



# OUTCOME BASED EDUCATION (OBE)

- H A N D B O O K -



# **OUTCOME BASED EDUCATION (OBE) HANDBOOK**

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# **OUTCOME BASED EDUCATION (OBE) HANDBOOK**

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# TABLE OF CONTENTS

| TITLE  | PAGE |
|--|------|
| FROM THE DIRECTOR  | i    |
| PREFACE  | ii   |
| LIST OF GLOSSARIES   | iii  |
| LIST OF FIGURES  | iv   |
| LIST OF APPENDICES   | v    |
| 1. PTSB VISION AND MISSION   | 1    |
| 2. INTRODUCTION OF OUTCOME BASED EDUCATION (OBE)                                       | 2    |
| 3. OBE CURRICULUM  | 6    |
| 4. OBE TEACHING AND LEARNING   | 12   |
| 5. OBE ASSESSMENT  | 19   |
| 6. OBE CONTINUOUS QUALITY IMPROVEMENT (CQI)  | 23   |
| 7. STEPS TOWARDS THE OBE   | 33   |
| REFERENCES   | 35   |
| APPENDIX A: PROGRAMME EDUCATIONAL OBJECTIVES (PEO) & PROGRAMME LEARNING OUTCOMES (PLO) | 37   |
| APPENDIX B: RUBRICS  | 58   |
| APPENDIX C: FORM   | 65   |



## FROM THE DIRECTOR

Assalamualaikum warahmatullahi wabarakatuh.

All praise to Allah SWT, for His grace and guidance. Outcome-based Education is a learning process and approach that focuses on learning outcomes which are knowledge, skills and values to be achieved by each student before and after graduation. As a TVET institution, this approach is significant as it is measured students' attainment by different level of outcomes, i.e. Course Learning Outcome (CLO) which will be measured by end of semester, Programme Learning Outcome (PLO), measured by end of programme and Programme Education Outcome (PEO), measured 3-5 years after graduation.

This handbook is published as a major reference to lecturers, students as well as other staffs to help them understand the concept of OBE better. It replicates our seriousness in ensuring that OBE practiced in PTSB is in line with the requirements of programme accreditation from professional bodies in Malaysia.

I would like to congratulate the PTSB OBE unit who has successfully published this handbook. The content of this handbook obviously can benefited all staffs to ensure that OBE system will always on the right track. The implementation of OBE is crucial to ensure all programmes offered in PTSB meet the accreditation standards as a TVET institution.

Lastly, it is hoped that this handbook will meet its objective as a main reference for staffs to improve and expand their knowledge on OBE system and be able to apply it to students. Thank you to PTSB OBE unit for the publication of this manual and may this effort be rewarded. I am optimist that PTSB will achieve its vision to provide and to be one of the Premier Industry – led TVET institution in Malaysia.

Thank you.

**Dr. Hj. Abd Latif bin Ahmad**  
Director  
Politeknik Tuanku Sultanah Bahiyah  
Kulim

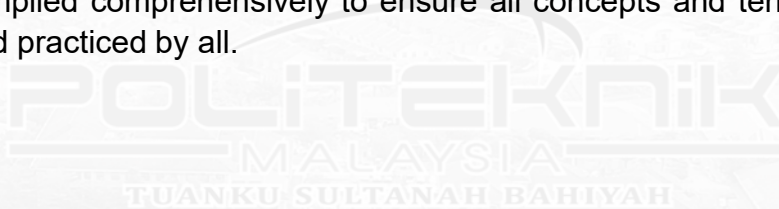


## PREFACE

Outcome-based Education (OBE) is a student-centered approach emphasizing on what students should be able to attain at the end of course/program. OBE has been fully implemented in higher institution in Malaysia, replacing the traditional teaching style which described as teacher-centered.

This handbook is published as a major reference for educators in implementing OBE to enhance the quality of teaching and learning activities. It also aims to raise awareness on the importance of OBE among staffs and students at all level. OBE also help to ensure the approval and accreditation of new and existing programs.

The handbook highlighted on the concept and the process of OBE including curriculum, teaching and learning, assessment and continuous quality improvement (CQI). It is compiled comprehensively to ensure all concepts and terminologies being understood and practiced by all.





