# A Strategic Plan of Academic Management System as Preparation for EAC Accreditation Visit—From UKM Perspective

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**Abstract**

Development of a robust platform is important to ensure that the engineering accreditation process can run smoothly, completely and the most important is to fulfill the criteria requirements. In case of Malaysia, the preparation for EAC (Engineering Accreditation Committee) assessment required a good strategic plan of academic management system and a systematic documentation process. Academic management system and departmental documentation system must be designed to meet the accreditation requirements on development, evaluation and improvement of the system. These three strategic stages are important in ensuring that the programs offered are correctly executed in supporting demands for industries. By practicing a good management and proper documentation, it will definitely reduce lecturers' workload and ensure quality improvement of their work as professional educators.

**Keywords:** accreditation, academic management system, Outcome Based Education (OBE), quality assurance

## 1. Introduction

Quality assurance has been one of the most important pillars in determining the 'quality' of tertiary education, and especially relevant in the twenty-first century (Gray et al., 2009). At this level, quality of education requires complex structure of administration and management, which is why the implementation and practice of accreditation program is welcomed (Thobega, 2010). The existence of accreditation provides institutions with an approved credibility to their degree programs, which will attract new scholars and graduates who are interested in their researches (Gray et al., 2009). Signed in 1989, Washington Accord (WA) is an international agreement among bodies responsible for accrediting engineering degree programs. It recognizes the substantial equivalence and accreditation system of programs accredited by those bodies and recommends that graduates of programs accredited by any of the signatory bodies be recognized by the other bodies as having met the academic requirements for entry to the practice of engineering (Washington Accord, 2007). This is one of the most recognized global consortiums for an engineering education. Other noted international consortiums include Dublin Accord 2002, Sydney Accord 2001 and European Accredited Engineer Project 2005 (Memon et al., 2009).

Listed below are countries with the year obtaining full rights signatories participating in the Accord; qualifications being recognized by members signatories as being substantially equivalent to accreditation within its own jurisdiction.

- Australia–Represented by Engineers Australia (1989)

- Canada–Represented by Engineers Canada (1989)

- Chinese Taipei–Represented by Institute of Engineering Education Taiwan (2007)

- Hong Kong China–Represented by The Hong Kong Institution of Engineers (1995)

- India–Represented by National Board of Accreditation of All India Council for Technical Education (2014) (Applies only to programmes accredited by NBA offered by education providers accepted by NBA as Tier 1 institutions.

- Ireland–Represented by Engineers Ireland (1989)

- Japan–Represented by Japan Accreditation Board for Engineering Education (2005)
- Korea–Represented by Accreditation Board for Engineering Education of Korea (2007)
- Malaysia–Represented by Board of Engineers Malaysia (2009)
- New Zealand–Represented by Institution of Professional Engineers NZ (1989)
- Russia–Represented by Association for Engineering Education of Russia (2012)
- Singapore–Represented by Institution of Engineers Singapore (2006)
- Sri Lanka–Represented by Institution of Engineers Sri Lanka(2014)
- South Africa–Represented by Engineering Council of South Africa (1999)
- Turkey–Represented by MUDEK (2011)
- United Kingdom–Represented by Engineering Council UK (1989)
- United States–Represented by Accreditation Board for Engineering and Technology (1989)

On the other hand, countries holding provisional status have been identified as having qualification accreditation or recognition procedures that are potentially suitable for the purposes of the Accord; those organizations are further developing those procedures with the goal of achieving signatory status in due course; qualifications accredited or recognized by organizations holding provisional status are not recognized by the signatories (Adamu, 2012; Sthapak, 2012). As per the provisions of the Washington Accord, a country becomes eligible for full-fledged membership after two years of provisional membership. Below are list of countries with provisional status:

- Bangladesh–Represented by Board of Accreditation for Engineering and Technical Education
- China–Represented by China Association for Science and Technology
- Pakistan–Represented by Pakistan Engineering Council
- Peru–Represented by ICACIT
- Philippines–Represented by Philippine Technological Council

## 2. OBE Educational Program

The accreditation of engineering program is generally judged with respect to the defined educational objectives and outcomes. Each program must have defined outcomes in producing graduates with certain skills and abilities to meet the needs of stakeholders (UNESCO, 2007). Each program must also have assessment in place for continuous improvement and properly documented results. Such educational program is also known as outcomes based education or OBE. The implementation of outcome based education hence became an important backbone and the strength of engineering education in Malaysia. The curriculum is one of the most crucial aspects that need to be planned systematically and aligned with the current industrial and academic needs (Chowdhury et al., 2013).

