

Restricted

Myanmar Engineering Council



**Engineering Education Accreditation Committee
(EEAC)**

**Engineering Technician Accreditation Programme
Sub-Committee (ETASC)**

**2020 Engineering Technician Programme
Accreditation Manual**

February, 2020

Restricted

TABLE OF CONTENTS

<u>SECTION</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
	ACKNOWLEDGEMENTS	4
	DEFINITIONS	5
	Acronyms	5
	General	5
	Institutions of Higher Learning and Programme	6
	Accreditation	7
	Accreditation Timeline	8
	Accreditation Fees Schedule	9 - 10
1.0	Introduction	11
2.0	Accreditation Objective	11
3.0	Engineering Technician and Engineering Technologist	11 - 12
4.0	Programme Educational Objectives	12
5.0	Graduate Attributes (GAs)	12 - 13
6.0	Accreditation Policy	14
6.1	The Accreditation Process	14
6.2	The Accreditation Cycle	14
6.3	Programmes	14
6.4	Application and Preparation for Accreditation Visit	14
6.5	Accreditation Evaluation	15
6.6	Accreditation Decision	15
6.7	Revisions to an Accredited Programme	15
6.8	The Approval to Conduct a Programme	15
6.9	Publication of Accreditation Status	16
6.10	Procedures for Appeal	16
6.11	Confidentiality	16
6.12	Expenses	16
6.13	Conflict of Interest	16
7.0	Accreditation Procedure	17
7.1	Application for Accreditation	17
7.2	Appointment of Evaluation Panel	18
7.3	Scheduling of a Visit	18
7.4	Pre-Accreditation Visit Meeting	18
7.5	Accreditation Visit	18

Myanmar Engineering Council

7.6	Report and Recommendation	19
8.0	Qualifying Requirements and Accreditation Criteria	19
8.1	Criterion 1: Programme Educational Objectives	20
8.2	Criterion 2: Graduate Attributes (GAs)	20
8.3	Criterion 3: Academic Curriculum	20 - 25
8.4	Criterion 4: Students	25 - 26
8.5	Criterion 5: Teaching and Support Staff	26
8.6	Criterion 6: Facilities	27
8.7	Criterion 7: Quality Management System	27
8.7.1	Institutional Support, Operating Environment, and Financial Resources	28
8.7.2	Programme Quality Management and Planning	28
8.7.3	External Assessment and Advisory System	28 - 29
8.7.4	Quality Assurance	29
9.0	Accreditation Documents	29
9.1	Introduction	29 - 30
9.2	Self-Assessment Report – Hard copy	30
9.2.1	General	30
9.2.2	Programme Educational Objectives	31
9.2.3	Graduate Attributes	31
9.2.4	Academic Curriculum	31 - 32
9.2.5	Students	32
9.2.6	Teaching and Support Staff	32 - 33
9.2.7	Facilities	33 - 34
9.2.8	Quality Management Systems	34 - 35
9.2.9	Other Relevant Information	35
9.3	Supporting Material Document – Digital Format	35
9.3.1	Supporting Information	35
9.3.2	Teaching and Laboratory Support Staff	35
9.3.3	Programme Structure and Contents	35
9.3.4	Equipment, Software, Title of Book and Journals	36
9.3.5	External Examiner and Advisory Board	36
9.4	Institutional Documents and Additional Documentation to be Made Available During the Visit	36
9.4.1	IHL Documents	36
9.4.2	Documents Related to Programme Educational Objectives and Outcomes	36

Myanmar Engineering Council

9.4.3	Final Project Reports	37
9.4.4	Industrial Training Reports	37
9.4.5	Laboratory Reports	37
9.4.6	Quality Assurance Records	37
9.4.7	Other Documentation	37
10.0	Approval Procedure for a New Engineering Technology Programme	
10.1	EEAC's Initial Evaluation	37 - 38
10.2	Report and Recommendation	38
10.3	EEAC's Decision	38
10.4	Provisional Accreditation	39
10.5	REFERENCE	
10.6	LIST OF APPENDIXES	39
	Appendix A	40 - 41
	Appendix B	42 - 44
	Appendix C	45 - 46
	Appendix D	47 - 59
	Appendix E	60
	Appendix F	61 - 64
	Appendix G	65 - 90

ACKNOWLEDGEMENTS

The EEAC would like to acknowledge the ETASC and contributions by various individuals and organisations in drawing up this manual which has gone through several revisions.

DEFINITIONS

Acronyms

MEngC	-	Myanmar Engineering Council
CQI	-	Continual Quality Improvement
EEAC	-	Engineering Education Accreditation Committee
IHL	-	Institution of Higher Learning (includes public or private universities, and other institutions authorized by legislation to award engineering Degrees)
MOC	-	Ministry of Construction
MOA	-	Myanmar Qualifications Agency
OBE	-	Outcome-Based Education is an approach that focuses on outcomes, i.e. the achievements of students that are measurable, proven, and can be improved.

General

Evaluation Panel	-	A panel of evaluators appointed by EEAC to verify programme compliance with accreditation criteria.
Accreditation Appeals Board	-	A Board to consider appeals from an Institution of Higher Learning on any EEAC decision.
Engineering Technician	-	A Person who possesses professional competencies substantially equivalent to those of an Inspector of Works

Institutions of Higher Learning and Programme

Faculty	-	The entity which includes schools and departments responsible for designing and conducting the programme to be accredited.
Programme	-	The sequence of structured educational experience undertaken by the students leading to completion, on satisfactory assessment of performance.
Diploma	-	An engineering or engineering technology qualification for Technician in Myanmar normally titled Diploma of Engineering or Engineering Technology.
Course	-	Subject offered in the programme.
Stakeholders	-	Parties having interests (direct or indirect) in the programme output, for example; employers, sponsors, lecturers, and students.
Teaching Staff	-	Staff responsible for teaching and learning activities in the programme leading to the award of an engineering or engineering technology diploma.
Student	-	Anyone undertaking a diploma programme.
Graduate	-	Anyone who has been conferred a diploma.
Support staff	-	Staff responsible for supporting teaching, learning and administrative activities in the programme implementation.
External Examiner	-	A person with high academic standing appointed by the IHL to assess academic quality and standard of the programme.
Industry Advisory Panel	-	A body consisting of professionals from industries, government, professional organisation, regulatory, alumni etc., appointed by the IHL to ensure the programme's relevancy to the stakeholders' needs.

Accreditation

- | | | |
|---|---|--|
| Approval | - | Permission from the relevant authorities to conduct a new programme. |
| Accredited Programme | - | An engineering technician (engineering or engineering technology diploma) education programme whose graduates are acceptable for Engineering Technicians/ Inspector of Works registration with MEngC. This is accorded to a programme that satisfies the minimum standard for accreditation set by EEAC. |
| Declined Accreditation | - | This is given to a programme that fails to meet the minimum standard for accreditation and has major shortcomings. In such a case, a further application is not normally considered within the next one year. |
| Cessation/ Termination of Accreditation | - | EEAC reserves the right to cease/terminate the accreditation if there is non-compliance or breach of accreditation requirements after accreditation has been given. |
| Provisional Accreditation | - | This is given to a programme that has been recommended for approval by MEngC to be conducted. |

Myanmar Engineering Council

Myanmar Engineering Council

Engineering Education Accreditation Committee

Engineering Technician Accreditation Programme Sub-Committee (ETASC)

2020 Accreditation Timeline (Draft)

2020 January	Accreditation Policies and Procedures Published (Engineering Technician Programme Accreditation Manual)
2020 February	Accreditation Orientation for Institutional Representatives Principles and Head of Department Forum 2020 February 29, Deadline Request for Accreditation On-Site Visit (General Review)
2020 February 29	Deadline Request for Accreditation On-Site Visit (Interim Review)
2020 March	Programme Evaluators Workshop
2020 May	Cornerstone, Keystone, Capstone, IDP Course Workshop
2020 July 31	Deadline for Self-Assessment Report, Interim Review Report, and Annual Continuous Improvement Report
2020 August	Accreditation Workshop for New Programme Chair
2020 September	Conveners, Team Chairs Meetings
2020 October	Accreditation Workshop for New Programme Chair
2020 October	Accreditation On-Site Visit (Interim Review)
2020 October-Dec	Accreditation On-site Visit (General Review)
2021 January	Editors Meeting
2021 March	Accreditation Decision Meeting
2021 March	Accreditation Decision Published
2021 May	EEAC General Assembly, Accreditation Certificate Conferment Ceremony for 2020-21 Accreditation Cycle
2021 July	Accreditation Period End

* Specific dates of various workshops/conferences will be announced at later times.

Myanmar Engineering Council

Myanmar Engineering Council

Engineering Education Accreditation Committee (EEAC)

Engineering Technician Accreditation Programme Sub-Committee (ETASC)

Accreditation Fee Schedule

- Article (1) This document is drawn up by the Accreditation Committee in compliance with Article 6 of Accreditation Policies.
- Article (2) There are three types of accreditation fees: Registration Fee, Review fee, and Annual Accreditation Maintenance fee. For interim review, the Accreditation Committee shall not charge additional Registration fees.
- Article (3) The Registration Fee and the Annual Maintenance Fee will be charged by department whereas the Review Fee will be charged by the number of program under the same department. Program that applies for accreditation in different year from the other programs under the same department may be charged for additional fees.
- Article (4) Accreditation Fee shall be received in Myanmar Kyats. Please note that all local transfer fees are to be paid by the sender. The fee rate is stated in the schedule of Fees.
- Article (5) Accreditation Fee shall be paid before the deadline .One percent penalty on the total fees will be added for delays every 7 days.
- Article (6) Methods of payment:
- I. Check: address to Myanmar Engineering Council
 - II. Post transfer, account :(.....), payment to: Myanmar Engineering Council.
 - III. Bank transfer, account: (.....), payment to: Myanmar Engineering Council,
- Article (7) For cancellation of accreditation within 7 days of payment, 50% of the Accreditation Fees will be refunded .No refund will be made beyond the 7th days.
- Article (8) Accreditation program is required to pay Accreditation Maintenance Fee according to the length of accredited period. EEAC reserves the right to withdraw the accredited status if payment is not made in due time.
- Article (9) Programme within the accredited status wishes to register for a change in accreditation criteria will be subject to a documentation review and K 450,000 fee.

Myanmar Engineering Council

- Article (10) Programme maintaining multiple accreditation status will be required to pay Annual Accreditation Maintenance fee in full according to the length of accredited status.
- Article (11) Programme applies for an appeal shall pay an appeal fee of Kyats 850,000.
- Article (12) Programme applies for re-issuing the accreditation certificate shall pay a fee of K100,000 Certificate will only be reissued once per accredited period.
- Article (13) Any fee not covered by the above procedures, the Accreditation Committee will refer to Accreditation Policies for ruling.
- Article (14) Any revisions of this schedule shall be published on the MEngC website. The Accreditation Committee will invoice the programme with attachment of revised fee schedule.
- Article (15) This document and any subsequent amendments thereto shall be approved by the Accreditation Committee and promulgated for implementation by the Accreditation Committee Chair.

Attach: Schedule of Fees

Fee Type	Fee		Charge (kyats)
General Review	Registration Fee		250,000
(Provisionally Accredited/ Full Accredited)	Review Fee	Program Base Fee	2,150,000
	Annual Accreditation Maintenance fee (Per year)	Accredited	200,000
		Provisionally Accredited	100,000
Follow Up Review	Revisit Visit Fee(Per Trip)	Action Pending	850,000
		Provisionally Accredited	850,000
		Interim Visit	1,075,000
Appeal	Appeal Fee		850,000
Changes in Criteria	Document Review Fee		450,000
Certificate Reissue	Certificate Reissue - Fee		100,000

Myanmar Engineering Council

Notes: 1. A programme's Review Fee will be based on the number of programme. The maximum fee includes Registration Fee, Review Fee, and Annual Accreditation Maintenance Fee for programmes within the same department in the same period.

2. Annual Accreditation Maintenance Fee shall be pay in full on the valid accredited period engineering is to be accredited for 3 years. The department is required to pay the Annual Accreditation Maintenance Fee of 600,000 kyats in full.

3. A Programme for foreign Institutes/Colleges which delivers in Myanmar will be –

Registration Fee - 450 USD

Review Fee - 3900 USD

Annual Accreditation Maintenance Fee (Per year)

Accredited - 300 USD

1.0 Introduction

Myanmar Engineering Council (MEngC) registers inspector of works, engineering technologists, graduate engineers, and professional engineers under the MEngC Law. The pre-requisite for registration inspector of works, engineering technologists and graduate engineers in any qualification in engineering recognized by MEngC.

The MEngC therefore has a duty to ensure that the quality of engineering, engineering technology, and engineering technician education programmes of its registered engineers, engineering technologists and engineering technicians/inspector of works attain the minimum standard comparable to global practice. Hence the necessity to accredit engineering, engineering technology, and engineering technician education programmes conducted in IHLs.

Engineering Education Accreditation Committee (EEAC) is the body delegated by MEngC for accreditation of engineering technology degrees and engineering technician qualifications. The Terms of Reference of the EEAC are outlined in Appendix A.

This Manual outlines details for accreditation of engineering technician education programmes in Myanmar. It serves to facilitate Institutions of Higher Learning (IHLs) to meet the minimum standard stipulated for the accreditation of their existing engineering technician education programmes as well as proposed new programmes.

This Manual includes elements of outcomes in the engineering technician education programme curriculum to ensure a Continual Quality Improvement (CQI) culture in the spirit of Outcome-Based Education (OBE).

2.0 Accreditation Objective

The Objective of accreditation is to ensure that graduates of the accredited engineering technician education programmes satisfy the minimum academic and practical requirements for registration as engineering technicians/inspector of works with MEngC.

In addition, the objective of accreditation is to ensure that Continual Quality Improvement (CQI) is being practiced by IHLs, and accreditation may also serve as a tool to benchmark engineering technician education programmes offered by IHLs in Myanmar.

3.0 Engineering Technician and Engineering Technologist

Engineering Technology is that part of the technological field that requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities.

Technology has been evolving ever rapidly with time since man began to be more creative and innovative. Technology education has also evolved and very much subject to the demands of the industry. Engineering Technology programmes are oriented towards application, and provide their students with introductory mathematics and science courses, and only a qualitative introduction to engineering fundamentals and applied sciences. The graduates are exposed to almost similar courses with those of the engineering curricula but variation in the distribution of theories and practical skills are different.