## LIST OF GLOSSARIES

|   |  |
|---|--|
| Assessment  | A learning process that encompasses describe, collect, record, score and interpret information about students' learning for a particular purpose.  |
| Blended Learning                                    | Refers to a mixing of different kinds of learning environments. The terms "blended," "hybrid," and "mixed-mode" are used interchangeably in current research literature.                   |
| Board of Engineers Malaysia (BEM)                   | A statutory body registers graduates and professional engineers under the Registration of Engineers Act 1967 (Revised 2002).   |
| Continuous Quality Improvement (CQI)                | A process to improve any particular tasks.   |
| Course File   | A lecturer teaching-learning portfolio.  |
| Course Learning Outcomes (CLOs)                     | Course specifications to be acquired by students.  |
| Course Syllabus                                     | A comprehensive description of a curriculum offered by the respective programme of study.  |
| Engineering Technology Accreditation Council (ETAC) | A professional body delegated by BEM for accreditation of engineering diplomas.  |
| Programme Educational Objectives (PEOs)             | Describe the career and professional developments of graduates, which are to be assessed in a minimum of five years.   |
| Programme Learning Outcomes (PLOs)                  | Explain the knowledge, skills, and values that the students are expected to attain upon graduation   |
| Rubric  | A scoring tool that explicitly represents the performance expectations for an assignment or piece of work.   |
| Student Learning Time (SLT)                         | Self- learning which include learning from self-learning modules and any additional non face-to-face hours self-learning and preparation for lecture/lab/tutorial and test and assessment. |

Source: Outcome Based Education (OBE) Implementation Handbook (2011)

## LIST OF FIGURE

| NO | LIST OF FIGURE   | PAGE |
|----|--|------|
| 1  | Figure 2.0 : Model of OBE & its features   | 3    |
| 2  | Figure 3.0 : Curriculum Development Process  | 6    |
| 3  | Figure 3.1 : Elements Of OBE Curriculum  | 9    |
| 4  | Figure 3.2 : Relationship Between Vision, Mission, PAI, PLO & CLO  | 10   |
| 5  | Figure 5.0 SPMP system   | 19   |
| 6  | Figure 5.1 Assessment setting in SPMP system   | 20   |
| 7  | Figure 5.2 Shows types of questions in FEIST and how to set it in SPMP system  | 21   |
| 8  | Figure 6.0 Continuous Quality Improvement  | 23   |
| 9  | Figure 6.1 CQI Loop at Course Level and Programme Level  | 24   |
| 10 | Figure 6.2 Screenshot 'Daftar PLO dan CLO'   | 25   |
| 11 | Figure 6.3 Screenshot of the mapping CLO vs PLO  | 25   |
| 12 | Figure 6.4 Screenshot of the mapping assessments vs CLOs   | 26   |
| 13 | Figure 6.5 Screenshot of the mapping Final Exam (FE) Question vs CLOs  | 26   |
| 14 | Figure 6.6 Screenshot of printing CORR   | 27   |
| 15 | Figure 6.7 CORR Report generated from SPMP   | 27   |
| 16 | Figure 6.8 The figure shows an example of a CQI proposal report from the results of discussions between the course coordinator and the course lecturer together with the Head of Program and Head of Department. | 28   |
| 17 | Figure 6.9 Example of PLORR Report for the specific cohort from semester 1 to semester 6 generated from SPMP system  | 29   |
| 18 | Figure 6.10 diagram showing the difference in PLO achievement between semesters before (JUNE 2018) and after (DEC 2018) generated from SPMP system.  | 30   |
| 19 | Figure 6.11 shows the example of Programme Learning Outcome Report (PLORR) for students that can be obtained from the SPMP system.   | 31   |
| 20 | Figure 7.0 : work steps of the lecturers each semester.  | 33   |
| 21 | Figure 7.1 : The procedure and tools used in helping lecturer to develop a constructive teaching plan.   | 34   |



## LIST OF APPENDICES

| NO. | APPENDICES | DESCRIPTION  | PAGE |
|-----|------------|--|------|
| 1   | Appendix A | PROGRAMME EDUCATIONAL OBJECTIVES (PEO) & PROGRAMME LEARNING OUTCOMES (PLO) | 37   |
| 2   | Appendix B | RUBRICS  | 58   |
| 3   | Appendix C | FORM   | 65   |

**POLITEKNIK**  
MALAYSIA  
TUANKU SULTANAH BAHYAH

# PTSB MISSION AND VISION

To be an  
oustanding  
TVET  
institution





## 2.0 INTRODUCTION OF OUTCOME BASED EDUCATION (OBE)

Outcome-based education (OBE) is a learner-centered learning philosophy that focuses on measuring students' performance (the outcomes). OBE itself is not a teaching style or method, it is a principle for designing your teaching in an effective way that enables learning happen and helps students to achieve the intended learning outcomes. Therefore, what matters most in OBE is “what is learnt” rather than “what is taught”.

### 2.1 OBE PRINCIPLES

There are different definitions for outcome-based education. The most widely used one is the four principles suggested by Spady (1994).

An OBE curriculum means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction and assessment to make sure this learning ultimately happens. The four basic principles are (Spady, 1994):



1

#### Clarity of focus

This means that everything teachers do must be clearly focused on what they want students to know, understand and be able to do. In other words, teachers should focus on helping students to develop the knowledge, skills and personalities that will enable them to achieve the intended outcomes that have been clearly articulated.