## 3. Benefit of Joining Washington Accord (WA)

A permanent membership would mean that the institutions' undergraduate engineering programs will be recognized on par with US, UK, Japan, Australia, Singapore and 10 other countries(WA websites) countries. Permanent membership of Washington Accord, which was awarded in 2009, will benefit thousands of students from more than hundreds of engineering programs offered by colleges in this country. Some of the benefits obtained through this recognition are:

- **Quality**–The program will be standardized and internationally recognized such that it will help to improve the quality and accreditation standard of an engineering education. It also creates competitiveness between engineering programs among the universities.

- **Mobility**–Enlarging the marketability of students. The Accord will increase the global mobility of Malaysian engineers. Malaysia should not worry about brain drain as we have huge demand and also meet the increase of enrollment from some other countries.

- **High degree of study opportunity**–With this Accord, it will be easier for Malaysian engineers to further their educational and career journey in this country. Permanent membership will also facilitate faculty exchanges, international collaboration and joint-research work.

- **Standard**–It will establish the 4-year bachelor of engineering degree offered by Malaysia's university and

regarded as accredited institutes equivalent to similar degrees offered in 13 other permanent member countries signing the Accord.

## 4. Motivation

Accreditation usually requires higher workloads, extra meetings and tedious document preparation for the certification process. It is not just a one loop operation but should be done continuously and requires extensive rounds of reviews. Therefore, a new platform needs to be developed, which will involve many people with various hierarchy (referring to the level of management) together with systematic planning and strategies. In this paper we propose one ideal platform that can assist in preparation of self-assessment report and other supporting documents. According to UNESCO 1993, "without a good training and research system at higher education level, no country could assure a degree of progress compatible with the needs and expectations of a society in which economic development is accompanied by building a culture of peace based on democracy, tolerance and mutual respect".

## 5. Academic Management System

Three main domains that should be included in any engineering program are the development on the IHL direction (establishment), evaluation process (assessment) and continuous quality improvement (CQI) efforts. Two targets are set; first being the current target and secondly the future target. The current target is to achieve necessary competency by students at the end of each semester. The future target is deliberately required of alumni to achieve specific competency after the completion of their studies. Both of these targets Program Educational Objectives (PEO) and Program Outcomes (PO) complement each other and are related to fulfill the stakeholders' requirements. PEO is distributed to graduates after they have completed at least 4 years in their respective work field. PO is distributed to current students at the end of each semester during their studies. PO incorporates the knowledge, skills and awareness that need to be attained by students who are graduating with a set of standard criteria to equip them to become successful engineers. Both PEO and PO should be measured and analyzed to find out the achievement level of each program. Any weakness must be improved in stages with proper CQI planning. The measurement processes should be carried out by two different committees. At Faculty of Engineering and Build EnvironmentUKM,UP3 Committee and Student improvement Committees are formed at the department or faculty level. These committees focus on developing communication and database, assessment instruments on data analysis and finally the program design improvements. Some of the activities include monitoring performances, reviewing examiners' comments, and digesting valuable inputs and feedback from alumni, stakeholders and industrial advisory panels (Kahveci et al., 2012).

### 5.1 Program Educational Objectives (PEO)

PEOs are broad and flexible statements that describe what graduates are expected to attain within a few years after graduation (normally 4 years and above) during their personal career. The establishment of PEO is based on the needs of program's constituencies/stakeholders' expectations and interest. PEO is sometimes defined as extraordinary features that differentiate an institution graduates from other graduates' attainment. The domains that are usually used in the PEO statements are sustainability, leadership, ethics, lifelong learning (L3), Malaysian aspiration, economic development, competency, entrepreneurship. In fact, Washington Accord has not fixed the domain in the university PEOs' statement, rather it was determined by the university itself through a systematic and structuredprocess.PEO needs to be documented, published and made known to all interested parties with clearly defined university's mission and vision.