Graduates acquiring an engineering technology Diplomas and Engineering Diplomas are often hired to work as engineering technicians in various fields such as product design, testing, development, systems engineering, field of engineering, technical operations, and quality control etc. Engineering technicians implement engineering technology works by applying engineering knowledge combined with technical skills to support engineering technology activities. Their areas of interest in education are typically application oriented, while being somewhat less theoretical than their engineering counterparts. They typically focus their activities on applied design, using current engineering practice. Engineering Technicians play key roles in the engineering team. Their involvement is mainly in product development, manufacturing, product assurance, sales and programme management.

Some engineering technician qualifications include an emphasis on technical management as well as grounding in a particular area of technology. Technical management is seen as an appropriate field of specialisation in itself, and many technicians build their career paths in this direction. Examples of such specialisation include product development for manufacturing, manufacturing management, aviation management, and management and maintenance of processing plants, complex building services, or testing laboratories.

Disciplines of engineering technology may relate to a particular technology or group of technologies – such as instrumentation, optoelectronics, information technology, computer networking, and robotics – that have application in many contexts. Alternatively, they may relate to the technicians supporting a particular industry sector, such as air conditioning and refrigeration, aviation, biomedical industry, manufacturing, railway signalling. The term technology is used below in the singular, and should be understood to mean also a group of technologies supporting an industry sector.

This introduction does not cover in detail all branches of Engineering Technology, due to its wide range of technical specialisation within the technology spectrum.

4.0 Programme Educational Objectives

Programme Educational Objectives are specific goals consistent with the mission and vision of the IHL, are responsive to the expressed interest of programme stakeholders, and describe the

expected achievements of graduates in their career and professional life a few years after graduation.

5.0 Graduate Attributes (GAs)

Graduate Attributes (GAs) are statements that describe what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviour that students acquire through the programme.

Students of an engineering technician diploma programme are expected to attain the following in the practice oriented learning environment:

- I. Knowledge: Apply knowledge of applied mathematics, applied science, engineering fundamentals and an engineering specialisation as specified in DK1 to DK4 respectively to wide practical procedures and practices;
- II. Problem analysis: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4);
- III. Design/development of solutions: Design solutions for well-defined technical problems and assist with the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations (DK5);
- IV. Investigation: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements.
- V. Modern Tool Usage: Apply appropriate techniques, resources, and modern engineering and IT tools to well- defined engineering problems, with an awareness of the limitations (DK6);
- VI. The Engineer and Society: Demonstrate knowledge of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technician practice and solutions to well-defined engineering problems (DK7);
- VII. Environment and Sustainability: Understand and evaluate the sustainability and impact of engineering technician work in the solution of well-defined engineering problems in societal and environmental contexts (DK7);
- VIII. Ethics: Understand and commit to professional ethics and responsibilities and norms of technician practice;
- IX. Individual and Team Work: Function effectively as an individual, and as a member in diverse technical teams;
- X. Communications: Communicate effectively on well- defined engineering activities with the engineering community and with society at large, by being able to comprehend the work of others, document their own work, and give and receive clear instructions;

- XI. Project Management and Finance: Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member or leader in a technical team and to manage projects in multidisciplinary environments;
- XII. Life Long Learning: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge;

The definitions of well-defined engineering problems, and well-defined engineering activities are given in the tables of Sections (a) and (b) of Appendix B respectively. The Knowledge Profile (DK) referred to in the list of Graduate Attributes (GAs) above is listed in the table in Section (c) of Appendix B.

6.0 Accreditation Policy

This section outlines the EEAC's accreditation policy underlying the whole accreditation process. Accreditation will be considered upon the written request from the IHL.

6.1 The Accreditation Process

Accreditation of engineering technician education programmes is undertaken by EEAC at the request of the IHL.

The EEAC's accreditation process will focus on outcomes and the IHL developed internal systems, which ensure that the graduates are adequately prepared to enter the engineering technician profession.

The process also involves determining the effectiveness of the quality assurance systems and procedures that ensure graduates are adequately prepared to enter the engineering technician practice.

6.2 The Accreditation Cycle

Accreditation is accorded to a programme for a maximum period of five years. The IHL shall apply for re-accreditation not less than six months before the expiry of the accreditation period.

Accreditation is accorded on a full programme cycle basis, specifying the years, following the provisional accreditation given upon conduct of approved programmes.

6.3 Programmes

An IHL may offer programme/s via various modes and at different locations, such as fulltime, franchised, twinning, part-time, distance learning, joint degree, multi campus etc. For each of the programmes, the IHL shall apply for accreditation separately. However, if any programme at a different location and/or via a different mode of delivery fails to get accreditation and the

diploma issued by the IHL does not differentiate with regard to the location and/or mode of delivery, EEAC may take action to withdraw accreditation of any such programmes by that IHL.

A programme shall be evaluated based on the criteria stipulated in Section 8 of this Engineering Technician Programme Accreditation Manual.

6.4 Application and Preparation for Accreditation Visit

The IHL should make an application for programme accreditation as per the requirements of Section 8 of the Manual to EEAC and MQA. Appendix C shows the process flow chart on Application for Accreditation and Approval of Engineering Technician Education Programmes.

If the documents submitted are found to be inadequate, the IHL shall be required to provide further information before an accreditation visit can be scheduled. The application will be deemed to have been withdrawn if further information is not submitted within a period of 3 months upon request.

6.5 Accreditation Evaluation

An accreditation evaluation is conducted to verify that the programme under evaluation is in compliance with the appropriate accreditation criteria in this Manual.

The evaluation exercise shall be conducted by an Evaluation Panel appointed by EEAC (refer to Appendix A).

6.6 Accreditation Decision

Upon completion of the programme accreditation exercise, the EEAC, based on the recommendation of the Evaluation Panel, may decide on the graduating cohorts one of the following:

- i. To accord accreditation for five years.
- ii. To accord accreditation for less than five years.
- iii. To decline accreditation. In such a case, a further application will normally not be considered within the next one year.

A programme that has major shortcoming (s) is accorded less than five years accreditation. The IHL shall take appropriate actions to remedy the shortcoming(s), and submit evidence of such corrective action(s). If this is adjudged satisfactory, the remaining period of the accreditation may be accorded by the EEAC. A further visit will be scheduled to verify the results of the remedial action(s), if deemed necessary. Failure to address the shortcoming(s) may result in cessation of accreditation at the end of the stated period.

The EEAC may defer its decision on accreditation under certain circumstances to allow the IHL to fulfil condition(s) that may be imposed by the EEAC.

The EEAC's decision shall be sent to the IHL, through the MQA, with copies to MEngC. The accreditation shall be accorded to a specific programme, location and mode.

6.7 Revisions to an Accredited Programme

The IHL shall advise the EEAC of changes made to an accredited programme exceeding 30% thereof. Failure to do so may cause the EEAC to withdraw the accreditation. The EEAC may then direct the IHL to apply for re-accreditation of the revised programme. However, there is no guarantee that the programme will continue to be accredited if there is contravention with the changes.

6.8 The Approval to Conduct a Programme

The IHL intending to conduct a new programme shall obtain approval from the relevant authorities.

The IHL should submit the complete set of documents as specified in Section 8 of this Manual to the EEAC and MQA for programme evaluation. The recommendation from EEAC shall be forwarded to the relevant authorities.

When the documents are considered to be inadequate, the IHL shall be required to provide further information before an evaluation is carried out. If the required information is not provided within a period of 3 months, it shall be deemed that the IHL no longer intends to conduct the programme.

6.9 Publication of Accreditation Status

EEAC shall regularly update the list of provisionally accredited (recommended for approval) and accredited programmes.

6.10 Procedures for Appeal

An IHL may appeal against a decision made by EEAC. The **notice** of appeal must be made in writing to the Accreditation Appeals Board within **2** weeks upon receiving the decision, stating the basis of the appeal. Appeal **documents** are to be submitted within **4** weeks after the above notice of appeal.

The Appeals Board shall be constituted by the MEngC. The number of members including the Chairman shall not be less than 3 comprising of independent members, including a representative of MQA.

If necessary, the Appeals Board may appoint a Special Committee, comprising members who are experienced in the accreditation process, to consider an appeal. Any expenses incurred shall be borne by the IHL.

The decision of the Appeals Board shall be forwarded to the IHL and MQA within 3 months from the receipt of the complete documents. The decision of the Appeals Board shall be final

6.11 Confidentiality

Documents or other information submitted by IHL and obtained by the Evaluation Panel, EEAC staff, and EEAC members in connection with the accreditation exercise shall be treated as confidential.

6.12 Expenses

The IHL shall bear all the costs incurred for carrying out activities related to the approval and accreditation of a programme.

6.13 Conflict of Interest

Members of EEAC, Evaluation Panels, Appeals Board and EEAC staff are expected to be constantly aware of any conflict of interest. Members shall declare their interest or withdraw from any situation or activity that may constitute a conflict of interest.

7.0 Accreditation Procedure

This section describes EEAC's accreditation procedures from the process of application to the notification of accreditation result.

7.1 Application for Accreditation

The IHL should make an application for programme accreditation as per the requirements of Section 8 of the Manual to EEAC and MQA. Appendix C shows the process flow chart on Application for Accreditation and Approval of Engineering Technician Education Programmes.

For a new programme, the IHL should apply for accreditation at least **6 months** before the final examination of the first intake of students.

For a current accredited programme, the IHL should apply for re-accreditation at least **9 months** before the expiry date of the accreditation to avoid delay in graduates' registration with MEngC.

The IHL applying for accreditation shall ensure that complete information is forwarded to EEAC. If the information submitted is found to be insufficient, the IHL shall be required to provide further information before an accreditation visit can be scheduled. The application will be deemed

to have been withdrawn, if the requested information is not submitted within a period of **3 months**.

A cut-off period for submission of application for programme accreditation by IHL is twelve (12) months beyond graduation of any cohort, if the graduates are to be included in the accreditation decision.

7.2 Appointment of Evaluation Panel

On submission of all required documents, an Evaluation Panel shall be appointed as per Appendix A of this Manual. Members of the Evaluation Panel are selected on the basis of their expertise and standing in a particular discipline of engineering or engineering technology. Representatives from both the industry and academia are appointed because of the perspective and experience that each area of endeavour can bring to the assessment of a programme, and to the maintenance of high professional standards. The EEAC needs to ensure that not only high standards of academic teaching and achievement are being met, but also that the skills acquired and quality of graduates, are relevant to the practices and continued development of engineering technicians.

The Evaluation Panel needs to be aware of EEAC policies on accreditation as outlined in Section 6 of this Manual. The Evaluation Panel will assess all the accreditation criteria set forth in this Manual. The assessment includes obtaining objective evidence from documents submitted by the IHL, interviews and observation.

The Guidelines for Evaluation Panel (Appendix G) (Guidelines on Evaluation Panel Report) are useful tools for ensuring that every important aspect of a degree programme and its delivery are assessed and reported on.

7.3 Scheduling of a Visit

A visit is arranged and coordinated by the EEAC Secretariat on an appropriate date suitable to both the Evaluation Panel and the IHL. The visit should be held promptly after the appointment of the Evaluation Panel. It is important that as far as possible, the agreed dates of visit are adhered to.

7.4 Pre-Accreditation Visit Meeting

The Evaluation Panel should meet at least **once** before the actual accreditation visit takes place, in order to study and discuss documents, and systematically identify shortcomings. The Panel should strategically plan and/or request supplementary input from the IHL to fill the gaps. Any further information required should be communicated to the IHL through the EEAC. The Pre-Accreditation Visit Meeting is in addition to the meeting on Day (-1) (see *Guidelines for Evaluation Panel- Appendix G*).

7.5 Accreditation Visit

The accreditation visit will normally be scheduled for a period of two days. The overall conduct of the visit shall be managed by the EEAC. A typical schedule of the visit is given in item 3 of Guidelines for Evaluation Panel of this Manual (Appendix G). The visit shall include but not be limited to the following:

- a. Opening meeting with the programme administrators
- b. Meeting with staff members
- c. Meeting with students
- d. Meeting with external stakeholders such as alumni, employers, and industry advisor
- e. Visiting and checking of facilities
- f. Checking relevant documents
- g. Exit meeting with programme administrators

Meetings with all stakeholders are important as this would give an indication of their involvement in the CQI process of the programme.

7.6 Report and Recommendation

The report, prepared in accordance with Appendix D, by the Evaluation Panel shall be submitted to the EEAC within 4 weeks after the visit.

8.0 Qualifying Requirements and Accreditation Criteria

An engineering technician educational programme shall be assessed by EEAC to enable graduates of the programme to register as engineering technicians/inspector of works with the MEngC. The assessment involves a review of qualifying requirements for the IHL and an evaluation based on the following criteria:

Criterion 1	Programme Educational Objectives(PEOs)
Criterion 2	Graduate Attributes (GAs)
Criterion 3	Academic Curriculum
Criterion 4	Students
Criterion 5	Teaching and Support staff
Criterion 6	Facilities
Criterion 7	Quality Management Systems

The assessment process will involve two parts:

- (i) Initial assessment of qualifying requirements.
- (ii) Detailed assessment of the programme based on the accreditation criteria.

The qualifying requirements are meant to screen out programmes that do not meet the core requirements of the assessment criteria. Failure to meet any one of the qualifying requirements will mean that the programme shall not be assessed for accreditation.

There are 8 components of the qualifying requirements and each programme is expected to have all the components. These components are:

- 1 Minimum 90 SLT* credit units. A minimum of 60 SLT credit units shall be engineering or engineering technology courses, of which at least 50% should be allocated for practice-oriented components in the technical and specialists areas.
- 2 Final year project (4-6 SLT credit units)
- 3 Industrial training (minimum of 16 weeks)
- 4 Full-time Teaching staff (minimum of 8)
- 5 Staff:student ratio 1: 20 or better
- 6 External examiner report (and availability of the process that requires a minimum of one report over two years)
- 7 Programme Educational Objectives
- 8 Graduate Attributes (GAs)

** SLT - Student Learning Time

*** For Approval application item 4,5 and 6 only require strong commitment from IHL.

If the programme has met all the qualifying requirements, a detailed assessment of the programme based on the accreditation criteria as explained in the following sections will be carried out.

Interpretations to this section are provided in the Guidelines for Evaluation Panel (Appendix G) of this Manual.

8.1 Criterion 1: Programme Educational Objectives (PEOs)

An engineering technician education programme seeking accreditation shall have published Programme Educational Objectives. The Programme Educational Objectives shall be the basis upon which the Graduate Attributes (Section 5.0) are formulated. The programme shall have a clear linkage between Programme Educational Objectives and Graduate Attributes. It is expected that important stakeholders especially from the industries provide inputs in the process of formulating the Programme Educational Objectives. There must be a documented and effective

process, involving programme stakeholders, for the periodic review and revision of these Programme Educational Objectives.