2

#### Designing down

It means that the curriculum design must start with a clear definition of the intended outcomes that students are to achieve by the end of the program. Once this has been done, all instructional decisions are then made to ensure achieve this desired end result.



3

#### High expectations

It means that teachers should establish high, challenging standards of performance in order to encourage students to engage deeply in what they are learning. Helping students to achieve high standards is linked very closely with the idea that successful learning promotes more successful learning.



4

#### Expanded opportunities

Teachers must strive to provide expanded opportunities for all students. This principle is based on the idea that not all learners can learn the same thing in the same way and in the same time. However, most students can achieve high standards if they are given appropriate opportunities.

## 2.2 MODEL OF OBE

Outcome Based-Education (OBE) focuses on students learning by:

- i. Using learning outcome statements to make explicit what the student is expected to be able to know, understanding or do.
- ii. Providing learning activities which will help the student to reach these outcomes.
- iii. Assessing the extent to which the student meets these outcomes through the use of explicit assessment criteria.

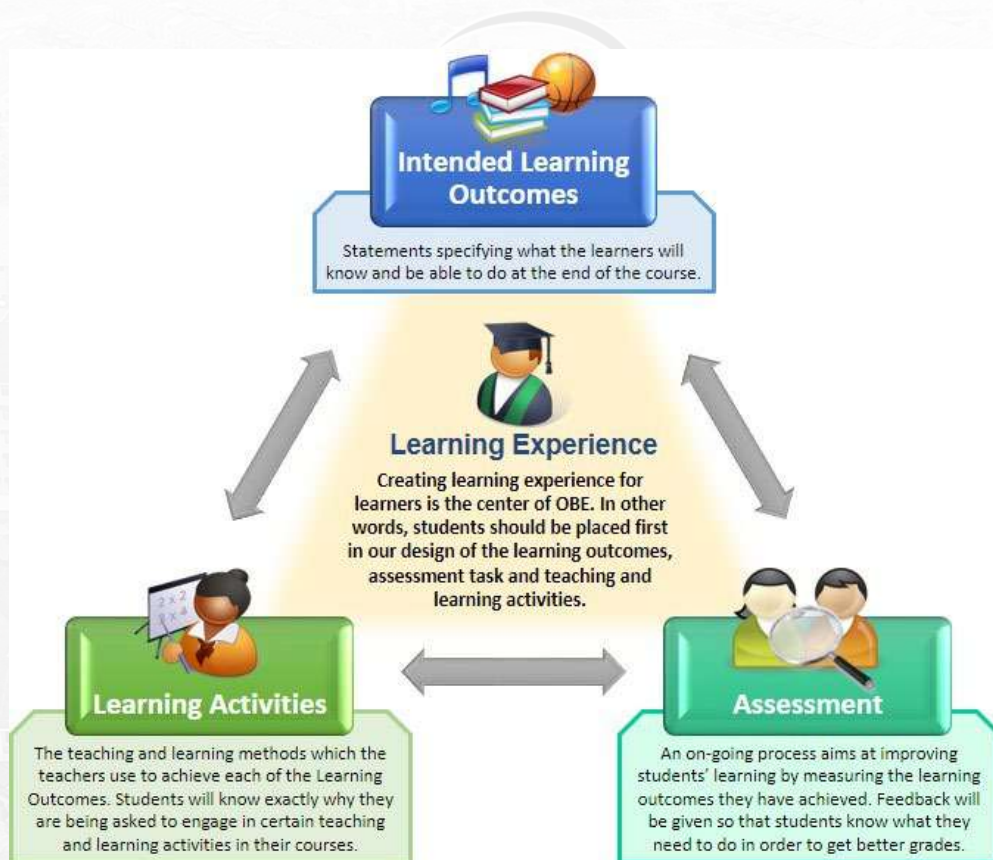


Figure 2.0 : Model of OBE & its features



## 2.3 OBE DESIGN

### 2.3.1 Backword Design

When designing our courses, it is suggested that we adopt the backward design approach. Grant Wiggins and Jay McTighe provides an innovative approach for designing courses through what they call “Backward Design”. They argue that you can’t start planning how you’re going to teach until you know exactly what you want your students to learn. In other words, “Backward Design” means we start with the desired results of our teaching and leave teaching activities until the end.



### 2.3.2 Stages of the Backward Design process:

#### Stage one: Identify desired results

Before we design any teaching activities or assessment tasks, first we need to establish the learning goals for the course. Learning goals are the things that we want students to know, understand and be able to do at the end of the course. To help faculty identifying the learning goals, the following questions suggested by Wiggins and McTighe may come in handy:

- What should participants hear, read, view, explore or otherwise encounter? This knowledge is “worth being familiar with.”
- What knowledge and skills should participants master? Sharpen your choices by considering what is “important to know and do” for your students. What facts, concepts and principles should they know? What processes, strategies and methods should they learn to use?
- What are big ideas and important understandings participants should retain? These choices are the “enduring understandings” that you want students to remember after they’ve forgotten the details of the course.

