



ACCREDITATION HANDBOOK

Accreditation Unit

Faculty of Engineering
Universiti Malaysia Sarawak

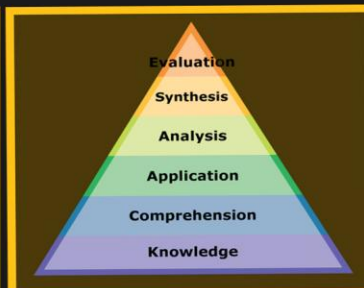


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PREFACE

This handbook is a reference for the faculty, academic and administrative staff on the process and procedures involved in preparing and obtaining accreditation. This handbook also serves as a valuable guide for the faculty to develop an assessment plan in the process of future accreditation.

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GLOSSARY

DEFINITIONS

Board of Engineers Malaysia (BEM) registers graduates and professional engineers under the Registration of Engineers Act 1967 (Revised 2002).

Engineering Accreditation Council (EAC) is the body delegated by BEM for accreditation of engineering degrees. EAC is made up by representatives of BEM, IEM, MQA and JPA.

Self-Assessment Report (SAR) is an account of the university plan, implementation, assessment and evaluation of the programme conducted. It is a reflection on the processes with results obtained used in continual quality improvement at all level of the programme activities.

ACRONYMS

BEM	:	Board of Engineers Malaysia
IEM	:	Institution of Engineers Malaysia
CQI	:	Continual Quality Improvement
EAC	:	Engineering Accreditation Council
MQA	:	Malaysian Qualification Agency
SAR	:	Self-Assessment Report
OBE	:	Outcome-Based Education
JPA	:	Jabatan Perkhidmatan Awam

1.0 INTRODUCTION TO ACCREDITATION

1.1 WHAT IS ACCREDITATION?

Accreditation is a process to ensure that graduates of the accredited engineering programmes satisfy the minimum academic requirements for registration as the graduate engineer with the Board of Engineers Malaysia (BEM) and for admission to graduate membership of IEM.

1.2 WHEN WAS THE LAST ACCREDITATION IN FACULTY OF ENGINEERING?

Programme	Last Accreditation		Next Accreditation	
	Visited Year	Accredited Graduate Year	Visited Year	Targeted Graduate Year
Bachelor of Engineering with Honours (Civil Engineering)	2010	2011 – 2013	2013	2014 – 2018
Bachelor of Engineering with Honours (Electronics and Computer Engineering)	2010	2011 – 2013	–	–
Bachelor of Engineering with Honours (Electronics and Telecommunications Engineering)	2010	2011 – 2013	–	–
Bachelor of Engineering with Honours (Mechanical & Manufacturing Engineering)	2010	2011 – 2013	2013	2014 – 2018
Bachelor of Engineering with Honours (Chemical Engineering)	–	–	2012	2013 – 2017
Bachelor of Engineering (with Honours) Electronic Engineering (Telecommunications)	–	–	2013	2014 – 2018
Bachelor of Engineering (with Honours) Electronic Engineering (Computer)	–	–	2013	2014 – 2018

Note: This table requires a revision following the last accreditation accorded.

1.3 WHAT IS THE FREQUENCY OF THE ACCREDITATION PROCESS?

Accreditation is accorded to a programme for a maximum period of five (5) years.

1.4 WHO ARE THE EVALUATORS?

Panels of evaluators are appointed by EAC to verify the programme in compliance with the accreditation criteria in EAC Manual 2007.

1.5 WHO ARE INVOLVED IN THE FACULTY ACCREDITATION PROCESS?

All staff of the faculty, including:

- Academic staff
- Technical staff
- Supporting staff
- Students
- Stakeholders – Industry Advisory Panels (IAP), Potential Employers, Industrial Training Employers and Alumni

1.6 WHAT ARE THE DOCUMENTS TO BE SUBMITTED PRIOR TO ACCREDITATION VISIT?

- **Self Assessment Report** (Section 8.2 EAC Manual 2007) – Printed Format
- **Supporting Material Document** (Section 8.3 EAC Manual 2007) – Digital Format
- **Appendix C** (Checklist of Documents for Accreditation/Approval of New programme and Relevant Information of EAC Manual 2007) – Printed Format.

1.7 WHEN SHOULD THE CURRICULUM REVIEW BE CARRIED OUT?

There are three cycles available in the curriculum review process which is explained below:

- a) **End-Semester** – The continual quality improvement (CQI) process is required to be implemented in order to continuously improve the quality of teaching and learning of the programme. Course review through Course Teaching Evaluation System, Student Self-Assessment, Peer Review, Dialogue with the Students Representative.
- b) **2 Year Cycle** – Minor curriculum review. The inputs are from Meeting with IAP, Exit Survey, and Industrial Employer Survey.
- c) **5 Year Cycle** – Major curriculum review. The inputs are from Report for External Examiners, Alumni Survey, and Employer Survey.

Note: In reviewing the programme curriculum and syllabus, inputs from engineering accreditation panels, external examiners, industry advisory panels (IAP), students, alumni, potential employers and industrial training employers are considered in order to ensure that the programme provide the best and effective teaching and learning experiences to the students.