8.2 Criterion 2: Graduate Attributes (GAs)

An Engineering Technician Education programme for which accreditation is sought must respond to the following :-

- (i) **Graduate Attributes (GAs):** The IHL/faculty shall have published Graduate Attributes that have been formulated considering items (i) to (xii) given in Section 5.0, and any added outcome that can contribute to the achievement of its stated Programme Educational Objectives. The various Graduate Attribute shall be considered in designing the curriculum as described in Section 8.3 (Criterion 3 – Academic Curriculum).
- (ii) **Continual Improvement:** The programme must also regularly use appropriate, documented processes for assessing and evaluating the extent to which the Graduate Attributes are being attained. The results of these evaluations must be systematically utilised as input for the continuous improvement of the programme. Other available information may also be used to assist in the continuous improvement of the programme.
- (iii) **Stakeholders Involvement:** The IHL/faculty shall provide evidence of stakeholders involvement with regard to (i) and (ii) above.

Note: Please refer to Guidelines for Evaluation Panel for interpretation of requirements in this section.

8.3 Criterion 3: Academic Curriculum

The academic curriculum and curricular design shall strongly reflect the philosophy and approach adopted in the programme structure, and the choice of the teaching-learning (delivery) and assessment methods. The curricular approach, the educational content and the teaching-learning and assessment methods shall be appropriate to, consistent with, and support the attainment or achievement of the Graduate Attributes.

A balanced curriculum shall include all technical and non-technical attributes listed in the Graduate Attributes, and shall have the balance between the essential elements forming the core of the programme and additional specialist or optional studies (electives). The curriculum shall ensure that about 50% of the face to face time on technical and specialists components should be allocated for practice-oriented.

Guidelines on academic programme outlined in this Manual provide essential elements and features, which combined together will render a programme acceptable for accreditation by EEAC.

The course structure and sequence of content shall be appropriate. Adequate time shall be allocated for each component of the content/course, including for elective courses. Evidence shall be present to show that the contents are being updated to keep up with the scientific, technological and knowledge development in the field, and to meet the needs of society. IHLs shall have mechanisms for regularly identifying topics of contemporary importance at local, national and global levels and topics that may not be adequately addressed in the curriculum.

Other contributing components to the curriculum such as a variety of teaching and learning (delivery) modes, assessment and evaluation methods shall be designed, planned and incorporated within the curriculum to enable students to effectively develop the range of cognitive and practical skills, as well as positive attitudes as required in the Graduate Attributes. The teaching and learning methods shall enable students to take full responsibility for their own learning and prepare them for lifelong learning.

The academic programme component must consist of a normally three-year duration of full-time-equivalent study with a minimum total of **90 SLT credit units** (not including units for remedial courses) made up as follows:

- (a) A **minimum of 60 SLT credit units** shall be **engineering or engineering technology courses** consisting of basics technical courses, discipline core courses, design/projects, and industrial training appropriate to the student's field of study. At least 50% of these should be allocated for practice-oriented components in the technical and specialists areas.
- (b) The **remaining SLT credit units** may include sufficient content of **general education component** (such as mathematics, computing, languages, general studies, co-curriculum, management, law, accountancy, economics, social sciences, etc.) that complements the technical contents of the curriculum.

The essential elements and features are identified for convenience under several headings, without implying that each is to be treated as a separate or isolated component. In general, the syllabus and curriculum content must be adequate in quality and quantity in terms of coverage and depth. Emphasis on the curriculum shall be placed on the understanding and acquisition of basic principles and skills of a discipline, rather than detailed memorization of facts. The curriculum shall also provide students with ample opportunities for analytical, critical, constructive, and creative thinking, and evidence-based decision making. The curriculum shall include sufficient elements for training students in rational thinking.

The curriculum content should cover the following:

- (i) applied Mathematics, applied science, applied engineering principles, skills and tools (computing, experimentation) appropriate to the discipline of study, where applied

mathematics shall, at a minimum, include algebra and trigonometry at a level appropriate to the student outcomes and programme educational objectives;

- (ii) engineering and engineering technology practical components;
- (iii) integrated training in professional engineering practice, including management and professional ethics;
- (iv) laboratory work to complement the science, computing and engineering theory;
- (v) industrial training – training in engineering technology in a professional engineering-practice environment;
- (vi) exposure to engineering practice within the campus learning environment;
- (vii) relevant tutorial classes to complement the lectures; and
- (viii) final year project.

SLT Credit Units

The SLT credit unit used is based on the Student Learning Time (SLT) as defined in the Myanmar National Qualification Framework (MNQF). The student learning time (SLT) defines that for every one credit hour specified, students need to spend 40 hours of learning. This was determined by considering the total amount of time available in a week, the time needed for personal matters, the time for rest and recreational activities, and the time for studying. For a course of three SLT credit units, students will have to spend 120 hours, which involves both face-to-face meetings (lectures/laboratory work/tutorials, etc.) and non-face-to-face activities. The programme shall calculate the SLT credit units based on the amount of time students spend in the lecture, tutorial, laboratory sessions, project work, problem based learning, e-learning modules, discovery learning, and coursework projects and independent study accordingly.

For industrial training, the following guideline shall be followed:

- industrial training shall be for a minimum of 16 weeks and a maximum of one year. **One** SLT credit unit is allocated for every two weeks of training subject to a maximum of **twelve** SLT credit units. The training shall be adequately structured, supervised and recorded in log books/report.

For final year project, the following guideline shall be followed:

- a final year project is subjected to a minimum of four SLT credit units and a maximum of six SLT credit units.

Notes:

➤ **Tutorial**

Tutorial should be part and parcel of the programme so as to complement the lectures. A tutorial session should preferably not exceed 30 students at any one time.

➤ **Practical Learning**

Engineering technician education programme shall ensure that 50% time should be allocated for practice-oriented components. Students should be able to practice engineering skills to complement engineering theory that is learnt through lectures. Practice-oriented learning experiences should engage students with the use of facilities, equipment and instrumentation reflective of current industry practice which will help in developing competence in executing applied and experimental work. Students should work in groups, preferably not more than four in a group.

Throughout the programme, there should be adequate provision for laboratory or similar investigative work, which will develop in the students the confidence to deal with applied engineering problems.

➤ **Industrial Training**

Training in engineering practice will provide first-hand experience in an engineering-practice environment, outside the IHL. Familiarity with all common engineering technician processes is essential and training at a practical level to a wide variety of processes is required at a level appropriate to the students. Whilst it is clearly desirable for students to be properly trained for the skills involved, the central aim is to acquire craft skills. Clearly, many of the latest processes and large scale or costly operations can only be the subject of observation or demonstration, and visits to engineering works may be helpful in many such cases.

Industrial training is a key component of learning in an integrated academic curriculum. Due to its importance, the programme shall have a minimum of 4 months and a maximum of 1-year industrial training for each student. IHL shall put a strenuous effort to assist all students to gain placements of suitable quality.

➤ **Training in of Engineering Technician**

Training in engineering or engineering technology practice shall also be integrated throughout the curriculum as it is a key. In addition, exposure to professional engineering technology practice may also be obtained through a combination of the following:

- (i) lectures/talks by guest lecturers from industry;
- (ii) teaching staff with industrial experience;
- (iii) courses on professional ethics and conduct;
- (iv) industry visits;
- (v) an industry-based final year project;
- (vi) regular use of a logbook in which industrial experiences are recorded;
- (vii) study of industry policies, processes, practices and benchmarks;

- (viii) interviewing engineering and engineering technology practitioners;
- (ix) industry based investigatory assignments;
- (x) direct industry input and advice to problem solving and projects assessment; and
- (xi) industrial case studies.

It is considered that there is no real substitute for first-hand experience in an engineering-practice environment, outside the IHLs. The EEAC advocates that all engineering-based teaching staff acquire some exposure to such experience, in addition to the other elements suggested, and make efforts to assist all students gain placements of suitable quality.

➤ **Final Year Project**

The final year project, consisting of either industry-based or practice-oriented projects, can provide one of the best means of introducing a real professional approach to engineering studies and practices. For this reason, the use of projects as a vehicle for teaching and for integration of core areas is strongly encouraged throughout the programme.

It is a requirement of the programme to include a significant project in its later stages. The final year project is required to seek individual analysis and judgement, capable of being assessed independently from the work of others. The student is expected to develop techniques in literature review and information processing.

It is recommended that final year projects should also provide opportunities to utilise appropriate modern technology in some aspect of the work, emphasising the need for technicians to make use of computers and multimedia technology in everyday practice. Design projects can be considered as a final year project.

Design projects shall include well-defined applied engineering problems and design systems, components or processes integrating core areas and meeting specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

8.4 Criterion 4: Students

The quality and performance of students, in relation to the Graduate Attributes is of utmost importance in the evaluation of an engineering technician education programme.

Students intending to pursue engineering technology programmes shall have a good understanding of mathematics and physical sciences. The normal entry qualification may include:

Matriculation Examination or equivalent with at least Credit in three subjects, including mathematics and, science or technical based subjects.

OR

Accredited Certificate in Engineering or Engineering Technology. OR

Recognised related Technical/Vocational/Skills Diploma AND a bridging programme of at least one semester. OR

Matriculation

Related in Technical/ Science Field.

IHLs must put in place the mechanism for credit transfer or exemptions to allow alternative educational pathways. A maximum of 50% of the total credit units is allowed for lateral (horizontal) credit transfer from a similar level programme. A programme shall have clear policies on credit transfer. A maximum 30% of total credit units is allowed for vertical credit transfer from level 3 to level 4 of MNQF.

The programme shall provide the necessary teaching-learning environment to support the achievement of the Programme Educational Objectives and Graduate Attributes. The teaching-learning environment shall be conducive to ensure that students are always enthusiastic and motivated. The IHL shall provide necessary counselling services to students regarding academic, career, financial, and health matters.

Students shall not be over burdened with workload that may be beyond their ability to cope with. Adequate opportunities, such as involvement in co-curricular activities in student clubs, sports and campus activities, shall be provided for students to develop their character apart from academic development.

8.5 Criterion 5: Teaching and Support Staff

It must be demonstrated that the Teaching staff have the competencies to cover all areas of the programme, and are fully aware of the outcome-based approach to education. In addition, Teaching staff shall be sufficient in number and capability to accommodate student-staff interaction, advising and counselling, service activities, professional development, and interaction with practitioners and employers. This is to ensure the quality of the engineering technician programme and the attainment of its stated outcomes. As a guide, a viable engineering technology department would be expected to have a minimum of 8 full-time teaching staff in the particular engineering discipline.

Teaching staff shall have bachelor degrees or higher. However, a staff member with accredited diploma and 5-year industrial/specialist experience with acceptable professional qualifications may be considered. 30% of the lecturers/ instructors must have a professional certification or at least at least TWO (2) years of relevant industrial work experience. If this is not met, the institution should have a staff industrial attachment scheme in place.

The overall competence of the Teaching staff may be judged by such factors as education, diversity of background, industrial experience, teaching experience, ability to communicate, enthusiasm for developing more effective programmes, level of scholarship, and participation in professional societies. The IHL should provide the opportunity to its staff to gain the necessary industrial experience.

The full-time equivalent Teaching staff to student ratio shall ideally be 1:20 or better to ensure effective delivery, student-staff interaction, student advising and counselling, IHL service and research activities, professional development and interaction with industries.

There shall also be sufficient, qualified and experienced technical and administrative staff to provide adequate support to the educational programme. It is recommended that each technical staff shall be in charge of not more than two laboratories.

8.6 Criterion 6: Facilities

The quality of the environment in which the programme is delivered is regarded as paramount to providing the educational experience necessary to accomplish the Graduate Attributes.

There must be adequate teaching and learning facilities such as classrooms, learning support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops, and associate equipment to cater for multi-delivery modes.

Since engineering technician education 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 operating engineering equipment and of designing and conducting experiments. The equipment must be reasonably representative of modern engineering practice. 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. IHLs must ensure that all facilities are maintained and adhere to best practices in safety, health and environment where appropriate.

For programmes offered at multiple or remote locations, facilities must be sufficient to support student learning, equivalent to those provided for on-campus students.

Support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport must be adequate to facilitate students' life on campus and to enhance character building.

8.7 Criterion 7: Quality Management Systems

The IHL and the faculty must ensure that there exists a quality management system to oversee and monitor the overall achievement of the Programme Educational Objectives. These include the controlling, managing, directing, organising and supervising of the overall management system of

the IHL. It must have adequate arrangements for planning, development, delivery and review of engineering technology programmes together with the academic and professional development of its staff.

8.7.1 Institutional Support, Operating Environment, and Financial Resources

The IHL must regard quality engineering technology education as a significant and long-term component of its activity. This would most commonly be reflected in the IHL's vision and mission statements and strategic plans. In addition, institutional support may be reflected in the constructive leadership, adequate policies and mechanisms for attracting, appointing, retaining and rewarding well-qualified staff and providing for their ongoing professional development; and for providing and updating infrastructure and support services. It must ensure that constructive leadership is available to the IHL through the appointment of highly qualified and experienced senior staff in sufficient numbers.

The development of teaching staff, in particular, through opportunities for further education, industrial exposure, as well as research and development, is of utmost importance for the sustainability and quality improvement of the programme.

Opportunities for the development of support staff should also be provided. The IHL shall provide sound policies, adequate funding and infrastructure for this purpose. Financial resources must be adequate to assure the overall quality and continuity of the engineering technology programme. The IHL must have sufficient financial resources to acquire, maintain, and operate facilities and equipment appropriate for the engineering technology programme.

8.7.2 Programme Quality Management and Planning

The IHL's processes for programme planning, curriculum development, and regular curriculum and content review must involve all Teaching staff. The processes include reviewing Programme Educational Objectives and Graduate Attributes, tracking performance assessment processes, reviewing the comments from External Examiners, reviewing feedback and inputs from stakeholders including students and alumni. The process of continual quality improvement shall be implemented with full accountability. For a new programme, the processes surrounding the decision to introduce the programme should be established.

Programme(s) via various modes and at different locations, such as, full-time, franchised, twinning, part-time, distance learning, joint degree and multi campus may be conducted. The IHL awarding the degree shall be responsible for ensuring the quality and management of these programmes.

8.7.3 External Assessment and Advisory System

The IHL shall have an external examiner for each programme to independently review the overall academic standard as shown in Appendix E (External Examiner's Report) of this Manual.

The external examiner is a person of high academic standing in the relevant or engineering technician discipline and preferably with substantial industry experience. The external examiner is expected to carry out the overall assessment of the programme including staff as well as all courses and laboratory work undertaken by the students. Assessment is to be made at least once every two years cycle of programme.