Answering each of these questions will help you determine the best content for your course, and create concrete, specific learning goals for your students.

#### Stage two: Determine acceptable evidence

In the second phase of Backward Design, faculty need to think about the acceptable evidence that shows students are making progress toward the learning goals of the course. We need to plan how we will collect the evidence (through a wide range of assessment methods) to ensure that our assessment matches with the learning goals we set in stage one.

#### Stage three: Plan learning experiences

Finally, after we have identified and decided what results we want and how we will know our students have achieved them, then we need to start planning how we are going to teach. In stage three, the focus is more on instructional strategies and students’ learning activities but the center of both is creating or designing learning experience for our students.

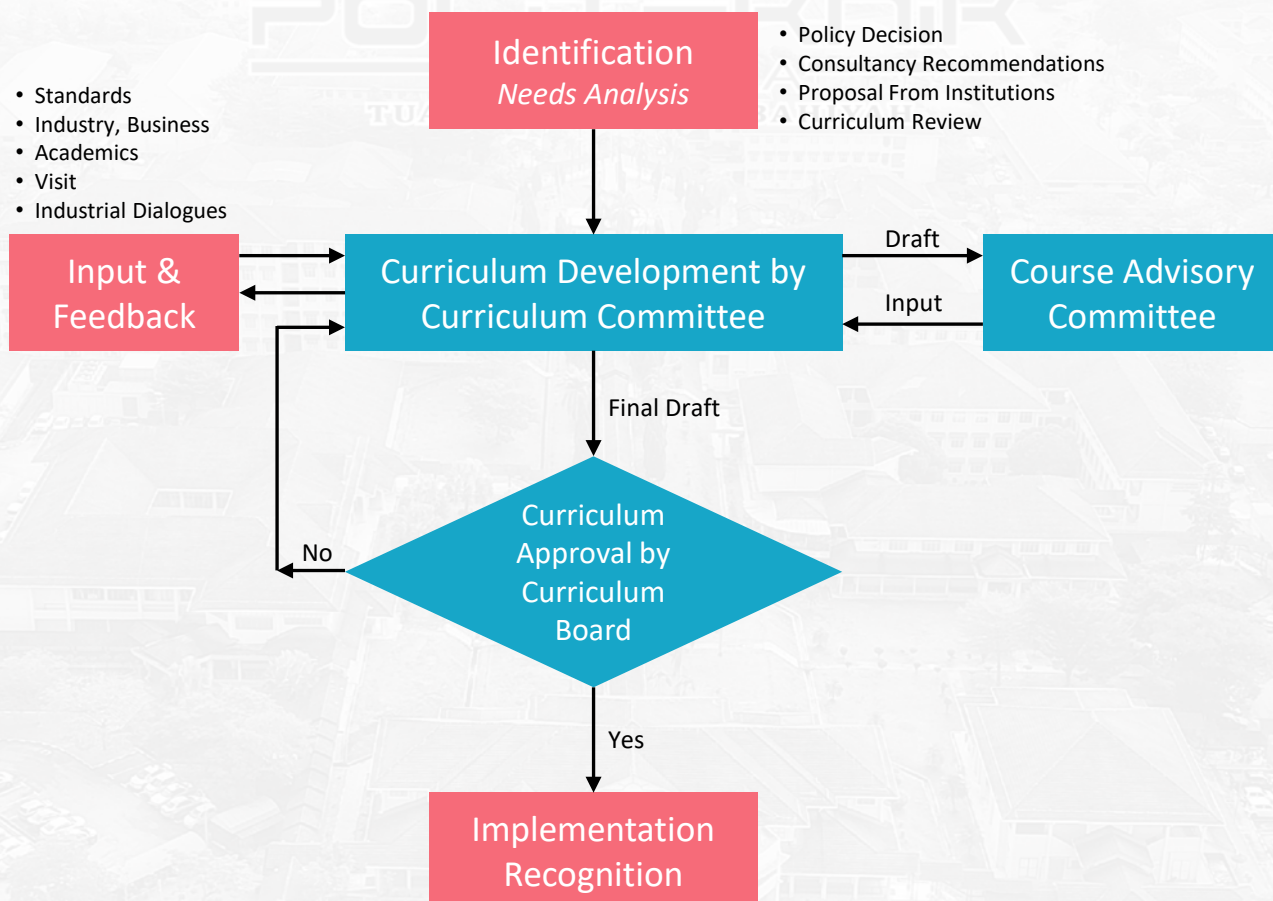


## 3.0 OBE CURRICULUM

### 3.1 INTRODUCTION TO OBE CURRICULUM

A curriculum is a set of courses and content that students go through in their learning – syllabus. An OBE curriculum means a clear picture of what is important for students to be able to do. It is stated clearly what the outcome of that teaching is intended to be and at what standard. Curriculum design must start with a clear definition of the intended outcomes that students are to achieve by the end of the program.