The process of setting PEO will involve three processes which are establishment, assessment and quality improvement. Two methods of assessment can be applied to measure the attainments of alumni which are indirect and direct measurement methods. Direct measurement defines the actual attainment of alumni and this can be achieved by conducting survey. The question must be devised strategically and indirectly to reflect the actual attainment of the alumni.

Meanwhile, the indirect method can be implemented by mapping the PO attainment with PEO. The analysis is done by mapping the PO attainment with respect to PEO. The indirect assessment is important to predict the PEO attainment before the students enter the actual work field before graduation. However, the direct and indirect methods used have to be correlated. Washington Accord has not defined the method of assessment rather than letting the university determine the suitable method to assess the alumni attainment level. A clear linkage between PEO and PO attainment should exist throughout the establishment process and be properly documented.

While mission and vision of a university is permanently fixed for a certain period of time, PEO is more flexible and requires revision in the range of3 to 5 years with the consultation of alumni and the stakeholders. The

domains in the PEO statement must be revised for its relevancy and consistency with the mission and vision. The most important document needs to be prepared is the minute of meeting with stakeholders (normally every 3 years). The deliberation of this meeting and discussion should be recorded as minutes of meetings. Having more and various stakeholder is better in order to have significant demanded domain expressing interest among different groups. In every PEO, domain statement is very important because it determines the direction and the future roadmap of the program. The domain must be congruent with existing PO (proposed by EAC) but not limited to the given framework. The domains of PEO must be specific, measurable, attainable, realistic, and timely. PEO evaluation is done by means of assessment and examining findings based on objective evidences.

In order to strategize the process, a new platform of EAC preparation is highly recommended. PEO needs to be synchronous for every department in the faculty that is handled by a specific committee under the supervision of Vice Dean (Student and Alumni). Alumni liaison committee is also responsible on devising the survey questions, analyzing survey forms and proposing improvement effort in solving and minimizing any discrepancies. Objective development program will involve in the following areas of domain formulation process: Involvement of Stakeholders as strategic partnership, Assessment Process and Tools for achieving PEO, Performance Analysis of PEO and Management Academic CQI. The involvement in establishing, assessment and continuous improvement is important for meeting the targets and stakeholders' interest.

*5.2 Program Outcomes (PO)*

Formulation of the program output must be made clear as per that required in the EAC manual of 12 performance indicators. The program outcomes are very specific to attain certain program outcomes leading to specified program objectives. The graduates should be empowered with the fundamental engineering knowledge. In their early careers, they are likely to engage in technical functions. But as they get more experienced, they often take other responsibilities, which require managerial and social skills. Therefore, engineering education should empower graduates with certain predefined abilities irrespective of their discipline.

PO is the domain that should be included in prospective/graduate engineers. Domains are standard and set by the Washington Accord. In Malaysia, the body in charge of coordinating all accredited engineering program is Board of Engineers Malaysia (BEM) and supported by Accreditation Engineer Department (EAD). There are 12 suggested POs outlined in the manual and disclosure for guidelines. EAC has three major domains of Affective, Cognitive and Psychomotor. All domains must be achieved by the graduates. The institution is responsible for revealing and teaching each of these domains, measuring students' performance, measuring the achievement of PO and exercising for improvement. Every department must have a coordinator who helps the head of the program in managing the evaluation and analysis of PO. For example, the Teaching and Learning Improvement Unit (UP3) coordinator is set in each department under the supervision of the Deputy Dean. All PO results should be reported to the Deputy Dean and discussed in the departmental meeting. Academic Management Center (PPA) has developed a system named SP3P to measure the results of the program and is used throughout the evaluation. The SP3P program is used to measure the PO attainment by every student.

Results of the development program will involve all 12 domains as shown in the EAC Manual 2012. This includes the process of drafting/revision, involvement of stakeholders, PO assessment process and tools used, PO performance analysis, CQI, affective, cognitive and psychomotor domains measurement.