The IHL shall have an industry advisory system for participation by practicing engineers or engineering technologists, and employers of engineer technologists for the purpose of planning and continuous improvement of programme quality. These industry advisors shall be expected to provide inputs and recommendation on an on-going basis through participation in discussion and forums.

The external examiner's report and feedback from industry advisors shall be used for continual quality improvement.

8.7.4 Quality Assurance

A quality management system must be in place to assure the achievement of Graduate Attributes. The IHL shall maintain its quality management system, based on an established quality assurance standard, for example, ISO 9001 Quality Management System, or other quality assurance systems and benchmarking. The quality assurance processes should include, among others:

- (a) Student admission
- (b) Teaching and learning
- (c) Assessment and evaluation which include:
 - examination regulations and criteria for pass/fail
 - preparation and moderation processes
 - level of assessment
 - assessment processes including final year project/industrial training.

9.0 Accreditation Documents

9.1 Introduction

The IHL applying for accreditation must submit documents that provide accurate information and sufficient evidence for the purpose of evaluation. It should not be necessary to develop extensive documentation specifically for accreditation evaluation, since the purpose of accreditation is to evaluate the systems already in place.

For each programme to be accredited, unless otherwise stated, the IHL shall submit the following documents:

- i. Self-Assessment Report (as noted in Section 9.2 of this Manual) – Digital Format
- ii. Supporting Material Document (as noted in Section 9.3 of this Manual) – Digital format including details of the syllabus.
- iii. Appendix F (Checklist of Documents for Accreditation/Approval of New Programme and Relevant Information)

Institutional Documents and Additional Documentation (as noted in Section 9.4) are to be made available during the visit.

9.2 Self-Assessment Report – Hardcopy

A Self-Assessment Report is an account of the IHL's plan, implementation, assessment and evaluation of the programme conducted. It reflects the processes with results obtained used in continual quality improvement at all levels of the programme's activities. This appropriately bound document, ranging between 50 – 100 pages with all pages numbered and a table of contents, shall provide the information and description about the programme to enable the Evaluation Panel to objectively assess the programme for the purpose of accreditation or approval. The emphasis shall be on qualitative description of each aspect and criterion, and how these meet the standards and expectation as set out in this Manual. In other words, this summary document is a form of Self- Assessment of the IHL's programme.

The general structure of the Self-Assessment Report shall follow the guidelines as described in Sections 9.2.1 to 9.2.9 in conjunction with Appendix F of this Manual. Appendix G provides some prescribed formats for the information.

The submission must be comprehensive, easily readable, free standing, and provide a coherent overview with the text addressing each major point in a definitive manner. It must be concise but in sufficient depth and detail in conjunction with the supporting information to appropriately represent the programme. It will not be sufficient to merely provide a collection of disparate items, or point to a web site, and leave the EEAC to find the relevant information. The IHL is

advised to provide accurate information as required by the Accreditation Manual, since the Evaluation Panel will verify the information during the visit.

9.2.1 General

- (i) Provide general information on the IHL and on the specific programme and attach the IHL academic calendar.
- (ii) Provide detailed information on programme history of accreditation (year of accreditation, conditions imposed and actions taken).
- (iii) Describe any self-initiated changes made to programme stating the year the changes were introduced

9.2.2 Programme Educational Objectives

- (i) State the vision and mission of the IHL/ faculty.
- (ii) Describe the Programme Educational Objectives and state where are they published.
- (iii) Describe how the Programme Educational Objectives are consistent with the vision and mission of the IHL/faculty and stakeholders requirements.
- (iv) Describe the processes used to establish the Programme Educational Objectives, and the extent to which the programme's various stakeholders are involved in these processes.
- (v) Describe the process for the periodic review and revision of these Programme Educational Objectives.

9.2.3 Graduate Attributes (GAs)

- (i) List down the Graduate Attributes and state where are they published.
- (ii) Describe how the Graduate Attributes relate to the Programme Educational Objectives.
- (iii) Describe how the Graduate Attributes encompass the outcome requirements of Section 5.0 of this Manual.
- (iv) Describe the processes used to establish and review the Graduate Attributes, and the extent to which the programme's various stakeholders are involved in these processes.
- (v) Describe the data gathered and explain the results of the assessment.
- (vi) Explain how the assessment results are applied to further develop and improve the programme.
- (vii) Describe the materials, including student work and other tangible materials that demonstrate achievement of the Graduate Attributes.

9.2.4 Academic Curriculum

- (i) Discuss the programme structure and course contents to show how they are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Graduate Attributes.
- (ii) Discuss the programme delivery and assessment methods and how these are appropriate to, consistent with, and support the development of the range of intellectual and practical skills and attainment or achievement of the Graduate Attributes.
- (iii) The information required in items (i) and (ii) should include but is not limited to the following:
 - A matrix linking courses to Graduate Attributes to identify the contribution of each course to the Graduate Attributes.
 - Distribution of the engineering technician courses according to broad areas specific to each programme.
 - Distribution of the related non-engineering (general education) courses.
 - Distribution of the courses offered according to semester.

Note: Samples of table formats are available in Appendix G.

9.2.5 Students

- (i) Discuss the requirement and process for admission of students to the programme.
- (ii) Discuss the policies and processes for credit transfer/exemption.
- (iii) Discuss students' performance in relation to Graduate Attributes.
- (iv) Discuss students' workload.
- (v) Discuss students' activities and involvement in student organisations that provide experience in management and governance, representation in education and related matters and social activities.
- (vi) The information required in items (i) to (v) should include but is not limited to the following:
 - The distribution of students' enrolment for all academic years for the past four years (Table 6 in Appendix G).
 - The entry qualifications of final year students of the current semester (Table 7 in Appendix G).

9.2.6 Teaching and Support Staff

- (i) Discuss the strength and competencies of the Teaching staff in covering all areas of the programme, and in implementing the outcome-based approach to education.

- (ii) Discuss how the overall staff workload enables effective teaching, student- staff interaction, student advising and counselling, IHL service and research activities, professional development and interaction with industry.
- (iii) Discuss the sufficiency and competency of technical and administrative staff in providing adequate support to the educational programme.
- (iv) The information required in items (i) to (iii) should include but is not limited to the following:
 - A breakdown in terms of numbers of Teaching staff (full-time, part-time and inter-programme) by year for the past four years (Table 8 in Appendix G).
 - An analysis of all Teaching staff (Table 9 in Appendix G).
 - A summary of the academic qualifications of Teaching staff (Table 10 in Appendix G).
 - A summary of the professional qualifications and membership in professional bodies/societies of Teaching staff (Table 11 in Appendix G).
 - A summary of the posts held by full time Teaching staff (Table 12 in Appendix G).
 - A summary of teaching workload of Teaching staff for the current semester (Table 13 in Appendix G).
 - An analysis of all support staff (Table 14 in Appendix G).
 - A summary of the posts held by support staff (Table 15 in Appendix G).
 - The staff: student ratio by year for all academic years for the past four years (Table 16 in Appendix G).
 - A listing of lecturers/invited speakers from industry/public bodies and their level of involvement.

9.2.7 Facilities

- (i) Discuss the adequacy of teaching and learning facilities such as classrooms, learning-support facilities, study areas, information resources (library), computing and information-technology systems, laboratories and workshops, and associated equipment to cater for multi-delivery modes.
- (ii) For programmes offered wholly or partly in distance mode, or at multiple or remote locations, describe how the facilities provided are equivalent to those provided for on-campus students.
- (iii) Describe the adequacy of support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport in facilitating students' life on campus and enhancing character building.
- (iv) The information required in items (i) to (iii) should be provided in the supporting documents but is not limited to the following:

- A summary, in tabulated form, of the lecture facilities (give number, capacity, and audio video facilities available).
- A summary, in tabulated form, of the laboratories (list down the equipment available in each laboratory).
- A summary, in tabulated form, of the workshops (list down the equipment/machinery available in each workshop).
- A summary, in tabulated form, of the computer laboratories (list down the hardware and software available).
- A summary, in tabulated form, of the other supporting facilities such as the library (list down the titles of books/journals/magazines/standards of relevance to the programme).
- A summary, in tabulated form, of recreational facilities.
- A summary, in tabulated form, of information on recent improvements and planned improvements in these facilities.

9.2.8 Quality Management Systems

- (i) Outline the organisational structure of the IHL as well as the structure within the faculty/department/programme. Discuss the level and adequacy of institutional support, operating environment, financial resources, constructive leadership, policies and mechanisms for attracting, appointing, retaining and rewarding well qualified staff and provision of professional development, and provision of infrastructure and support services to achieve Programme Educational Objectives and assure continuity of the programme. All relevant policies are to be made available during the visit.
- (ii) Discuss the mechanism for the following: programme planning; curriculum development; curriculum and content review; responding to feedback and inputs from stakeholders including industry advisors, students and alumni; tracking outcomes of performance through assessment; responding to External Examiners comments; reviewing of Programme Educational Objectives and Graduate Attributes; and continual quality improvement. Where these are discussed elsewhere in the report, specify their locations. For a new programme, the IHL also needs to discuss the processes surrounding the decision to introduce the programme.
- (iii) Summarise responses to the external examiner's report.
- (iv) Discuss how the quality management system of the IHL provides quality assurance and benchmarking.
- (v) The information required in items (i) to (iv) should be provided in the supporting document and is not limited to the following:
 - Evidence on the participation of teaching staff, support staff and students in the continual quality improvement process.

- Evidence on the development of teaching staff through opportunities in further education, industrial exposure, as well as research and development.
- Policies, internal processes and practices that are in place at all levels within the IHL relating to the seven criteria as stated in Section 8 of this Manual.
- Evidence of the on-going participation of industry advisors in discussions and forums, professional practice exposure, and collaborative projects.

9.2.9 Other Relevant Information

Include additional information which supports the continuing progress and visibility of the programme, such as major research accomplishments.

9.3 Supporting Material Document – Digital Format

This document is to provide supporting material for the programme in digital format (softcopy) as follows:

9.3.1 Supporting Information

Provide additional information on the IHL, faculty/school/department, and programme not provided in the summary material document.

9.3.2 Teaching and Laboratory Support Staff

Provide no more than a two-page CV for each staff member.

9.3.3 Programme Structure and Contents

Provide evidence of the use of tutorials and non-conventional delivery methods such as Problem Based Learning (PBL) techniques alongside traditional lectures.

Provide a summary of the industrial training schemes, and the list of companies involved. Provide and evidence of activities relevant to industry exposure.

9.3.4 Equipment, Software, Title of Books and Journals

Provide a listing of all equipment and software used by the programme including recent additions and planned additions, as well as the supporting title of books, and journals for the programme.

9.3.5 External Examiner and Advisory Board

Provide the external examiner reports and reports/minutes from advisory board meetings.

9.4 Institutional Documents and Additional Documentation to be Made Available During the Visit

The following items, which are evidences to support the information requested in Sections 9.2 and 9.3 above) shall be made available during the visit:

9.4.1 IHL Documents

Provide the Handbook, Calendar supplement, or other official publication relating to the faculty/school/department, and containing the statement of programme details; IHL prospectus; and any other documents that relate to the faculty/school/department, and programme.

9.4.2 Documents Related to Programme Educational Objectives and Outcomes

Provide all relevant documents and evidences related to Programme Educational Objectives and Graduate Attributes (one copy) as follows:-

- (i) Course files – for every course offered by the programme, provide the course information to include the targeted course learning outcomes, a matrix linking course outcomes to Graduate Attributes, course synopsis/syllabus, and a list of references (texts used). Final examination papers complete with answer scheme and graded examination papers with low, medium and high grades are also to be provided. Any information with regard to other learning activities and assessment measures such as projects, quizzes, tutorial questions, assignments, class projects, copies of the course notes (optional), and any other materials used for the course are also to be included. For laboratory courses, provide a copy of the syllabus, experiment instruction sheets, as well as supporting information.
- (ii) Objectives and outcomes assessment instruments – supporting documentation for objectives and outcomes assessment including sample questionnaires, portfolios, survey forms, video recordings, etc.
- (iii) All evidences related to CQI of the programme.
- (iv) Other relevant documents (if any).

9.4.3 Final Project Reports

For sample students, provide a copy of the final project report, instruction sheets, and grade sheets or other evaluations for the project.

Provide the listing of final project titles for the past few years.

9.4.4 Industrial Training Reports

For sample students, provide a copy of the training report, guidelines for the training, reviews by the industry sponsors as well as the faculty mentors.

9.4.5 Laboratory Reports

For sample students, provide a copy of the laboratory reports, instruction sheets, and grade sheets or other evaluations for the project laboratory report.

9.4.6 Quality Assurance Records

Provide minutes and records of action and improvement for meetings of the programme teaching team, Industry Advisory Committee, staff-student consultation forums.

9.4.7 Other Documentation

Provide any other documentation that might help the Evaluation Panel in the assessment of the programme.

10.0 Approval Procedure for a New Engineering Technician Programme

10.1 EEAC's Initial Evaluation

The evaluation procedure at this stage shall comprise the following steps:

(a) Application for Approval to Conduct a New Engineering Technician programme

The IHL intending to conduct a new programme shall obtain approval from the relevant authorities.

The IHL should submit the complete set of documents (refer to Section 9 and Appendix G) to EEAC and MQA (refer to Appendix D for process) for initial evaluation by EEAC. The recommendation from EEAC will be forwarded to the relevant authorities.

When the documents are considered to be inadequate, the IHL shall be required to provide further information before an evaluation is carried out. If the required information is not provided within three (3) month, it shall be deemed that the IHL no longer intends to conduct the programme.

(b) Initial Evaluation

EEAC shall appoint an Evaluation Panel to evaluate the proposed programme.

The evaluation shall cover the following areas:

- i. general awareness of current development in engineering education and engineering practice;
- ii. the stated Programme Educational Objectives and Graduate Attributes;
- iii. the course content;
- iv. the quality of staff, the educational culture;
- v. the teaching facilities;
- vi. the library/resource centre;
- vii. the IHL's quality systems and processes;
- viii. the assessment procedure and examination rules; and
- ix. other related activities.

The evaluation may include a visit to the IHL by the Evaluation Panel.

10.2 Report and Recommendation

The report from the Evaluation Panel shall be submitted to EEAC within 4 weeks after the appointment/visit.

10.3 EEAC's Decision

Based on the evaluation, EEAC may decide on one of the following:

- to recommend approval of the programme to be conducted.
- to recommend conditional approval for the programme to be conducted with the provision that the IHL takes certain actions to rectify all the shortcomings indicated in the report within a specified period as determined by EEAC.
- not to recommend approval.

The recommendation from EEAC is specific to the programme, location and mode of study. Where the same programme is offered by the IHL at different locations and/or via different modes of delivery, the IHL shall make a separate application for each of the programmes.

