent with at least ONE (1) credit in any subject; or
ii. Pass UEC with at least Grade B in ONE (1) subject; or
iii. Pass O-level with at least Grade C in ONE (1) subject; or
iv. Pass SKM level 2 in related disciplines AND pass SPM; or
v. Other recognized qualifications or its equivalent.

Diploma In Technology

i. Pass SPM/SPMV or its equivalent with at least THREE (3) credits in any subject; or
ii. Pass SPM/SPMV or its equivalent with at least TWO (2) credits in TWO (2) subjects AND pass pra-diploma with minimum SIX (6) months duration; or
iii. Pass UEC with at least Grade B in THREE (3) subjects; or
iv. Pass O-level with at least Grade C in THREE (3) subjects; or
v. Pass SKM level 3 in related disciplines; and
    a. pass SPM with at least ONE (1) credit in any subject; and
    b. ONE (1) semester of a bridging programme (if required); or
vi. Pass certificate of Kolej Komuniti or equivalent to level 3 MQF in related disciplines; and
    a. Pass SPM with at least ONE (1) credit in any subject; and
    b. ONE (1) semester of a bridging programme (if required); or
vii. Pass certificate (level 3 MQF) in related disciplines with at least CGPA 2.00 and ONE (1) semester bridging programme (if required); or
viii. Pass STPM or its equivalent; or
ix. Pass STAM (Grade Maqbul) or its equivalent; or
x. Pass a recognized TVET-related skills certificate with ONE (1) year of relevant work experience; or
xi. Other recognized qualifications or its equivalent.

Advanced Diploma In Technology

i. Pass Diploma in related disciplines with at least CGPA 2.00 or its equivalent.

Bachelor Degree In Technology

i. Pass STPM or its equivalent with at least Grade C (NGMP 2.00) in TWO (2) subjects; or
ii. Pass Matriculation/Foundation in any IPTA/IPTS/permitted institutions to conduct foundation programmes with CGPA 2.00; or
iii. Pass Diploma in related disciplines with CGPA 2.00; or
iv. Pass UEC with at least Grade B in FIVE (5) subjects; or
v. Pass STAM (Grade Jayyid) or its equivalent; or
vi. Other recognized qualifications or its equivalent.

Credit Transfer

i. Credit transfer can be implemented in two categories as follows:
    a. Vertical – credit transfer from lower to higher qualification level.
    b. Horizontal – credit transfer from the same qualification level such as from certificate to certificate/ diploma to diploma/bachelor degree to bachelor degree.

ii. Credit transfer must be based on course mapping (subject to subject mapping) as follows:
    a. Passing grade – minimum Grade C;
    b. Credit value – equivalent to credit value for the recipient HLI or if from overseas must equivalent to credit currency (eg. In Malaysia 1 credit equivalent to 40 hours SLT whereas in UK 1 CATS equivalents to 10 hours SLT; 3 credits in Malaysia equivalents to 12 CATS in UK).
    c. Course curriculum similarity – at least 80% course content or 80% of equivalent cognitive based course outcomes; and
    d. Credit transfer courses must be of accredited or recognized program from authorized bodies in the respective country.

iii. Vertical Credit transfer policy is based on the following situation:

a. Maximum of 30% (estimated 1 semester) credit transfer from certificate to diploma level is allowed.
b. Maximum of 30% (estimated 1 year) credit transfer from diploma to bachelor degree is allowed.
c. Student with advanced diploma qualification (also has diploma qualification) can be considered for credit transfer up to 2 years studies in Bachelor degree level (entry at third year of the bachelor degree studies).
d. Credit transfer from higher (eg. bachelor degree) to lower qualification level (eg. diploma) is not allowed

iv. Horizontal credit transfer policy is based on the following situation:

a. Credit transfer is not allowed for student who has a qualification (eg. Diploma in computer sciences) and wish to pursue similar program (eg. Diploma in computer sciences) in the same or different HLI.
b. Credit transfer is allowed to student who wants to change to other program in the same field. If the program is taken at the same HLI, no credit transfer limit is subjected to the credit transfer requirement. If the program is to be followed at different HLI, credit transfer is subjected to student residence requirements (residential year) *
c. Credit transfer (including compulsory courses) is not allow to student who receives fail status of the study in the program and wants to pursue study in other programs at the same level of academic qualification.
d. Credit transfer is not allowed to any student who stops his/her study in the program and then wants to resume study but in other programs at the same qualification level.

If the program is taken in the same HLI, no credit transfer limit is subjected to credit transfer requirement.

If the program is taken in different HLI, credit transfer is subjected to student residential year requirement.*

As a guide, typically the currency of knowledge for a program is around 5 years.

* Residential year di HLI who confers qualifications as follows:

i.	Master/PhD	: 1 semester
ii.	Bachelor degree	: 1 year
iii.	Diploma and certificate	: 1 semester

e. Credit transfer is allowed for maximum of 30% to student who takes several courses at other HLI (eg. student mobility or student exchange programs) and it is based on consent between the two HLIs.

Note:

i. Student who has taken Compulsory Subjects during the certificate program are not allowed to take the Compulsory Subjects at the diploma level. However, students need to complete the graduate credit of program requirements (ie minimum 90 credits) as set in the MQF

ii. Horizontal credit transfer for Master and PhD (research based or mix-mode) is allowed for case by case basis. Vertical credit transfer is not allowed for Master to PhD.