*5.3 Academic Curriculum*

An academic curriculum is monitored by the program coordinator. Coordinator works to ensure that the curriculum offered is up to date and meets the needs of stakeholders. Thus each engineering program must have a benchmark with the programs offered in order to offer better education services. Apart from that, each taught syllabus should also get the attention of stakeholders. The department should conduct an assessment on the course by the industry needs and at least run benchmarks with its programs from leading universities. Department course assessment report should be included as a mandatory document label ABC CBC, partly updates file management and provides the Department with specific 111 Code designated for Accreditation materials to accommodate all minutes of meetings related to the CQI program.

Academic curriculum development involves the following matters namely credit hours, engineering courses and course number, social and community activities, generic skills assessment-rubric, instructional innovation and assessment, PO evaluation system structure, final year project, industrial training, exposure to career and technology engineering, benchmarking and industry review, by mapping out the outcomes to related curriculum activities and course syllabi coverage of the program scope intended.

*5.4 Student*

One of the main accreditation objectives is to equip students with necessary skills that will be crucially needed for their employability. International student mobility in tertiary education has been growing rapidly which stresses the need for quality assurance to be implemented (Hou, 2012). Mutual recognition is important because this provide a standard quality of degree programs. Their abilities can be measured and demonstrated through discussions, technical evaluation, presentation and Q & A conducted during EAC visits (Domingo et al., 2013). There are three groups of students who were evaluated as good, average and poor. During the interviews, the students for any given input are the main source for evaluating the programs and services provided. Focusing on learning outcomes assessment program is to evaluate the programs offered instead of students' performance alone. However, academic achievement can be used to assess student learning outcomes of programs. The basic thing that will determine the maturity of a program is a system of students' development. Student Advancement & Development Committee (SADC) is developed to manage students' progress through classifying, monitoring, and organizing activities to enhance students' progress. EAC will see a list of organized activities carried out and its effectiveness. Although accreditation process is not focusing too deep on it, still it needs to complement the existing well-established academic system. Student Division includes the following areas of Admission, Student Development Program, Student Classification of credit transfer/exemption, schedule workload, and Process and Impact of Student Development Process (e.g. students' organization, activities, social, etc.).

*5.5Academic & Support Staff*

Although the implementation of the accreditation system creates necessary burden to both academic and support staffs, the benefit it serves is worth a lot more than the hardship endured. According to Hidalgo et al. (2011), teachers, students and graduates agree to allow the initiation of accreditation system at their university which has not implemented any equivalent system yet. Different accreditation programs have quite similar structures because they are usually based on a single quality assurance system. For Washington Accord, academic qualifications and competency of lecturers are fixed with minimum of 8 lecturers per program.OBE program approach is development towards increasing number of professional engineers, motivational lectures, and promotional criteria are found imperative in meeting the criteria for accreditation bodies. Apart from the number of technician required to work in each laboratory, staff career development programs, appraisal system and employee welfare, workload are highly praised. This is important in ensuring the academic management system runs properly and to create conducive environment in producing future caliber engineers. Sufficient support on the educational program in technical and administrative staff is necessary. Academic and support staff will see opportunity of development in the following: academic and professional qualifications, experience and development, research, publishing and consulting, industrial attachment, load instruction/clock respect, motivation, visiting lecturer from industry and awareness of OBE.

*5.6 Academic Management System Design*

Management system is an important aspect in practicing accreditation and making sure it is effective in achieving its objectives. A systematic and orderly system will ensure the load is minimized and streamlined (Rhoades & Sporn, 2002). The organizational structure needs to be structured in a systematic way for smooth management flow (Moldovan, 2012). This will eventually increase the competition with other institutions, creating a vast improvement in the degree programs offered. Table 1 shows the tasks to be performed by the appointed person, whereby monitoring and reporting work should be provided. Several committees have been developed and staffed by members of the department to achieve the set objectives. This includes program planning, curriculum development and reviews, inputs and feedback from relevant stakeholders. The academic progress group is being monitored in ensuring that the work done is correct and in line with the requirements of WA.