10.4 Provisional Accreditation

Approved programme will be accorded provisional accreditation by MEngC.

LIST OF APPENDIXES

- Appendix A - Engineering Education Accreditation Committee, Evaluation Panel and Accreditation Appeals Board
- Appendix B - Definition of Well-defined Problem Solving; and Definition of well-defined Engineering Activities
- Appendix C - Flow chart on Application for Accreditation and Approval of Engineering Technician Programmes. Appendix D – Evaluation Panel Report
- Appendix E - External Examiner Report
- Appendix F - Checklist of Documents for Accreditation*/Approval of New Programme and Relevant Information
- Appendix G – Guidelines for Evaluation Panel Samples and Format Submission of Information

Engineering Education Accreditation Committee

EVALUATION PANEL AND ACCREDITATION APPEALS BOARD

1.0 Engineering Education Accreditation Committee (EEAC)

Engineering Education Accreditation Committee (EEAC) is the body delegated by MEngC for accreditation of engineering technology degrees and engineering graduate degrees; within Myanmar.

The Engineering Education Accreditation Committee (EEAC) shall be an independent body for the accreditation of engineering technology programmes.

The policy on accreditation of engineering technology programmes is laid down by EEAC and is subject to changes as deemed necessary by EEAC. Implementation of the policy is the responsibility of the EEAC.

Members of EEAC shall be appointed by MEngC as follows:

- a) A Chairman (nominated by MEngC)
- b) A Deputy Chairman (nominated by MEngC from IHL producing Engineering Technologists and Engineering Technicians or any related body)
- c) 19 members representing each of major branches of engineering technology (e.g. Civil, Mechanical, Electrical, Chemical and Electronics) and each of the constituent organisations nominated by MEngC, learned societies and any related body.
 - a. members nominated by MEngC, of which minimum 2 from IHLs producing Engineering Technologist
 - b. members from relevant learned societies
 - c. members from related Ministries
 - d. member from related government agency
 - e. members from the industry employers of Engineering Technologists and Engineering Technicians in Myanmar
 - f. public representative
- d) Ex-Officio: Registrar of MEngC

Secretary of MEngC

The EEAC shall comprise persons from academic institutions and industries, with a minimum of 50% from industries. In appointing the members of EEAC, MEngC shall maintain a reasonable spread of expertise across various branches of engineering technology disciplines.

The final decision on the membership of the EEAC is with the MEngC.

The terms of reference of the EEAC shall be as follows:

- Formulate and update the accreditation policies and criteria.
- Approve detailed guidelines and operating procedures for accreditation.
- Oversee all operational arrangements, and appoint members of the Evaluation Panel.
- Receive evaluation report on engineering technician education programmes, and decide whether accreditation should be granted or otherwise.
- Establish and maintain a list of local and foreign accredited engineering technology programmes.
- Respond to any complaints or appeals concerning the accreditation process and to any proposals for change.
- Oversee the development and operation of accreditation and mutual recognition of programmes with other countries.
- Keep the MEngC informed of the activities of EEAC and where necessary make recommendations to the MEngC.
- Foster the dissemination of developments and best practices in engineering technology education.
- Advise the MEngC on public statements or representations that should be made in relation to engineering technology education.
- Hold consultation meetings with IHLs as and when necessary.
- Hold meetings at least 6 times per year.

2.0 EVALUATION FOR APPROVAL TO CONDUCT A NEW PROGRAMME

The EEAC shall appoint an evaluator to assess the application. The person should have extensive academic experience and/or industrial experience.

3.0 EVALUATION PANEL FOR ACCREDITATION

The Evaluation Panel shall be appointed by EEAC and normally consists of:

- a Chairperson; and
- two members.

All three members are typically chosen for their broad experience in engineering/engineering technology and their ability to evaluate the generic Graduate Attributes and quality systems. The Evaluation Panel should include at least one member with extensive academic experience, and one member with extensive industry experience. All members must be chosen from fields related to the programme being evaluated.

4.0 ACCREDITATION APPEALS BOARD

The Appeals Board shall be constituted by MEngC. The number of members including the Chairman shall be at least three, comprising of independent members. The Chairman shall be nominated by MEngC among the independent members.

If necessary, the Accreditation Appeals Board may appoint a Special Committee, the members of which must be experienced in the accreditation process, to consider an appeal. Any expenses incurred shall be borne by the IHL making the appeal.

The decision of the Accreditation Appeals Board shall be final.

(a) Definition of Well-Defined Problem Solving

The range of well-defined problem solving as required by the Graduate Attributes in Section 5.0 is defined as follows:

No.	Attribute	Well-defined problems (have characteristic DP1 and some or all of DP2 to DP8)
1	Depth of Knowledge Required	DP1 Cannot be resolved without extensive practical knowledge as reflected in SK5 and SK6 supported by theoretical knowledge defined in SK3 and SK4
2	Range of conflicting requirements	DP2: Involve several issues, but with few of these exerting conflicting constraints
3	Depth of analysis required	DP3: Can be solved in standardised ways
4	Familiarity of issues	DP4: Are frequently encountered and thus familiar to most practitioners in the practice area
5	Extent of applicable codes	DP5: Are encompassed by standards and/or documented codes of practice
6	Extent of stakeholder involvement and level of conflicting requirements	DP6: Involve a limited range of stakeholders with differing needs
7	Interdependence	DP7: Are discrete components of engineering systems
8	Consequences	DP8: Have consequences which are locally important and not far-reaching

(b) Definition of Well-Defined Engineering Activities

The range of **well-defined engineering activities** is defined as follows:

No.	Attribute	Well-defined problems
1	Preamble	Well-defined activities means (engineering) activities or projects that have some or all of the following characteristics:
2	Range of resources	NA1: Involve a limited range of resources (and for this purpose resources includes people, money, equipment, materials, information and technologies)
3	Level of interactions	NA2: Require resolution of interactions between limited technical and engineering issues with little or no impact of wider issues
4	Innovation	NA3: Involve the use of existing materials techniques, or processes in modified or new ways
5	Consequences to society and the environment	NA4: Have consequences that are locally important and not far-reaching
6	Familiarity	NA5: Require a knowledge of practical procedures and practices for widely-applied operations and processes

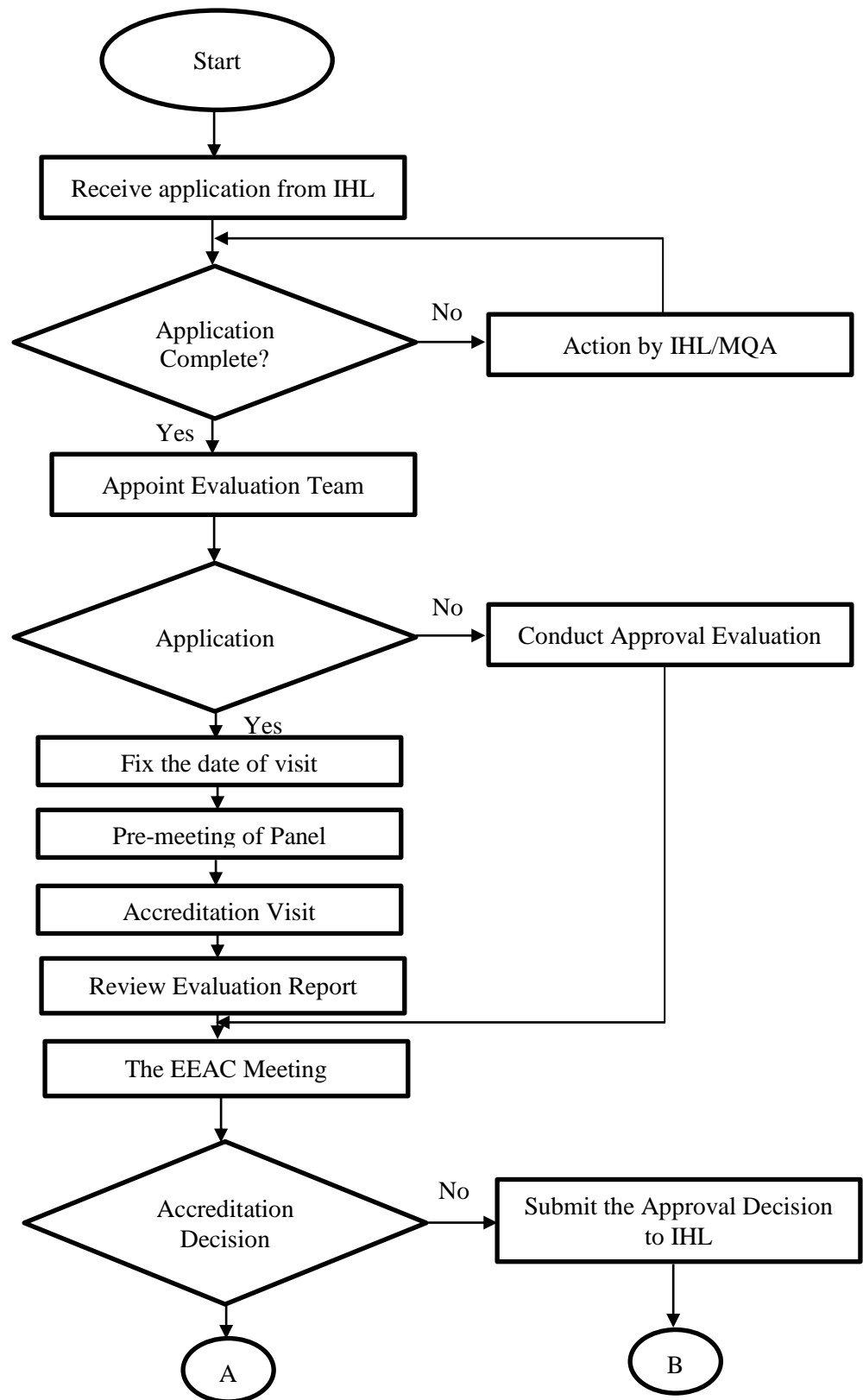
(c) **Knowledge Profile****

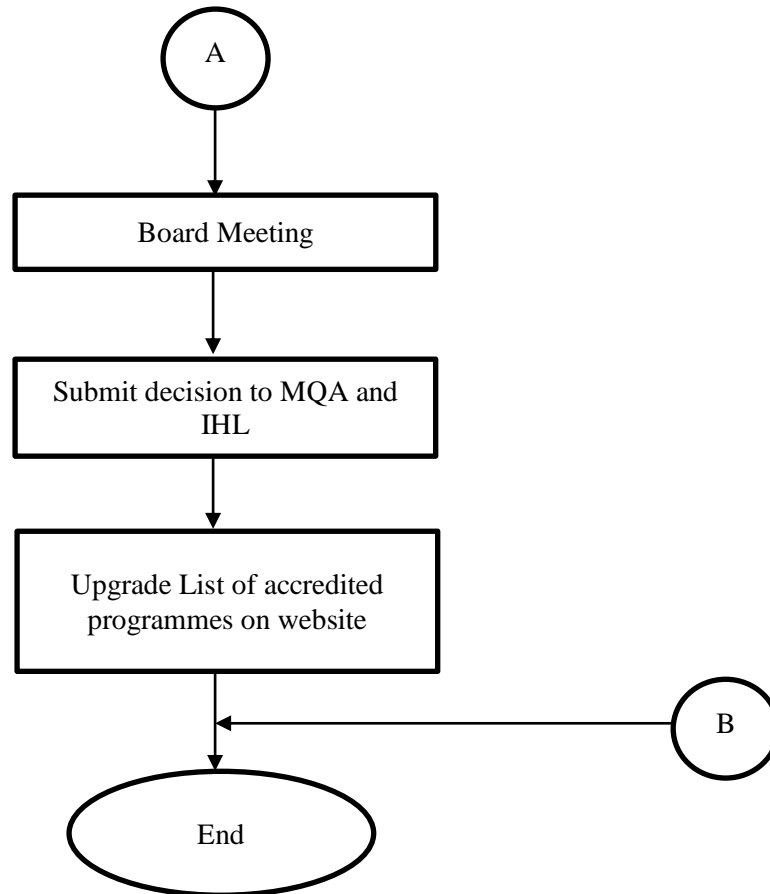
The curriculum shall encompass the **knowledge profile** as summarised in the table below:

** A programme that builds this type of knowledge and develops the attributes listed below is typically achieved in 3 - 4 years of study.

DK1: A descriptive, formula-based understanding of the natural sciences applicable in a sub-discipline
DK2: Procedural mathematics, numerical analysis, statistics applicable in a sub- discipline
DK3: A coherent procedural formulation of engineering fundamentals required in an accepted sub-discipline
DK4: Engineering specialist knowledge that provides the body of knowledge for an accepted sub-discipline
DK5: Knowledge that supports engineering design based on the techniques and procedures of a practice area
DK6: Codified practical engineering knowledge in recognised practice area.
DK7: Knowledge of issues and approaches in engineering technician practice: ethics, financial, cultural, environmental and sustainability impacts

PROCESS FLOW CHART FOR APPLICATION OF ACCREDITATION AND APPROVAL OF ENGINEERING TECHNOLOGY PROGRAMME





Notes:

- 1) a) Application for Recommendation for Approval to conduct an engineering technician education programme is to be submitted before offering the engineering technology programme.

b) Approval to conduct any engineering technician education programme does not guarantee full accreditation. The faculty needs to apply for accreditation of the programme as specified in the Engineering Technician Programme Accreditation Manual.
- 2) For programmes offered outside of Myanmar the EEAC will use the accredited list by the mutually recognised professional engineering body of the home country as a guide

Myanmar Engineering Council

Engineering Education Accreditation Committee

Evaluation Team Report

Name of IHL:

Programme for Accreditation:

General Remarks

A QUALIFYING REQUIREMENTS

1	Minimum 90 SLT credit units of which 60 SLT credit units must be engineering technician subjects	Yes/ No
2	Final year project	Yes/ No
3	Industrial training	Yes/ No
4	Minimum of 8 full-time teaching staff	Yes/ No
5	Teaching Staff: student ratio of 1: 20 or better	Yes/ No
6	External examiner's report	Yes/ No
7	Programme Educational Objectives	Yes/ No
8	Graduate Attributes	Yes/ No

B ASSESSMENT

* Delete where applicable

ASSESSMENT CRITERIA

1 CRITERION 1: PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Comments/Remarks on Programme Educational Objectives: The Evaluation Panel shall comment on the appropriateness of the Programme Educational Objectives as required by Section 4.0 and 8.1 of the Manual.