1.8 WHERE DOES THE FACULTY KEEP THE ACCREDITATION RELATED DOCUMENTS?

The accreditation related documents are kept as follows:

- Department of Civil Engineering – Consultation Room, Faculty of Engineering
- Department of Electronic Engineering – Meeting Room, Electronic Department
- Department of Mechanical & Manufacturing Engineering – Meeting Room, Mechanical & Manufacturing Engineering Department
- Department of Chemical Engineering & Energy Sustainability – Meeting Room, Chemical Engineering & Energy Sustainability Department
- Digital format of the SAR documents can be accessed through the faculty website (www.feng.unimas.my) using staff network ID and password.

1.9 WHERE CAN I LOOK FOR FURTHER INFORMATION ON ACCREDITATION PROCESS?

- EAC Manual 2007
- Previous Self Assessment Report (SAR) from the following department:
 - Department of Civil Engineering
 - Department of Electronic Engineering
 - Department of Mechanical and Manufacturing Engineering

The listed information can be accessed through the faculty website (www.feng.unimas.my) using staff network ID and password.

2.0 PURPOSE OF ACCREDITATION PROCESS

2.1 WHY IS GETTING ACCREDITATION IMPORTANT?

- Accreditation assures that programme offered by faculty has met quality standards set by the BEM.
- For registration as a graduate engineer with the BEM and for admission to graduate membership of IEM.
- The quality of the graduates to attain the minimum standard comparable to global practice.
- Ensuring the Continual Quality Improvement (CQI) is being practiced in the faculty.

2.2 WHAT ARE THE MINIMUM REQUIREMENTS TO OBTAIN FULL ACCREDITATION?

There are 8 components of the qualifying requirements:

- A minimum of 120 credit hours of which 80 credit hours must be core engineering courses offered over a period of four years
- Final year project (minimum 6 credit hours)
- Industrial training (minimum of 2 months)
- Full-time academic staff (minimum of 8)
- Staff : student ratio 1:25 or better
- External examiner's report (minimum of two reports over four years)
- Programme Objectives
- Programme Outcomes

Refer to Section 7 in EAC Manual 2007 for further interpretation on these components.

MY ROLES AS A LECTURER IN THE ACCREDITATION PROCESS

2.3 WHAT ARE MY ROLES AS A LECTURER IN THE PREPARATION TOWARDS ACCREDITATION?

- To know the importance of accreditation for the particular degree course in the department and must have an in-depth knowledge of the accreditation process as per said in the EAC Manual 2007.
- Able to review the Programme Outcomes (POs) and Programme Educational Objectives (PEOs) and Course Outcomes (COs) that covers the course structures and syllabus.
- Able to familiarize and exercised the OBE approach.
- Able to provide appropriate assessment procedures and guidelines regarding the expected assessment standards.
- Prepare a complete set of course files for the courses taught.
- Able to act as an academic advisor (mentor) responsible in monitoring students' performance and provide guidance on academic matters.
- Able to secure grants and actively involved in joining workshop and participating in local and international conferences as well as publishing the research findings in journals and patents.
- Involved with the industrial projects and/or consultancy work.
- Able to interact with Practitioners and Employers through a visit to the industry when performing Industrial Training visit.
- Must register with Board of Engineer Malaysia (BEM).
- Able to register with Institute of Engineer Malaysia (IEM) and preparing oneself to attain the Professional Engineer status and be active in engineering learned societies such as IEM, IMechE, and IEE.
- Able to understand, comprehend and dictate (when asked by EAC evaluators) fluently the contents of the Self Assessment Report (SAR) for his/her own department.

2.4 WHAT ARE THE DOCUMENTS THAT I NEED TO PREPARE TO HELP THE ACCREDITATION UNIT IN PREPARING THE ACCREDITATION DOCUMENTS?

- Prepare essential course files that consist of:
 - Course Assignment Letter, copy of course plan, lecture notes, students' attendance record, quiz, mid-term and final examinations questions and their sample answer scripts, sample students answer scripts (3 sets of each for the best, average and poor students' marks in the midterm and final examination), students' marks in the End Semester Report (ESR), student survey and other relevant documents stated in the course file's checklist or upon request in kind.
- Record of all conferences/seminars/workshops/training and other professional development activities attended during the targeted accreditation period.
- Record of all the industrial projects and/or consultancy work involvement.
- Record of all research grants secured and their development.
- Prepare the mentor-mentee files in order to monitor the students' academic progress and to assure all students meet all programme requirements.
- Complete academic curriculum vitae (CV) of yourself to further enhance the accreditation documents.

3.0 ROLES OF ACCREDITATION UNIT MEMBERS

3.1 WHAT ARE MY ROLES AS THE MEMBER OF ACCREDITATION UNIT?

- Co-ordinate and monitor the accreditation process for the undergraduate programme in Faculty of Engineering.
- Ensure that each department is revising all accreditation documents from time to time.
- Plan and organized relevant accreditation programme / seminar such as:
 - Talk from Engineering Accreditation Council (EAC) Malaysia;
 - Talk from Quality Assurance Division for MQA.
- Co-ordinate self-assessment report (SAR) for each department.