### 3.2 CURRICULUM DEVELOPMENT PROCESS



**Figure 3.0 : Curriculum Development Process**

**Curriculum Development Process** The curriculum development process (Figure 2) systematically organizes what will be taught, who will be taught, and how it will be taught. Each component affects and interacts with other components. For example, what will be taught is affected by who is being taught (e.g., their stage of development in age, maturity, and education). In the past, curriculum development committee was typically consisted of lecturers with expertise in the content area and they were asked to create scope and sequence documents and also to suggest texts and other resources for adaptation by the institutions. Nevertheless, our understanding of curriculum development has changed. The process is now viewed as an opportunity to develop understanding and ownership by the participants, and hence, curriculum development committee includes members of all parties with interests in the educational system.



### **Needs Analysis**

Needs analysis is to determine whether a programme is needed and, if it is needed, it is to specify that programme should be accomplished. Needs analysis data is obtained from various levels of stakeholders such as Ministry of Higher Education, related industries, higher learning institutions, parents and students and other relevant parties. Results obtained from the need analysis would assist curriculum developers to understand and draw the profile of the future graduates, the market situations in the area of study and thus would provide input for the development of programme educational objective (PEO) and programme learning outcomes (PLOs).



### **Input and Feedback**

Input and Feedback Input and feedback are obtained from various sources such as professional bodies, related higher learning institutions, benchmarking visits, recommendations from academicians, industries and Malaysian Qualification Agency (MQA).



### **Curriculum Development Committee**

Curriculum development committee includes experts from polytechnics, university, relevant industries and professional bodies. Curriculum development committee must do research on effective practices in order to support institutional environments that offer rich and varied learning experiences. The committee must review policies and behaviours that foster community involvement and equal opportunities for all. Furthermore, the committee should consider professional development activities to support the content, instruction, and assessment expectations. The expectations of curriculum development committee cross some boundaries into what were previously defined as administrative roles. There are series of curriculum development workshops being held to develop the curriculum of a program.





### **Courses Advisory Committee**

Members of the Curriculum Advisory Committee are experts in related fields of study. The committee members are elected from various parties such as industries, professional bodies and university lecturers. The committee should assist in generating new course contents and directions, shape current curriculum, and provide information on the future employment opportunities.



### **Curriculum Board**

Curriculum will be approved by the Curriculum Board. Board members are appointed by the Minister in the Ministry of Education and they serve two (2) year tenure in the board. The curriculum board plays a central role in the Polytechnic curriculum approval. This role has expanded tremendously with the expanding role of polytechnics' governance and with the expanding demand for a curriculum which is flexible and responsive to the needs of stakeholders.