1.1 General Observations:

--

U = Unsatisfactory, S = Satisfactory, G = Good

Performance Indicators	U	S	G
Statements are well-defined, measurable and achievable			
Statements are well published and publicised			
Clear linkage between Programme Educational Objectives and Graduate Attributes			
Important stakeholders provide inputs in the process			
A documented and effective process, involving programme stakeholders, for the periodic review and revision			

2 CRITERION 2: GRADUATES ATTRIBUTES (GAs)

Comments/Remarks on Graduate Attributes: The Evaluation Panel shall comment on the appropriateness of the Graduate Attributes as well as the Processes and Results as required by Section 5.0 and 8.2 of the Manual

2.1 Observation on Graduate Attributes:

2.2 Observation on Processes and Results:

2.3 Observation on Stakeholders Involvement:

U = Unsatisfactory, S = Satisfactory, G = Good

Performance Indicators	U	S	G
Statements are well-defined, measurable and achievable			
Statements are well published and publicised			
A documented processes for assessing and evaluating the extent to which the Graduate Attributes are being attained has been established			
Results of these evaluations must be systematically utilised as input for the continuous improvement of the programme			
Important stakeholders provide inputs in the process			

Overall Comments/Remarks: *Unsatisfactory/Satisfactory/Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

3 CRITERION 3: ACADEMIC CURRICULUM

3.1 SLT Credit Units

(a) Total number of SLT credit units

	U	S	G
--	----------	----------	----------

(b) Number of SLT credit units for engineering technician subjects

	U	S	G
--	----------	----------	----------

(c) Number of SLT credit units for other related general education subjects

	U	S	G
--	----------	----------	----------

3.2 The Curriculum

- (a) Programme Structure, Course Contents, and Balanced Curriculum
- (b) Programme Delivery and Assessment Methods
- (c) Practice –oriented components
- (d) Final-Year Project/ Design Project
- (e) Industrial Training
- (f) Training in Engineering Practice

Observation	Performance		
	U	S	G
(a)			
(b)			
(c)			
(d)			
(e)			
(f)			

Myanmar Engineering Council

Comments/ Remarks/ Recommendations: *Unsatisfactory/Satisfactory/Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

4 CRITERION 4: STUDENTS

4.1 Students Admission

(a) Entry requirements (Academic)

Observation	Performance		

(b) Transfer Policy/ Selection Procedures/Appropriateness of arrangement of Exemptions from part of the course

Observation	Performance		

4.2 Students Development

Observation	Performance		
(a) Student counselling	U	S	G
Observation	Performance		
(b) Workload	U	S	G
Observation	Performance		
(c) Enthusiasm and motivation	U	S	G
Observation	Performance		
(d) Co-curricular activities	U	S	G
Observation	Performance		
(e) Observed attainment of Graduate Attributes by students	U	S	G

Myanmar Engineering Council

Comments/ Remarks/ Recommendations: *Unsatisfactory/ Satisfactory/ Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

5 CRITERION 5: TEACHING AND SUPPORT STAFF

5.1 Teaching Staff

Observation	Performance		
(a) Number and competency of Teaching staff	U	S	G

Observation	Performance		
(b) Qualification, industrial experience & development	U	S	G

Observation	Performance		
(c) Research/publication/consultancy	U	S	G

Observation	Performance		
(d) Industrial involvement	U	S	G

Observation	Performance		
(e) Teaching load/contact hours	U	S	G

Observation	Performance		
(f) Motivation and enthusiasm	U	S	G

Observation	Performance		
(g) Use of lecturers from industry/ public bodies	U	S	G

Myanmar Engineering Council

Observation	Performance		
(h) Awareness of the Outcome-based approach to education	U	S	G

5.2 Support Staff (Laboratory and Administration)

Observation	Performance		
(a) Qualification and experience	U	S	G

Observation	Performance		
(b) Adequacy of support staff	U	S	G

5.3 Development of Staff

Observation	Performance		
(a) Staff development	U	S	G

Observation	Performance		
(b) Adequacy of support staff	U	S	G

Observation	Performance		
(c) Teaching staff : Student ratio	U	S	G

Comments/Remarks/Recommendations: *Unsatisfactory/Satisfactory/Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

6. CRITERION 6 : FACILITIES

Observation	Performance		
(a) Lecture rooms – quantity provided and quality of A/V	U	S	G
Observation	Performance		
(b) Laboratory/workshop – student laboratory and equipment	U	S	G
Observation	Performance		
(c) IT/computer laboratory – adequacy of software and computers	U	S	G
Observation	Performance		
(d) Library/resource centre – quality and quantity of books, journals, and multimedia	U	S	G
Observation	Performance		
(e) Other supporting facilities	U	S	G

Comments/Remarks/Recommendations: *Unsatisfactory/Satisfactory/Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

7 CRITERION 7: QUALITY MANAGEMENT SYSTEMS

7.1 Institutional Support, Operating Environment, and Financial Resources

Observation	Performance		
(a) Sufficient to assure quality and continuity of the programme	U	S	G
Observation	Performance		
(b) Sufficient to attract and retain well-qualified teaching and support staff	U	S	G
Observation	Performance		
(c) Sufficient to acquire, maintain, and operate facilities and equipment	U	S	G

7.2 Programme Quality Management and Planning

Observation	Performance		
(a) System for programme planning, curriculum development, and regular review of curriculum and content	U	S	G

7.3 External Assessments

Observation	Performance		
(a) External examiner's report and how these are being used for quality improvement	U	S	G
Observation	Performance		
(b) Advisory panel from industries and other relevant stakeholders	U	S	G

7.4 Quality Assurance

Observation	Performance		
(a) System for student admission and teaching and learning	U	S	G

Myanmar Engineering Council

Observation	Performance		
(b) System of assessment and evaluation of examinations, projects, industrial training, etc. including preparation and moderation of examination papers	U	S	G

Comments/Remarks/Recommendations: *Unsatisfactory/ Satisfactory/ Good

Strength	
Weakness	
Concern	
Opportunity for Improvement	

EVALUATION PANEL ASSESSMENT REPORT SUMMARY

Overall Comments/Remarks:

Strength	
Weakness	
Concern	
Opportunity for Improvement	

Date of Visit:

Programme Title:

Faculty:

Full Accreditation (5 years)

Condition(s) to meet/Recommendation for further improvement

Accreditation (1 year/2 years/3 years/4 years/5 years)

Conditions to meet /Recommendation for further improvement

Decline Accreditation

Comments:

Myanmar Engineering Council

Prepared and submitted by Evaluation Panel

- | | | | |
|-------|----------|------------|-------|
| (i) | Chairman | Signature: | _____ |
| (ii) | Member | Signature: | _____ |
| (iii) | Member | Signature: | _____ |

Date:

Myanmar Engineering Council

ACTION BY ENGINEERING EDUCATION ACCREDITATION COMMITTEE (EEAC)

Received Date by the EEAC:

Comments by the EEAC:

(i) _____

(ii) _____

(iii) _____

(iv) _____

Recommendation by EEAC

Concurs with Evaluation Panel

* Yes/No

If not agreeable with Evaluation Panel's recommendation, EEAC recommendations are:

(i) Full Accreditation (5 years)

Condition(s) to meet/Recommendation for further improvement

(ii) Accreditation (1 year/2 years/3 years/4 years/5 years)

(iii) Decline Accreditation

Reasons

(iv) Condition (s) to meet

Reasons

ACTION BY SECRETARIAT

- (i) Date of Transmission of decision to MEngC _____
- (ii) Date of Issue of Accreditation Certificate _____

EXTERNAL EXAMINER'S REPORT

The external examiner's report shall contain but is not limited to the following:

- (i) Assessment of the Programme educational objectives and Graduate Attributes.
- (ii) Assessment of programme curriculum in relation to:
 - objectives and outcomes.
 - course structure and sequence of content.
 - practice-oriented components.
 - teaching-learning methods and delivery modes.
- (iii) Assessment of teaching and support staff quality including qualifications and industry exposure. This is to include assessment of loading of each staff in teaching, research, consultancy and supervision of student projects.
- (iv) Assessment of teaching staff-student ratio and student workload. If found to be not sufficient, corrective action to be taken by the IHL.
- (v) Assessment of preparation process of examination papers i.e. procedures for setting and vetting, quality assurance, confidentiality and security.
- (vi) Assessment of examination papers and marking schemes set for the standard of questions, coverage of syllabus, adequate balance between theory and application, setting of questions of equal level, adequate choice of questions, and appropriateness of marking scheme.
- (vii) Assessment of the marked answer scripts based on a sample of good, average and weak candidates. Fairness/disparity of marking, follow-through method adopted if answer to one section is wrong, response of candidates to the question, and distribution of marks.
- (viii) Assessment of coursework, laboratory work, assignments, design projects, final year projects.
- (ix) Assessment of the major facilities of the programmes.
- (x) Assessment of examination procedures and regulations.
- (xi) Management commitment towards the programme.

ENGINEERING EDUCATION ACCREDITATION COMMITTEE

Checklist of Documents for Accreditation*/Approval of New Programme**

Please tick:

Accreditation

Approval of New Programme

Information Name of IHL:

Programme for Accreditation:

* For accreditation of programme only, please fill out the table below for qualifying requirements:

A QUALIFYING REQUIREMENTS

1	Minimum 90 SLT credit units of which 60 SLT credit units must be engineering technician subjects	YES/ NO
2	Final year project	YES/ NO
3	Industrial training	YES/ NO
4	Minimum of 8 full-time teaching staff	YES/ NO
5	Teaching Staff: student ratio of 1: 20 or better	YES/ NO
6	External examiner's report	YES/ NO
7	Programme Educational Objectives	YES/ NO
8	Graduate Attributes	YES/ NO

Failure to meet any one of the qualifying requirements will mean that the programme shall not be assessed for accreditation, and the process shall stop here and no submission to the EEAC can be made by the IHL. IHLs are advised to ensure all requirements are fulfilled by the programme before reapplying for accreditation.

For Approval of a New Programme, please fill out this Appendix wherever applicable. For new programme, a commitment to the minimum of 8 full time teaching staff and teaching staff:student ratio of 1:15 or better is expected.

INTRODUCTION

* Delete where applicable

A GENERAL INFORMATION

No.	Item	To be filled by the IHL where applicable	Checked by EEAC Secretariat
1	Name of IHL		
2	Address of IHL		
3	Name of Faculty/School/Department		
4	Name and phone number of Staff to be contacted		
5	Programme for Accreditation		
6	EEAC Reference Number		
7	Degree to be awarded and Abbreviation		
8	IIHL awarding the degree: (if different from A1)		
9	Mode of Study [Full-Time/Twinning/Part-time/Others (please specify)]		
10	Duration of Programme (in years)		
11	Medium of Instruction of Programme Evaluated		
12	Language Available for Reference Materials		
13	IHL Academic Session		
14	URL Address; IHL website		

B PROGRAMME ACCREDITATION HISTORY

No.	Aspect	To be filled by the IHL where applicable	Checked by Secretariat EEAC
1	Introduction Year of Programme		
2	Year of last accreditation for this programme		
3	Conditions (if any) from previous accreditation		
4	Action taken on the conditions above		
5	Major changes (self-initiated), reasons and year of changes		

C CRITERIA FOR ASSESSMENT

No.	Criterion	Indicate the sections in the SAR in which this criterion is addressed as per Section 9.0 of the Manual	Checked by Evaluation Panel
1	Programme Educational Objectives		
2	Graduate Attributes		
3	Academic Curriculum		
4	Students		
5	Teaching and Support staff		
6	Facilities		
7	Quality Management Systems		

D OTHER SUPPORTING DOCUMENTS

In the Table below, provide a list of supporting documents available in digital format (in a CD) as per Section 9.3 in the manual.

List of supporting documents available in digital format (in a CD)	Confirmation by EEAC Secretariat
	YES/NO

E INSTITUTIONAL DOCUMENTS AND ADDITIONAL DOCUMENTATION

In the table below, provide a list of institutional documents and additional documentation to be made available during the visit as per Section 9.4 in the manual.

List of institutional documents and additional documentation to be made available during the visit	Confirmation by EEAC Secretariat
	YES/NO

Guidelines for Evaluation Panel Samples and Format for Submission of Information

GUIDELINES FOR EVALUATION PANEL

1. INTRODUCTION

This Appendix serves as a guide to all Evaluation Panel members who are appointed by the EEAC, on their responsibilities and conduct during the accreditation exercise. It must be adhered to strictly in order to ensure consistency between one Evaluation Panel and another in terms of evaluation and final recommendation. The Guidelines have been based on Engineering Education Accreditation Manual 2015.

2. PREPARATION FOR ACCREDITATION VISIT

The Evaluation Panel needs to be aware of the EEAC policies on accreditation as detailed in Section 6 of this Manual.

The Evaluation Panel members shall read the programme documentation carefully, with a view to ensuring that it provides the necessary information sought by the EEAC in the prescribed format.

The Evaluation Panel will assess the accreditation Criteria 1 to 7 criteria based on all the set forth in Section 8 of this Manual. The assessment includes the auditing and confirmation of documents submitted by the IHL. If the documents submitted are not complete, the Evaluation Panel shall request for the additional information through the EEAC.

This *Guidelines for Evaluation Panel* is a useful tool for ensuring that every important aspect of a degree programme and its delivery are assessed and reported on. However, it should be remembered that the aim of the accreditation is to determine whether a degree programme meets the academic requirements of the EEAC.

The Evaluation Panel chair and Evaluation Panel members, either together or separately, should prepare a list of questions for each section of the criteria to be certain that all aspects of the criteria have been addressed. If the IHL does not provide sufficient information, the EEAC should be notified and asked to request the additional information from the IHL. When the information is received, it should be forwarded to the Evaluation Panel chair and Evaluation Panel members. It is highly desirable for the Evaluation Panel to meet face to face and/or communicate by phone and/or e-mail (pre-accreditation visit meeting) regarding issues associated with the evaluation before the final Day (-1) meeting. Issues related to curriculum should have been cleared before the Day (-1) meeting.

3. DURING VISIT

Experience indicates that the success and credibility of an accreditation visit is shaped by:

- the professionalism and *prior preparation* of the Evaluation Panel and the rigour and objectivity of on-site enquiries and the report;
- the quality of feedback provided to the IHL by the Evaluation Panel; and
- timeliness of report to the EEAC.

The visit schedule should allow time for group discussion among all Evaluation Panel members for preliminary feedback and discussion of issues with the Dean and/or Head of the Faculty/School/Department/Programme.

Typical Schedule

Accreditation: Day (-1)

A day before the accreditation visit, the Evaluation Panel chair and Evaluation Panel members should hold a further meeting to finalise their findings and other issues related to the institutional programme to be evaluated. It is also important to review the questions and concerns that they have raised. At this meeting, the Evaluation Panel chair and Evaluation Panel members should discuss the EEAC evaluation criteria and how they apply to the programme being evaluated.