3.2 WHAT ARE THE DOCUMENTS TO BE COMPILED FOR THE ACCREDITATION VISIT?

- All documents listed in Section 1.6 of this handbook – Printed Format
- Institutional Documents and Additional Documentation (Section 8.4 EAC Manual 2007) – Printed Format

3.3 WHEN DOES THE UNIT START TO COMPILE THE ACCREDITATION DOCUMENTS?

Generally, the unit is NOT preparing the documents; however, the unit will help in monitoring the department in preparation of the documents. Figure 1 shows the process flow chart for accreditation.

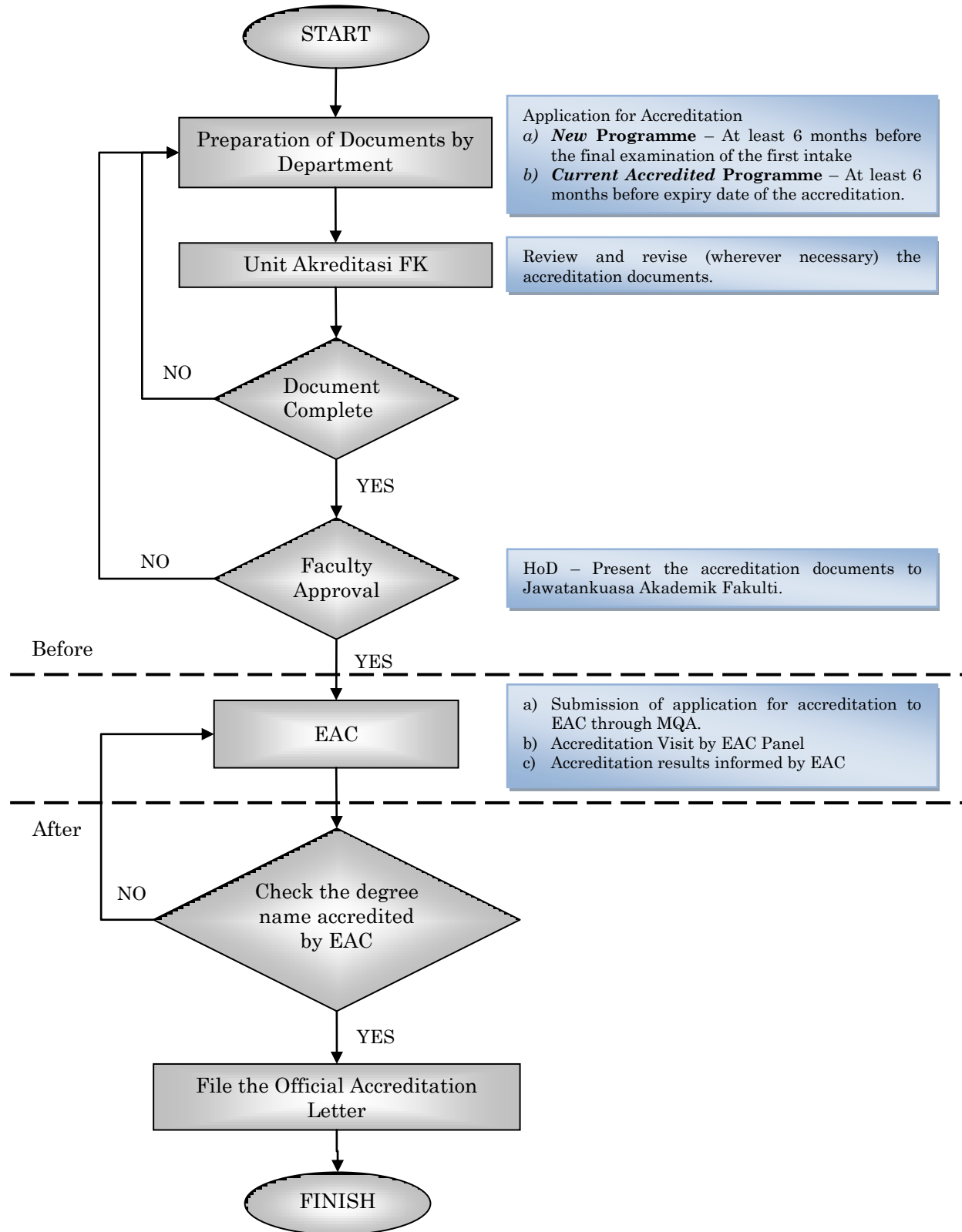


Figure 1 Process Flow Chart for Accreditation

4 APPENDICES

This section compiles all the Circulation related to accreditation process from professional bodies for record and future reference.

- 4.1 **Appendix 1** : Pemakaian Standard Program bagi Bidang Kejuruteraan dan Teknologi Kejuruteraan
- 4.2 **Appendix 2** : Prosedur Permohonan dan Pembayaran Fi Permohonan Perakuan Akreditasi Sementara dan Akreditasi Penuh yang Melibatkan Penilaian oleh Badan Profesional