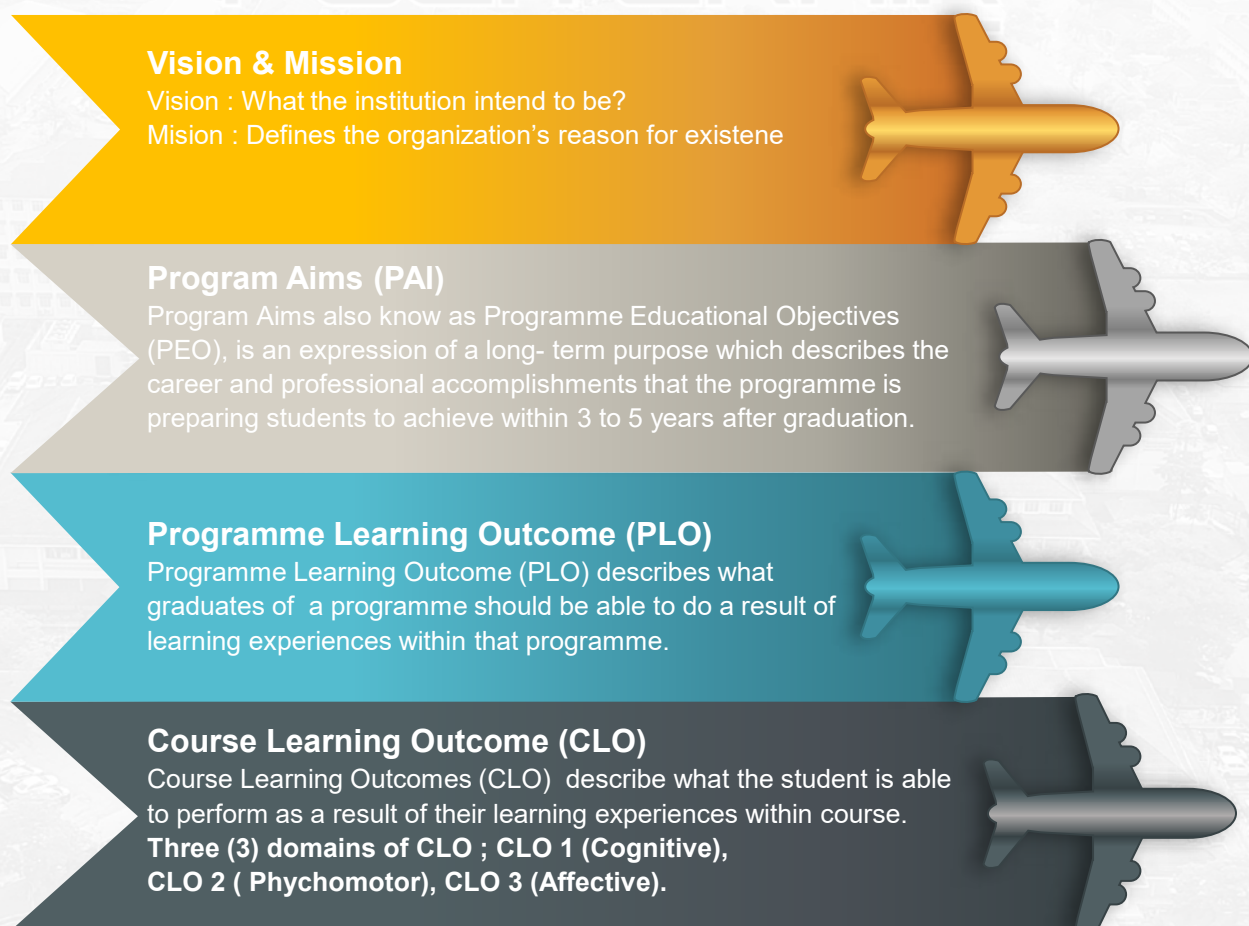
### **Curriculum Implementation**

Implementation of the curriculum is conducted by the lecturers at the institutions using suitable teaching and learning strategy that is recommended in curriculum document supported by lectures' creativities.

Recognition by Public Service Department (JPA) and Malaysian Qualifications Agency (MQA) In ensuring the program of study conducted at the institutions meet the quality standard, each program of study must be accredited and recognised by Malaysian Qualifications Agency and Public Service Department, respectively.

### 3.3 ELEMENTS OF OBE CURRICULUM

Elements of OBE curriculum consists of Programme Learning Outcomes (PLO) and Course Learning Outcomes (CLO). Programme Learning Outcomes PLO are often derived from the vision and mission of the Department of Polytechnic Education after consultation with employers, field experts, and, if appropriate, accrediting and professional bodies. PLO are developed based on the eight Learning Domains (LD) established by Malaysian Qualifications Agency (MQA) and the seven Generic Student Attributes set by the Ministry of Higher Education (MOHE). Department of Polytechnic Education (DPE) produced Program learning Outcomes (PLO) based on Eight (8) Learning Domains by MQA and Seven (7) Generic Student Attributes (GSA) by MOHE.