The discussion should include, but not be limited to the following:

- Programme educational objectives and specifications of graduate outcomes
- Whether the development, review and attainment monitoring of graduate outcomes are informed by industry stakeholders
- Whether the outcome specification drives a top-down educational design process
- Whether the academic curricular reflects a professional engineering technology programme, and whether it satisfies the criteria completely
- Whether the learning outcomes and assessment measures within courses systematically track delivery of the targeted graduate outcomes
- Whether the mathematics, chemistry and physics courses are at appropriate levels
- Whether the content of each course is appropriate
- Whether the level of course materials is appropriate
- Whether the courses are built on previous course work
- Whether the teaching-learning process includes appropriate assessment
- Whether the practice-oriented components are appropriate
- Whether the industrial training and project work are at a sufficient level

- Students' standing in terms of their admission standards, academic performance, and industrial training
- The teaching and support staff in terms of their credentials and qualifications, range of competencies, advanced degrees, industrial experience, teaching loads, and their involvement and accountability as an Evaluation Panel member for educational design, review and improvement, etc.
- Whether the facilities are appropriate for the programme and operational; whether there is sufficient laboratory space for the programme, and whether safety is a theme conveyed in the laboratories, etc.
- Whether the quality management system is adequate for the programme
- Whether the external assessment is appropriate, consistent and fair
- Whether the quality loop is properly closed at both programme and individual course levels

These matters should be discussed by the Evaluation Panel to ensure that they are all in agreement with the issues to be investigated during the accreditation visit and that they are used as a basis for finalising proposed questions or themes for questioning during the various visit sessions. A proposed schedule for the evaluation visit is provided below. It should be noted that the objective is to be efficient with the time available, and to ensure that all of the questions and issues are addressed.

Myanmar Engineering Council

Accreditation Visit: Day 1

- 8.30 – 9.00 Evaluation Panel Meeting (Private Session)
- 9.00 – 9.10 Evaluation Panel briefing to the IHL
- 9.10 – 9.30 IHL (Vice Chancellor/Rector/Dean/Head) briefing to the Evaluation Panel
- 9.30 – 10.30 Meetings with Programme head(s) and leadership team to discuss curriculum design and quality system (includes morning tea)
- 10.30 – 12.00 Meeting with teaching staff (schedule to be established the evening before)
- 12.00 – 2.00 Evaluation Panel Meeting (Private Session) to review displayed documents includes a light working lunch)
- 2.00 – 3.00 Evaluation Panel Visit to supporting units and facilities
- 3.00 – 4.00 Meeting with students
- 4.00 – 5.00 Meeting with external stakeholders (employers, alumni, industry advisors/programme advisors) (includes light refreshments)
- 5.00 – 6.00 Evaluation Panel Meeting (Private Session) to discuss issues and to prepare draft report
- 6.00 Return to hotel
- 7.30 – 10.30 Evaluation Panel Working Dinner (Private Session)

Accreditation Visit: Day 2

- 08.30 – 10.00 Evaluation Panel Tour of engineering technology laboratories and associated facilities
- 10.00 – 11.00 Evaluation Panel Review of examinations, course materials and student work (includes morning tea)
- 11.00 – 12.00 Evaluation Panel Meeting with technical/administrative staff (additional meeting with teaching staff and/or students may also be arranged)
- 12.00 – 02.00 Evaluation Panel Meeting (Private Session) (includes a light working lunch)
- 2.00 – 3.00 Evaluation Panel review of quality assurance system and outcome based assessment processes

3.00 – 4.30 Evaluation Panel Meeting (Private Session) to revise draft report (includes light refreshment)

4.30 – 5.00 Exit meeting with IHL Senior leadership team

Throughout the discussions with the administrators, teaching staff, students, and support staff, the Evaluation Panel should confirm that an outcome-based approach to education is progressively being implemented by the IHL. Meetings with alumni, employers, and other stakeholders are important, as this would give an indication of their involvement in the CQI process of the programme.

4. EVALUATION PANEL REPORT GENERAL STATEMENT

It is expected that all IHLs will strive to achieve and maintain the highest standards. Thus, the quality control aspect has to be audited by the Evaluation Panel.

The Evaluation Panel is to evaluate the submitted documents and check on the relevant sections of Appendix F (Checklist of Documents for Accreditation/Approval of New Programme and Relevant Information).

The Evaluation Panel is to prepare a report as per Appendix D (Evaluation Panel Report). Appropriate comments and remarks shall be made based on the assessment, which includes auditing and confirmation of the documents submitted by the IHL.

The Evaluation panel report (Appendix D) shall:

- a) State whether the programme meets EEAC requirements.
- b) Where appropriate, provide constructive feedback (weaknesses and concerns) and note positive elements (strengths). Suggestion for opportunities for improvement should be given in the report.
- c) In the event of adverse comments, provide a judgement as to the seriousness, any remedial action proposed or required, the time frame for the remedial action, and whether accreditation should be recommended, or deferred.
- d) Make clear and unequivocal recommendations to EEAC.

The Evaluation Panel report should be forwarded to EEAC no later than 4 weeks after the visit.

For full accreditation, there should not be any weakness for each criterion (Section 8.1 to 8.7). Up to four (4) years accreditation may be recommended if the programme has several weaknesses (minor shortcomings) and concerns.

Declined accreditation, would be recommended for the programme if there are any major shortcomings and (non-compliances) for any of the criterion. Before proceeding with the

thorough evaluation of the criteria, the Evaluation Panel must ensure that the following qualifying requirements have been met by the programme:

1. Minimum 90 SLT* credit units. A minimum of 60 SLT credit units shall be engineering or engineering technology courses, of which at least 50% should be allocated for practice-oriented components in the technical and specialists areas.
2. Final year project (4-6 SLT credit units)
3. Industrial training (minimum of 16 weeks)
4. Full-time teaching staff (minimum of 8)
5. Staff: student ratio 1: 20 or better
6. External examiner's report (one report over two years)
7. Programme Educational Objectives
8. Graduate Attributes

If any of the requirements above are not complied with, the application for accreditation shall be rejected.

GUIDE FOR PANEL ASSESSMENT AND EVALUATION

The Evaluation Panel will carry out the assessment based on the expectations set forth in Section 8.1 to 8.7 for all the seven criteria. For each criterion, the indicators will be assessed according to the performance level of – **Unsatisfactory**, **Satisfactory**, and **Good**.

The following guide is suggested for the performance level:

Unsatisfactory (U)	The indicator shows that the performance is below the expectation. The student quality may have been impaired.
Satisfactory (S)	The indicator shows that the performance is adequately meeting the expectation. The student quality is not affected or only minimally impaired.
Good (G)	The indicator shows that the performance is above the expectation. The effect on student quality has been good/ excellent.

The Evaluation Panel has to decide on the performance level of each indicator. The overall performance level of each criterion will be decided based on the performance level of all the indicators.

Unsatisfactory – if the majority of the indicators are assessed as Unsatisfactory.

Satisfactory – if the majority of the indicators are assessed as Satisfactory.

Good – if the majority of the indicators are assessed as Good.

CRITERION 1: PROGRAMME EDUCATIONAL OBJECTIVES

Performance Indicators
Statements are well-defined, measurable and achievable
Statements are well published and publicised
Clear linkage between Programme Educational Objectives and Graduate Attributes
Important stakeholders provide inputs in the process
A documented and effective process, involving programme stakeholders, for the periodic review and revision

Myanmar Engineering Council

CRITERION 2: GRADUATES ATTRIBUTES (GAs)

Performance Indicators
Statements are well-defined, measurable and achievable
Statements are well published and publicised
A documented processes for assessing and evaluating the extent to which the Programme Outcomes are being attained has been established
Results of these evaluations must be systematically utilised as input for the continuous improvement of the programme
Important stakeholders provide inputs in the process

CRITERION 3 : ACADEMIC CURRICULUM

Indicators	Expected Performance
SLT Credit Units	
(a) Total number of SLT credit units	The academic programme component must consist of a normally three year duration of full-time-equivalent study with a minimum total of 90 SLT credit units (not including units for remedial courses)
(b) Number of SLT credit units for engineering technology subjects	A minimum of 60 SLT credit units shall be engineering or engineering technology diploma courses consisting of engineering sciences, discipline core courses, design/projects, and industrial training appropriate to the student's field of study
(c) Number of SLT credit units for other related general education subjects	The remaining SLT credit units shall include sufficient content of general education component (such as mathematics, computing, languages, general studies, co curriculum, management, law, accountancy, economics, social sciences, etc.)

The Curriculum	
(a) Programme Structure Course Contents, and Balanced Curriculum	<p>A balanced curriculum shall include all technical and nontechnical attributes listed in the Graduate Attributes, and shall have the balance between the essential elements forming the core of the programme and additional specialist or optional studies (electives). The curriculum shall ensure that about 50% of the face to face time should be allocated for practice-oriented components.</p> <p>The course structure and sequence of content shall be appropriate. Adequate time shall be allocated for each component of the content/course, including for elective courses. Evidence shall be present to show that the contents are being updated to keep up with the scientific, technological and knowledge development in the field, and to meet the needs of society.</p> <p>Electives are strongly encouraged, monitored, and appraised. The proportion of electives shall not exceed the core subjects and shall preferably offer wide options.</p>
(b) Programme Delivery and Assessment Methods	<p>The programme delivery and assessment methods shall be appropriate to, consistent with, and shall support the attainment or achievement of the Graduate Attributes. Alongside traditional methods, other varieties of teaching learning (delivery) modes, assessment and evaluation methods shall be designed, planned and incorporated within the curriculum to enable students to effectively develop the range of intellectual and practical skills, as well as positive attitudes as required in the Graduate Attributes.</p> <p>The assessment to evaluate the degree of the achievement of the Graduate Attributes by the students shall be done both at the programme as well as at course levels. The teaching-learning methods shall enable students to take full responsibility for their own learning and prepare them for life-long learning.</p> <p>Tutorials, group learning, interaction and innovative educational experience are designed to complement lectures. Tutorial and all other delivery approaches are part and parcel of the programme so as to complement the lectures. A tutorial session should preferably not exceed 30 students at any one time.</p>

Myanmar Engineering Council

<p>(c) Practice- oriented components</p>	<p>Engineering or engineering technology diploma programme shall ensure that 50% time should be allocated for practice-oriented components. Students should be able to practise engineering skills to complement engineering theory that is learnt through lectures.</p> <p>Practice-oriented learning experiences should engage students with the use of facilities, equipment and instrumentation reflective of current industry practice which will help in developing competence in executing applied and experimental work. Students should work in groups, preferably not more than four in a group.</p> <p>Throughout the programme, there should be adequate provision for laboratory or similar investigative work, which will develop in the students the confidence to deal with applied engineering problems.</p>
<p>(d) Final-Year Project/Design Project</p>	<p>The final year project, consisting of either industry-based or practice-oriented projects, can provide one of the best means of introducing a real professional approach to engineering studies and practices. For this reason, the use of projects as a vehicle for teaching and for integration of core areas is strongly encouraged throughout the programme.</p> <p>The final year project report shall be checked by the Evaluation Panel. The assessment shall have been done through a systematic manner. The appropriateness of the project topics in relation to the diploma programme is to be monitored. It is proposed that at least 9 reports are to be examined by the Evaluation Panel (3 from the best group, 3 from the middle group and 3 from the poor group). The supervisors of the Projects must be teaching staff members or qualified Engineers from the industry. The place where the projects are conducted should have the facilities to support the projects.</p> <p>The final year project is compulsory for all students and demands individual analysis and judgement, and shall be assessed independently. The student is shown to have developed techniques in literature review and information prospecting. It provides opportunities to utilise appropriate modern technology in the work, emphasising the need for technicians to make use of computers and multimedia technology in everyday practice</p>

Myanmar Engineering Council

(e) Industrial Training	<p>Training in engineering practice will provide first-hand experience in an engineering-practice environment, outside the IHL. Familiarity with all common engineering or engineering technology diploma processes is essential and training at a practical level to a wide variety of processes is required at a level appropriate to the students. Whilst it is clearly desirable for students to be properly trained for the skills involved, the central aim is to acquire craft skills. Clearly, many of the latest processes and large scale or costly operations can only be the subject of observation or demonstration, and visits to engineering works may be helpful in many such cases.</p> <p>Industrial training is a key component of learning in an integrated academic curriculum. Due to its importance, the programme shall have a minimum of 16 weeks and a maximum of 1-year industrial training for each student. IHL shall put a strenuous effort to assist all students to gain placements of suitable quality.</p>
(f) Training in Engineering Practice	<p>Training in engineering practice shall also be integrated throughout the curriculum as it is a key. In addition, exposure to professional engineering practice may also be obtained through activities as listed on page 16 of the Manual.</p>

CRITERION 4: STUDENTS

Indicators	Expected Performance
Students Admission	
(a) Entry requirements (Academic)	The entry requirement to the programme shall be evaluated to ensure that the students accepted have the minimum qualifications required for training and education as an engineering technician.
(b) Transfer Policy/Selection Procedures/ Appropriateness of Arrangements for Exemptions from part of the course	IHLs must put in place the mechanism for credit transfer and exemption to allow alternative educational pathways. A maximum of 50% of the total credit units is allowed for lateral credit transfer from a similar level programme. However only 30% is allowed for credit exemption from diploma level to degree level. A programme shall have clear policies on credit transfer.

Myanmar Engineering Council

Students Development	
(a) Student Counselling	IHLs shall monitor and evaluate student performance, advice and counsel students regarding academic and career matters, as well as provide assistance in handling health, financial, stress, emotional and spiritual problems.
(b) Workload	Students shall not be over-burdened with workload that may be beyond their ability to cope with. An optimum credit units per semester shall be between 17-18 SLT credit units.
(c) Enthusiasm and Motivation	The teaching-learning environment shall be conducive to ensure that students are always enthusiastic and motivated.
(d) Co-curricular activities	IHLs shall also actively encourage student participation in co-curricular activities and student organisations that provide experience in management and governance, representation in education and related matters and social activities.
(d) Observed attainment of Programme Outcomes by students	The Evaluation Panel is to get a first-hand feel of the students' achievement of the Graduate Attributes by interviewing and observing them at random as well as going through random samples of student's work.