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Course Exemption

Here are some provisions regarding course exemption:

i. If the exemption of the courses will result in inadequate credit requirements, students will have to take another course to replace the course.
ii. Student who passed compulsory courses at certificate level is not allowed to take the course at diploma level.
iii. However, student who passed the compulsory courses at certificate or diploma level is not allowed to take the course at bachelor degree level.
iv. International students are exempted from taking compulsory courses, but given the option to take the courses if interested.

Additional of Course to Replace Exempted Courses

Additions of courses into a program of study to enable students who get course exemption to meet the requirements of graduated credit are allowed under the following conditions:

i. Additional courses must be at the same academic level.
ii. If the program involved is a collaborative program, then the added course can be taken either from the program offered by the partnership, or from other collaborative programs.
iii. Additional co-curriculum courses are allowed.
iv. If this additional course is taken from a program that has received Accreditation, the course should not be evaluated by the MQA. If HLI offers a new course, the course needs to be assessed by MQA.

Student Support Services and Co-curriculum Activities

Student support services and Co-curriculum activities are important for:

i. Facilitate learning.
ii. Contributing to the achievement of learning outcomes.
iii. Forming a personal development thoroughly.

These services and activities include physical facilities and services such as:

i. Counselling & Student Development
ii. International Student matters
iii. Financial aid
iv. Welfares (Hostel, transportation, security, CCTV, cafeteria , health centre)
v. Credited Co-Curriculum courses
vi. Sports & Recreations
vii. Extra Curricular Activities
viii. Art and Culture,
ix. Academic Advise
x. Students' Representational Council
xi. Alumni

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4.0 EDUCATIONAL RESOURCES

No.	Category/ Component	Sub- Category	Description	Criteria
1.	Financial Resources			The institution provides an environment which is conducive to effective teaching and learning that supports the educational programs offered by the institution. The adequacy of financial resources to support the requirements physical plant and facilities, library, classrooms, workshops/laboratories, information technology, multi-media centre and general education laboratories are paramount.
2.	Physical Properties	1. Class Rooms (with audio and video facilities)	1. Lecture Halls - • Adequate in numbers • Adequate in size 2. Tutorial/ Small Group Activities Rooms – • Adequate in numbers • Adequate in size	There must be adequate teaching/learning and training facilities such as classrooms, learning support facilities including access to Wi-fi, study areas, information resources (library), computing and information technology systems, laboratories and workshops, and associate equipment to cater for multi-delivery modes and innovative learning approaches. Since technology programme requires substantial practice-oriented learning, sufficient and appropriate experimental and practical facilities must be available for students to gain substantial experience in practice-oriented learning as well as in understanding and

		2. Lab/ Workshops/ Tools & Equipment		operating technology/technical equipment and of designing and conducting experiments. The equipment must be reasonably representative of modern technology practices preferably of High Technology (HT) and High Value (HV). Where practice-oriented learning is undertaken at another institution, or in industry, arrangements must be such as to provide reasonable accessibility and opportunity for learning. IHL`s must ensure that all facilities are maintained and adhered to best practices in safety, health and environment where appropriate including facilities for special needs (preferable).
		3. Innovative / Virtual Learning facilities		
3.	Computer Lab/ ICT infrastructure			There must be adequate ICT facilities such as computers, printers, computing and information technology systems, internet access/ Wi-fi to support 21st century education approach.
4.	Library/ Resource centre		The IHL is to have sufficient collection (print and non-print, text and reference books, standards, journals, magazines and newspapers), variety, relevant and updated instructional material to serve the	Various library facilities adequate and suitable space for library staff and students, internet and reprographic facilities, current newspapers and magazines, furniture and fixtures. The library management system provide services to the students, faculty, staff and other clientele. For off-campus/ distance-learning mode, the Evaluation Panel should comment on how the learning

			needs of the faculty members, staff and students to support teaching and research for the programme evaluated. The floor size must comply to the required minimum seating of 10% of student population.	materials are made available and accessible to the students.
5.	Others Facilities	1. Student support Services		Support facilities such as hostels, cafeteria, CCTV, sport and recreational centres, health centres, student centres, and transport must be adequate to facilitate students` life on campus and to enhance character building.

COMMITTEE MEMBER

1. Prof. Dato' Ts. Dr. Rosli bin Mohd Yunus
2. Prof. Madya. Dr. Mohd Luqman bin Mohd Jamil
3. Prof. Madya Ts. Dr. Mohd Rusllim bin Mohamad
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5. Dr. Abdul Hafiizh bin Ismail
6. Dr. Hayroman Ahmad
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9. Dr. Zulkefli bin Mansor
10. Ir Hisham Yahaya
11. Ts. Mohd Khairuddin Rais
12. Tn Haji Omar Bin Jusoh
13. Hj. Mohd Isa Bin Mujani
14. Encik Mohd Hairul Ab. Rahim
15. En Rama Rao Lanchanna
16. Puan Noor Aidi binti Nadzri
17. Puan Amnah binti Mohamad
18. Encik Azmin bin Ariffin
19. Puan Siti Hasmah Ismail
20. Puan Rohidah Maskuri
21. Encik Abu Hanifah bin Zamberi
22. En Azmil Aswad B. Che Mat
23. Encik Saharudin bin Ramli
24. Cik Hajah Nur Sakinah binti Ishak
25. Cik Nuramira binti Zulkepli