Table 1. List of tasks in accordance with the EAC plans

| Task | Related parties | Remark | Report |
|---|---|---|---|
| PEO Assessment (Alumni and Employer) | Alumni Liaison Committee | Under Deputy Dean and P&A monitoring | PEO Achievement Report (Alumni and Employer) |
| PEO Achievement analysis | Alumni Liaison Committee | Representative from each Department | |
| PO Assessment (Direct) | SP3P | PPA | Report Analysis |

| PO Achievement Report (Direct) | UP3 Committee | Under Department Head and Deputy Dean P&A | PO Achievement (Direct and Indirect) |
|---|---|---|---|
| PO Assessment (Indirect) | SPPP | PJK | |
| PO Achievement analysis (Indirect) | UP3 Committee | Under Department Head and Deputy Dean P&A monitoring | |
| Optimization, PO Mapping and Determination of Performance Indicators | Program Coordinator | Collaboration with UP3 | |
| Co-curriculum development | Program Coordinator | Under monitoring of Department head | External assessor report, Meeting with industrial panel report, Benchmarking report |
| IAP relations, industry, alumni, external assessor | Program Coordinator | Under monitoring of Department head | |
| Student Performance Improvement (Organizing programs and Data Analysis) | Student Development Committee | Under monitoring of department head | Student Development report |
| Department CQI Meeting | Head of Department, Program coordinator, UP3, JPPel | Special Meeting after grade adjustment | CQI Minutes meeting |
| Coordination of training file and ISO | Head of Quality Assurance | | Internal audit report |
| Capstone Project | FYP Coordinator | Final Year Project | Implementation Working Papers |
| Cornerstone project | EIP Coordinator | System Design | |
| Industrial Training | Industrial training coordinator | Industrial training | Supervisors Report of Industrial Training |
| Laboratory | Laboratory Coordinator | All Laboratories | |
| Facilities | Science Officer | Teaching room | |
| Rubrics & Formative Assessment Coordination | UP3 Committee | Members in UP3 Committee | |
| Summative Assessment Coordination | Chief Coordinator of Examination | Revised Bloom's taxonomy | |
| Department Courses files | Head of Quality Assurance | | Course Assessment Report |
| CQI Monitoring | Head Department | | Meeting Minutes |
| CQI Platform (Reporting) | Department Meeting | | |

## 6. Documentation System

The documents related to the practice and procedure needs to be kept in a safe and easily accessible storage. It requires a mechanism to collect and arrange these documents in certain categories, where they have to be available at every department and monitored by the Head of Quality Assurance Unit, Head of Department and Program Coordinator. Table 2 list down several important reports to be delivered as well as the frequency of submitted their progress activities by each representative involved. Meanwhile, Table 3 shows the list of files containing documents related to the management of department, learning and teaching. The files are named ABC

to preserve the anonymity of the sample institution.

Table 2. Report to be prepared at each level and the responsible parties

| Course | | | |
|---|---|---|---|
| Course assessment report | Course files | Every semester | Lecturer |
| Teaching and Learning Improvement Report (B1) | Department CQI files | Every semester | Lecturer |
| Student | | | |
| Student Monitoring Report (CGPA <2.5) | Department CQI files | Every semester | JPPel |
| Program Outcomes (PO) | | | |
| PO Analysis Achievement Report (Direct and Indirect)) | Department CQI files | Every Semester | UP3 |
| External Assessor Report | Dept CQI files | Every 2-3 years | Program Coordinator |
| Supervisory panel report on industrial training (LI) | Dept CQI files | Every year | LI Coordinator |
| Curriculum review report (Industrial) | Dept CQI files | Every 3 years | Program Coordinator |
| Benchmarking report | Dept CQI files | Every 3 years | Program Coordinator |
| Program Educational Objectives (PEO) | | | |
| Alumni Achievement Report | Dept CQI files | Every 3 years | Alumni Relations Committee |
| Stakeholders Assessment Report | Dept CQI files | Every 3 years | Alumni Relations Committee |