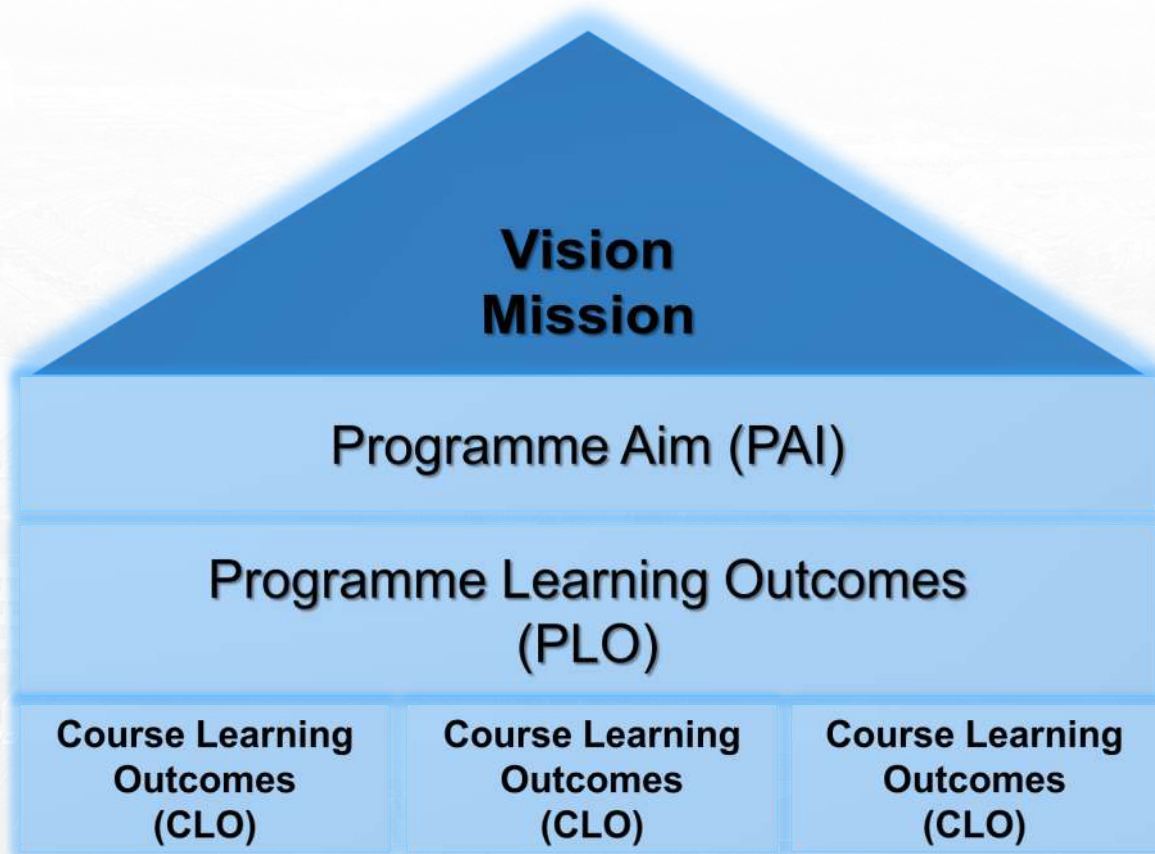


**Figure 3.1 : Elements Of OBE Curriculum**



Outcome Based Education (OBE) is an approach that focuses on outcomes such as achievements of students that are measurable, proven and can be improved. The students' achievements of the outcomes are measured during the course of the study and after the students have graduated and during work in industry.