CRITERION 5: TEACHING AND SUPPORT STAFF

Indicators	Expected Performance
Teaching Staff	
(a) Number Competency Teaching staff and of	It must be demonstrated that the teaching staff have the competencies to cover all areas of the programme, and are fully aware of the outcome-based approach to education. In addition, teaching staff shall be sufficient in number and capability to accommodate student-staff interaction, advising and counselling, service activities, professional development, and interaction with practitioners and employers. This is to ensure the quality of the engineering technology programme and the attainment of its stated outcomes. As a guide, a viable engineering technology department would be expected to have a minimum of 8 fulltime teaching staff in the particular engineering discipline.

Myanmar Engineering Council

(b) Qualification, industrial experience & development	Teaching staff shall have bachelor's degrees or higher. However, a staff member with diploma and 5-year industrial/specialist experience with acceptable professional qualifications may be considered. 30% of the lecturers/instructors must have a professional certification or at least TWO (2) years of relevant industrial work experience. If this is not met, the institution should have a staff industrial attachment scheme in place.
(c) Research/publication/consultancy	Teaching staff members should be given opportunities to conduct research. The IHL should have provision for research grants for the staff members. Research Output includes recent publication in conferences/refereed journals and patents.
(d) Industrial involvement	The Evaluation Panel is to assess whether the staff members are involved in appropriate consultancy and industrial jobs.
(e) Teaching load/contact hours	Average teaching load (teaching hours per week): < 12 hours (good), 12 – 15 (satisfactory), >15 (Unsatisfactory).
(f) Motivation and enthusiasm	The Evaluation Panel is to have a separate meeting with faculty staff members to assess their motivation and enthusiasm.
(g) Use of lecturers from industry/public bodies	The Faculty is encouraged to invite engineers from industry and professional bodies to deliver seminars/lectures/talks to students. However, this is not meant as a replacement of full-time staff members for teaching purposes.
(h) Awareness of the Outcome-Based approach to education	The Evaluation Panel is to assess staff awareness of the Outcome-Based approach to education.
Support Staff (Laboratory and Administration)	
(a) Qualification and experience	Certificates, diplomas and degrees in the relevant areas: >80% of staff (Good) 60-80 (Satisfactory) < 60 (Unsatisfactory)

Myanmar Engineering Council

(b) Adequacy of support staff	<p>There shall also be sufficient, qualified and experienced technical and administrative staff to provide adequate support to the educational programme. It is recommended that each technical staff shall be in charge of not more than two laboratories.</p> <p>1 Laboratory Staff Member to 1 Laboratory: Good 1 Laboratory Staff Member to 2 Laboratories: 60-80% Satisfactory</p>
Development of Staff	
(a) Staff development	The IHL shall systematically plan and provide appropriate training, sponsorship for postgraduate studies/ sponsorship for conferences, sabbatical leave etc. for teaching staff. Similarly for support staff, the IHL shall provide the opportunities for them to upgrade their competencies through training and practical exposure.
(b) Staff assessment	The IHL shall incorporate annual assessment of staff performance which takes into account participation in professional, academic and other relevant bodies as well as community involvement. Similarly the IHL shall also establish a working system for evaluation/feedback by students on matters relevant to their academic environment.
(c) Teaching staff: student ratio	<p>The Evaluation Panel shall evaluate the ratio of teaching staff: student for the programme for the last four academic sessions. The following guide shall be used for evaluation.</p> <p>1:18 or poorer - Unsatisfactory 1:20 or poorer 1:15 – 1:10 - Satisfactory 1:15 – 1:20 Better than 1:10 - Good 1:15 or better</p>

CRITERION 6: FACILITIES

Indicators	Expected Performance
(a) Lecture rooms - quantity provided and quality of A/V	<p>There must be adequate teaching and learning facilities such as classrooms, learning support facilities, study areas, information resources (library), computing and information technology systems, laboratories and workshops, and associate equipment to cater for multi-delivery modes.</p> <p>Since engineering technology programme requires substantial practice-oriented learning, sufficient and</p>
(b) Laboratory/workshop - student laboratory and equipment	

(c) IT/computer laboratory - adequacy of software and computers	appropriate experimental and practical facilities must be available for students to gain substantial experience in practice-oriented learning as well as in understanding and operating engineering equipment and of designing and conducting experiments. The equipment must be reasonably representative of modern engineering practice. 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. IHLs must ensure that all facilities are maintained and adhered to best practices in safety, health and environment where appropriate.
(d) Library/resource centre - quality and quantity of books, journals, and multimedia	The IHL is to have sufficient titles of text and reference books, standards and journals to support teaching and research for the programme evaluated. For off- campus/distance-learning mode, the Evaluation Panel should comment on how the learning materials are made available and accessible to the students.
(e) Other supporting facilities	Support facilities such as hostels, sport and recreational centres, health centres, student centres, and transport must be adequate to facilitate students' life on campus and to enhance character building.

CRITERION 7: QUALITY MANAGEMENT SYSTEMS

Indicators	Expected Performance
Institutional Support, Operating Environment, and Financial Resources	
(a) Sufficient to assure quality and continuity of the programme	The Evaluation Panel should examine the evidence provided by the Faculty/ IHL on whether institutional support and financial resources are sufficient to ensure programme quality and continuity. Support from external bodies should be encouraged.
(b) Sufficient to attract and retain well qualified academic and support staff	The Evaluation Panel should examine the evidence provided by the Faculty/IHL on whether the institutional support and financial resources are sufficient for the programme to attract and retain well-qualified academic and support staff. Support from external bodies should be encouraged.

Myanmar Engineering Council

(c) Sufficient to acquire, maintain, and operate facilities and equipment	The Evaluation Panel should examine the evidence provided by the Faculty/IHL on whether the institutional support and financial resources are sufficient for the programme to acquire, maintain and operate facilities and equipment. Support from external bodies should be encouraged.
Programme Quality Management and Planning	
(a) System for programme planning, curriculum development, and regular review of curriculum and content	<p>The Evaluation Panel should concentrate on auditing the implementation of the quality control system. Generally the Evaluation Panel will assess whether there are proper and sufficient policies/rules/regulations/ procedures in the Department/ Faculty or IHL, and whether those systems are implemented.</p> <p>Quality systems such as ISO9000 should be encouraged. Other forms of implementation for quality purposes such as external examiners, board of studies, and benchmarking shall also be evaluated. The established system for the programme shall be evaluated to see the effectiveness of such a system towards improvement of overall programme quality.</p>
External Assessment's Report and Advisory System	
(a) External examiners report and how these are being used for quality improvement	The programme shall appoint an external examiner to assess the overall quality of the programme. The Evaluation Panel shall examine the external examiner's reports and determine whether the recommendations by the examiners have been implemented by the programme to improve overall quality. Assessment is to be made at least once every two years.
(b) Advisory panel from industries and other relevant stakeholders	The IHL shall have an industry advisory system for participation by practicing engineers or engineering technologists, and employers of engineer technologists for the purpose of planning and continuous improvement of programme quality. These industry advisors shall be expected to provide inputs and recommendation on an ongoing basis through participation in discussion and forums.
Quality Assurance	
(a) System for student admission and teaching and learning	The IHL shall establish a working system for student admission as well as teaching and learning.

Myanmar Engineering Council

<p>(b) System of assessment and evaluation of examinations, projects, industrial training, etc. including preparation and moderation of examination papers</p>	<p>The IHL shall establish a working system for examination regulations including preparation and moderation of examination papers.</p> <p>The IHL shall establish a working system for assessment of examinations, projects, industrial training and other forms of learning delivery. The scope of assessment shall be wide enough to cover the achievement of Graduate Attributes.</p>
--	---

Myanmar Engineering Council

FORMAT FOR SUBMISSION OF INFORMATION

TABLE 1 Course to GA Matrix (SAMPLE)

		Link to the GA													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
ENGXXA	Subject 1	X			X						X				
ENGXXB	Subject 2		X	X	X										
ENGXXC	Subject 3	X			X	X	X								
ENGXXD	Subject 4	X		X							X	X	X		
ENGXXE															
ENGXXF															
ENGXXG															
ENGXXH															
ENGXXJ															
ENGXXK															
ENGXXL															

NOTE: Programmes can adopt other approaches and not necessarily adhere to the above table

Myanmar Engineering Council

TABLE 2 Distribution of Courses According to Broad Areas for an Engineering or Engineering Technology Diploma Programme (SAMPLE)

Areas	Course Code	Course	Course Type	Hours					EEAC Equivalent Total Credits
				Lecture	Lab/ Workshop	Project	PBL/ Design	Tutorial	
Broad Area 1	ENGXXA	Subject 1	Core	36				9	3
	ENGXXB	Subject 2	Core	36				9	3
	ENGXXC	Subject 3	Core	36				9	3
	ENGXXD	Subject 4	Core	36				9	3
Broad Area 2	ENGXXE	Subject 5	CE Core	30	8			12	3
	ENGXXF	Subject 6	CE Core	28	8	-		15	3
	ENGXXG	Subject 7	CE Core	28				15	3
	ENGXXH	Subject 8	Elective	28				21	3
	ENGXXJ	Subject 9	Elective	32	8			9	3
Broad Area 3	ENGXXL	Subject 10	Core	14	56			0	4
Broad Area 4	ENGXXM	Subject 11	Core	28				21	3
	ENGXXN	Subject 12	Core	28				21	3
	ENGXXP	Subject 13	Elective	28				21	3
Electives	ENGXXQ	Subject 14	Elective	22	40				3
Total Contact Hours			525	206	0	0	255	76	
Total Equivalent SLT Credit Hours									
Industrial Training	ENG111A	Industrial Training	Core	16 Weeks				8	
Final Year Project	ENG111B	Final Year Engineering Project I	Core	Report					2
	ENG111C	Project II	Core	Report					4
TOTAL CREDITS FOR ENGINEERING COURSES								90	

TABLE 3 List of Elective Courses according to Areas of Field of Specialisation (if applicable)

AREAS	CODE	ELECTIVE COURSES
Broad Area 1		
Broad Area 2		
Broad Area 3		
Broad Area 4		

Myanmar Engineering Council

TABLE 4 Distribution of General Education Course for an Engineering Technology Diploma Programme (Sample)

Areas (EEAC)	Code	Course	Course Type	Hours			EEAC Equivalent Total
				Lecture	Lab/ Workshop	Tutorial	
Applied Science/Maths/Computers	ENG11A	Subject 1	Core	28		28	3
	ENG11B	Subject 2	Core	28		28	3
	ENG21A	Subject 3	Core	28		28	3
	ENG21B	Subject 4	Core	28		28	3
	ENG23A	Subject 5	Core	28	56		4
TOTAL CREDIT HOURS						16	3
Management/Law/Accountancy	ENG241A	Subject A	Core	28		28	3
	ENG341B	Subject B	Elective	28		28	3
	ENG441C	Subject C	Elective	28		28	3
	ENG461X	Subject D	Elective	28		28	3
TOTAL CREDIT HOURS						12	
Communication Skills/Humanities/Ethics	MPW211Y	Subject X		42			3
	MPW213Z	Subject Y		42			3
	MPW214X	Subject		42			3
TOTAL CREDIT HOURS							18
TOTAL CREDITS FOR GENERAL EDUCATION COURSES							43

Myanmar Engineering Council

TABLE 5 Courses Offered (Programme Structure) According to Semester and Total Credit Hours (SAMPLE)

Semester	Code	Courses	Course Type	IHL Credits		SLT Credit Units	
				Engr Related Courses	Non-Engineering	Engineer ing Related	Non-Engineering Related
I	ENG11A	Subject1	Core	3		3	
	ENG12B	Subject2	Core	3		3	
	ENG12C	Subject3	Core	3		3	
	ENG15C	Subject4	Core	3		3	
II	ENG11X	Subjet5	Core	3		3	
	ENG12Y	SubjectA	Core	3		3	
	ENG12Z	SubjectB	Core	3		3	
	ENG13X	SubjectC	Core	3		3	
	MPW21	SubjectD	MQA		3		3
III	ENG21A	SubjectA	Core	3		3	
	ENG22X	SubjectB	Core	3		3	
	ENG23Y	SubjectC	Core	3		3	
IV							
V							
VI							
INTERSS SION	ENG38A	Industrial Training	Core	5		5	
VII							
VIII							
TOTAL SLT							

Myanmar Engineering Council

TABLE 6 **Distribution of Students Enrolment for all Academic Years for the Past Three Years**

<u>YEAR</u>	Year			
	201a/201b	201b/201c	201c/201d	201d/201e
1st Year				
2nd Year				
3rd Year				
Total No. of Students Per Year				

TABLE 7 **Entry Qualification of Final Year Students of the Current Year**

Entry	Number
Matriculation Examination	
Certificate	
Others (credit transfer, etc)	

TABLE 8 Breakdown in Terms of Numbers of Teaching staff (Fulltime, Part-Time and Interprogramme) by Year for all Academic Years for the Past Four Years

TEACHING STAFF	SESSION			
	2015	2016	2017	2018
(a) Total number of full-time staff (including those servicing other programme, staff on study or sabbatical leave & tutors)				
(b) Full-time equivalent of teaching staff servicing other programme				
(c) Teaching staff (on study or sabbatical leave)				
(d) Tutors				
(e) Effective full-time teaching staff = (a)-(b)-(c)-(d)				
(f) Full-time equivalent of teaching staff from other programme servicing this				
(g) Full-time equivalent of part time teaching staff				
Full-Time Equivalent Teaching staff (FTES) Contributing to Staff: Student Ratio = (e)+(f)+(g)				

Notes :

If an teaching staff member is involved in teaching more than one programme (including off campus and distance learning), then the full-time equivalent of that particular staff has to be calculated.

For full time equivalent staff calculation, the following can be used as a basis:

One Full-Time Equivalent Staff Member should normally have 15 contact hours (lecture/tutorial/lab supervision/student consultation) per week

\

TABLE 11 Professional Qualifications and Membership

Type of Qualification/Field	Number
P.E	
R.S.E	
R.E	
A.E.C	
Etc	

TABLE 12 Post Held by Teaching staff

Post	Number	
	Full Time	Part Time
Professor		
Assoc. Professor		
Sr. Lecturer		
Lecturer		
Tutors		
TOTAL		

Myanmar Engineering Council

TABLE 13 Teaching staff Teaching Workload Summary for the Current Semester

Staff Member (Name)	Part or Full Time or From Other	Courses Taught (Course Code/Credit Hrs.)

TABLE 14 Analysis of all Support Staff

Name	Post Held	Date of First Appointment at the Fac/Sch/Dept	Academic Qualifications/Field of Specialisation/ Institution and Year of Award	Years of Experience	
				Govt/Industry Practice	This Fac/Sch/Dept

TABLE 15 Post Held by Support Staff

Post	Number
TOTAL	s

Table 16 Staff: Student Ratio

SESSION	2015	2016	2017	2018	AVERAGE
RATIO					