Table 3. List of files containing administration documents

| No | File reference No. | File name |
|---|---|---|
| AUDIT - 13 | | |
| 1. | ABC 1.18.4/13/x | Audit |
| POST GRADUATE - 105 (*By Course*) | | |
| | ABC 1.18.4/105/x | Examination |
| | ABC 1.18.4/105/x | Examiner Committee Meeting (viva) |
| | ABC 1.18.4/105/x | Masters of Engineering Program |
| COMMITTEE MEETING - 111 | | |
| | ABC 1.18.4/111/x | FKAB Curriculum Commitee Meeting (Faculty Course Review Workshop; PEO & PO) |
| | ABC 1.18.4/111/x | Departmental Curriculum Commitee Meeting (Curriculum Review Workshop) |

| ABC 1.18.4/111/x | Accreditation Commitee Meeting (Alumni Relations Commitee; Benchmarking Commitee; Curriculum Review Commitee; Organizing Commitee with Industry Commitee ) |
|---|---|
| ABC 1.18.4/111/x | Materials related to Accreditation (Meeting with IAP, Industry and Alumni; External examiner report; Benchmarking report, etc) |
| ABC 1.18.4/111/x | Quality Assurance Division Commitee Meeting (QAD) |
| ABC 1.18.4/111/x | UP3 (Teaching,Improvement and Learning Units) (PO Analysis Achievement ; PEO AnalysisAchievement ) |
| ABC 1.18.4/111/x | CQI (Continuous Quality Improvement ) (Course and program improvement level, Form B1) |

### RECOGNITIONS / AWARDS (Quality) - 158

| ABC 1.18.4/158/x | Recognitions / Awards (Quality) (Student and Staff e.g Student Awards Nominees, Competition prizes) |
|---|---|

### MEETING - 204

| ABC 1.18.4/204/x | Department Meeting |
|---|---|
| ABC 1.18.4/204/x | Departmental (Undergraduate) Grade Moderation Meeting |
| ABC 1.18.4/204/x | Departmental (Post Graduate) Grade Moderation Meeting |
| ABC 1.18.4/204/x | FKAB (Undergraduates) Board of Examiners Meeting |
| ABC 1.18.4/204/x | FKAB (Post Grads) Board of Examiners Meeting |

### STUDENTS (Undergraduate) - 207

| ABC 1.18.4/207/x | Course / Subject – Credit transfer |
|---|---|
| ABC 1.18.4/207/x | Course / Subject - Teaching files |
| ABC 1.18.4/207/x | Examination |
| ABC 1.18.4/207/x | Examination ( Marks / Grade ) – Work Instruction (Combined) |
| ABC 1.18.4/207/x | Bachelor of Engineering Program |
| ABC 1.18.4/207/x | (UDE/ABC ) Program |
| ABC 1.18.4/207/x | Student Development  (Student Development matters e.g Meeting with Student Representative, Reminder Letters) |
| ABC 1.18.4/207/x | Visiting / Activities (Technical Visit) |

### CIRCULATIONS - 224

| ABC 1.18.4/224/x | Vice chancellor circulations |
|---|---|
| ABC 1.18.4/224/x | Registrar (Academic) circulations |
| ABC 1.18.4/224/x | Gen. circulations-JPM |
| ABC 1.18.4/224/x | Vice Chancellor circulations |
| ABC 1.18.4/224/x | Deputy Vice chancellor circulations |
| ABC 1.18.4/224/x | General staff circulations |
| ABC 1.18.4/224/x | Treasury circulations |
| ABC 1.18.4/224/x | Academic Division circulations |
| ABC 1.18.4/224/x | Library circulations |
| ABC 1.18.4/224/x | Public circulations |

**Courses - 159**

| 1. | ABC1.18.3/159/x | General (ISO; Stress Management; Workplace motivation) |
|---|---|---|
| 2. | ABC1.18.3/159/x | Academic Staff |
| 3. | ABC1.18.3/159/x | Supporting staff |
| 4. | ABC1.18.3/159/x | Graduates (Technical Talk, Motivation Talk, Career Talk) |

**Board -179**

| 1. | ABC1.183/179/x | Board Members of School/ Department (Biography/CV, IAP; Appointment letter) |
|---|---|---|

*Note.* Documents related to Industrial training and Final Year Project will be managed and kept by Program Coordinator Committee.

## 7. CQI Cycles of the QEP

This matter can be understood easier by looking at a sample institution. A selected Faculty of Engineering and Built Environment has established a quality enhancement plan (QEP) which involves procedures for the assessment and evaluation of PEOs, POs and COs. The plan is in accordance with the university's educational quality assurance processes and procedures which were approved by the University Senate in April 2011.Figure 1 illustrated the flow process of documentation are being gathered and processed from one stage to another. CQI progress held once every end of semester cycle, and all new inputs are strategically discussed in main Department Meeting. The assessments are scheduled at different cycles in view of continually improving the quality of the programs. Figure 2 shows the CQI cycles of the QEP for PEOs, POs and COs assessment to be implemented by each program. For each cycle, inputs from various parties are analysed by the relevant committees in the department to assess the achievement of the PEOs, POs and COs. Outputs from each assessment at each cycle are utilised by the department in identifying any issue that needs rectifications or improvement. The department will then outline the necessary plan of actions and table them to the faculty management meeting for their endorsement. Stakeholders that include the industries, alumni, students are involved in the assessment exercises to ensure their views are given due consideration when implementing

improvements to the programs.

In general, the current process for evaluation and assessment of the program is composed of three loops; a PEO loop (time-scale of approximately 3-5 years), a PO loop (time-scale of approximately 1 year) and CO loop (time-scale of approximately six months). Each of the loops involves specific, independent and periodic assessment methods which interact to form the overall program evaluation process.

The assessment methods are scheduled at three different assessment cycles; six month cycle, one year cycle and three to five years, as described below:

•   Six month cycle–Course assessment

•   One year cycle–Program assessment

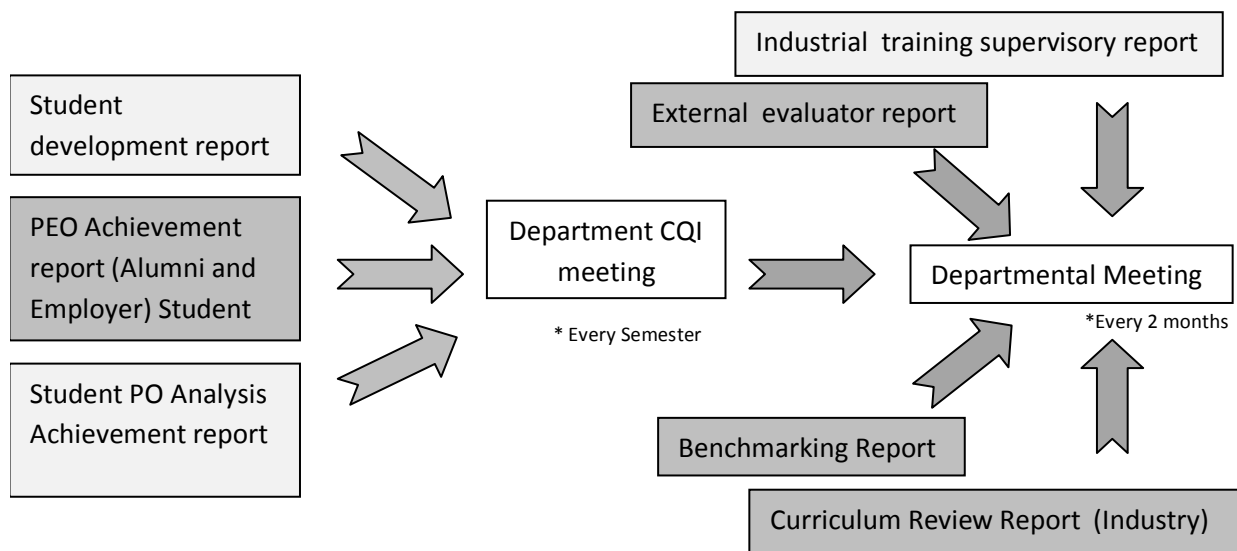•   Three to five years cycle–Performance assessment of the program



Figure 1. Report for each developing unit to facilitate monitoring purposes

*Need to be monitored and supervised by Department Head and supported by Program Coordinator
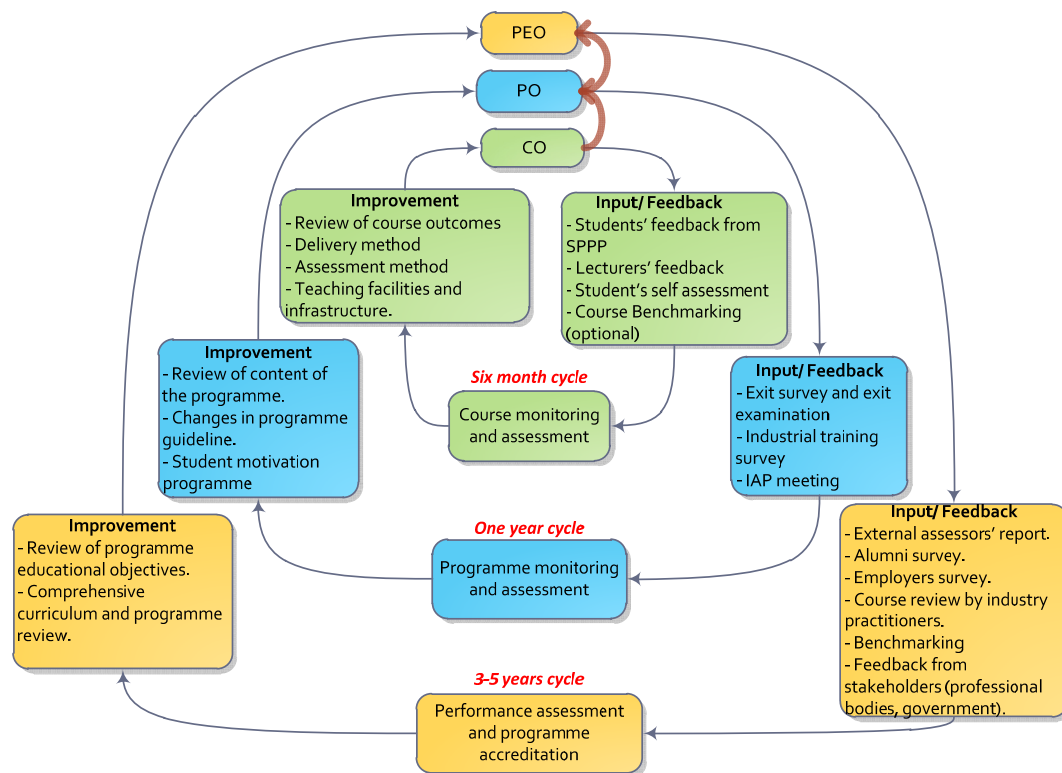
Figure 2. CQI cycles of the Quality Enhancement Plan (QEP)

**8. Conclusion**

Three main criteria that will be observed during the EAC visit are (1) A Strategic Planning of Academic Management System (2) A systematic flow of the process with complete documentation system (3) Good level of OBE awareness and practices among lecturers. The quality management office currently has drafted a new system which embarks the EAC requirement with the current management practices to improve the existing academic QMS. With a much more structure and systematic system, the process of accreditation can run smoothly and without mush hassle. At the same time, we hope that this effort will reduce the workload and at the same time improve the institution's educational quality system. Table 4, summarize crucial processes that needs to be highlighted during EAC accreditation visit. The process comes to compensate and simplify the significant activities towards improving the system.

Table 4. Crucial processes in accreditation

| EAC Component | The important Criteria |
|---|---|
| PEO | Establishment |
| PO | Assessment and CQI |
| Academic Curriculum | Mapping and Actual Assessment (Formative and Summative Assessment) |
| Student | Attributes and Advancement Program |
| Academic Staff | OBE implementation |
| Facilities | Sufficiency and Motivation |
| QMS | Implementation and Monitoring |

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