### 3.4 RELATIONSHIP BETWEEN VISION, MISSION, PAI, PLO & CLO

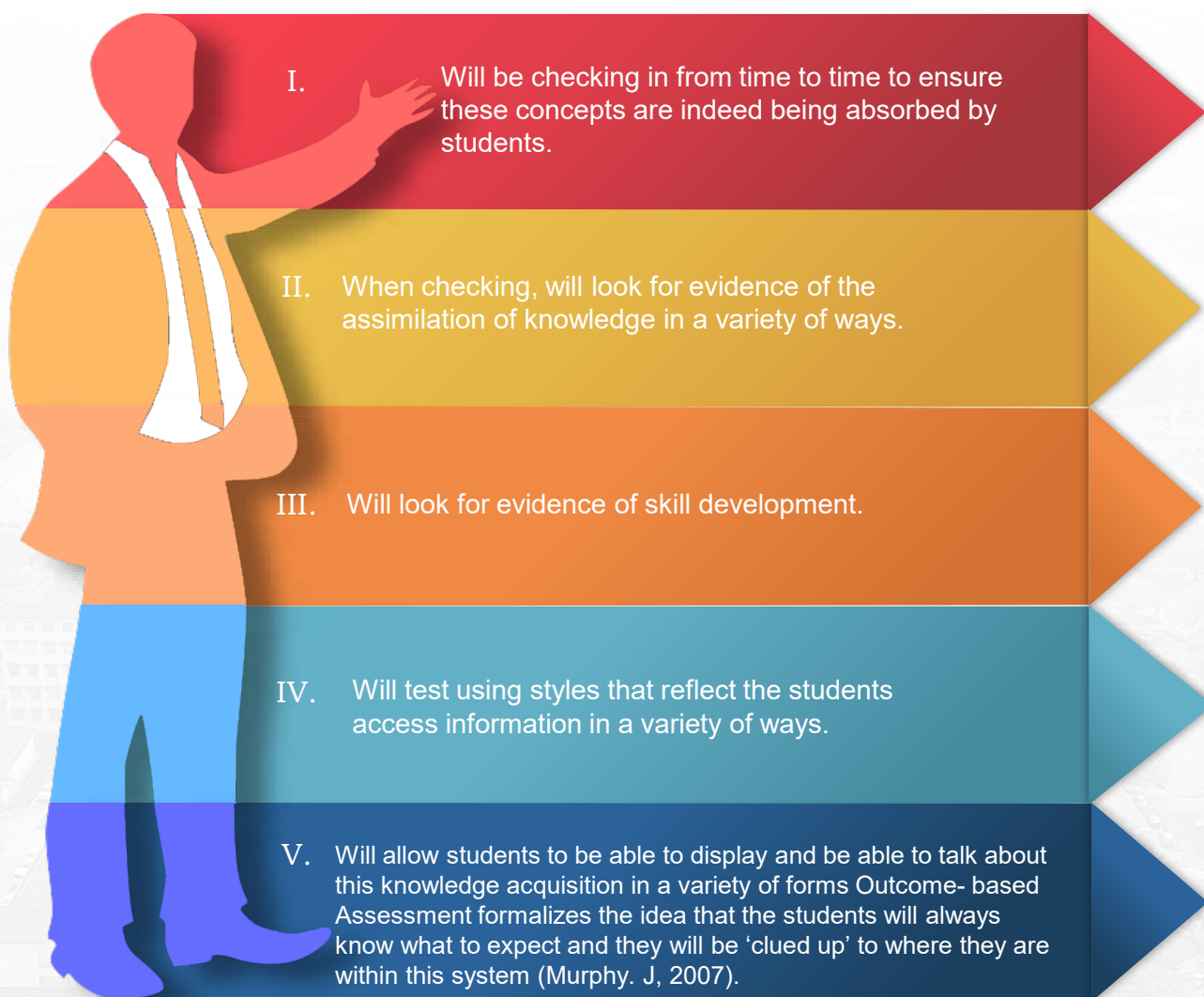


**Figure 3.2 : Relationship Between Vision, Mission, PAI, PLO & CLO**

Relationship Between PEO, PLO, CLO And Learning Domains PLOs are related to PEO to describe what students are expected to know and able to perform or attain a few years after graduation (3 to 5 years). PLOs are distributed across the courses in the programme. Students are expected to be able to perform or attain the programme learning outcomes in terms of skills, knowledge and behaviour / attitude at the end of the programme. At course level, the CLOs are related to certain PLOs to describe the learning outcomes that the students should attain and achieve. Students are expected to be able to perform or attain the course learning outcomes in terms of skills, knowledge and behaviour / attitude after going through the course.

### 3.5 IMPLEMENTATION OF OUTCOME BASED EDUCATION IN MALAYSIAN POLYTECHNICS

Outcome- based Assessment moves around the idea that educators want to teach some ideas, skills or concepts explicitly. The educators:



### 3.5 CONCLUSION

OBE Curriculum will answer to the questions of:

- what are the learning outcomes (LOs) to be achieved by students.
- how to align the curriculum, teaching & learning strategies and assessment
- how to implement the curriculum and evaluate the learning outcomes



## 4.0 OBE TEACHING AND LEARNING

### What are Students-Centered Learning?

Students-Centered Learning (SCL) is a part of teaching and learning activities which will adoptive students' engagement in the learning process rather than students listening to the lectures passively. It is termed as a mean for the implementation of Outcome-based Education.

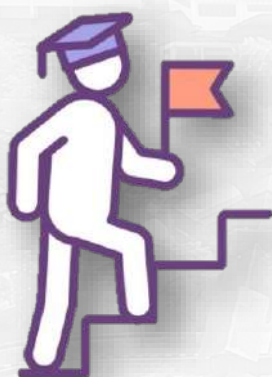


Student-Centered Learning (SCL) has been defined most simply as an *approach to learning in which learners choose not only what to study but also how and why that topic might be of interest* (Rogers, 1983).

In other words, *the learning environment has learner responsibility and activity at its heart, in contrast to the emphasis on instructor control and the coverage of academic content found in much conventional, didactic teaching* (Cannon, 2000).

Additionally, learners find *the learning process more meaningful when topics are relevant to their lives, needs, and interests, and when they are actively engaged in creating, understanding, and connecting to knowledge* (McCombs & Whistler, 1997).

"You can teach a student a lesson for a day; but if you can teach him to learn by creating curiosity, he will continue the learning process as long as he lives." Clay P Bedford



According to Brandes and Ginnis (1986) in their book, 'A Guide to Student-Centered Learning', they present the main principles of student-centered learning as:

- The learner has full responsibility for her/his learning.
- Involvement and participation are necessary for learning.
- The relationship between learners is more equal, promoting growth, development.
- The teacher becomes a facilitator and resource person.
- The learner experiences confluence in his education (affective and cognitive domains flow together).
- The learner sees himself differently as a result of the learning experience.

## Why Students-Centered Learning (SCL)?

The implementation of SCL can lead to the addition of the motivation to learn, greater retention of knowledge, deeper understanding, and more positive attitudes towards the subject being taught. SCL is based on the philosophy that the student is at the heart of the learning process.

The SCL approach includes such techniques as substituting active learning experiences for lectures, assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving students in simulations and role plays, and using self-paced and cooperative learning.

SCL approach therefore changes the role of the teacher, from being entrusted with the 'transmission of knowledge to supporting and guiding self-regulated student learning' (Van Eekelen, Boshuizen, & Vermunt, 2005). SCL, if properly implemented, triggers student's interest in the teaching and learning activities, and leads to a long lasting and in-depth understanding of the study materials.

Therefore, students' engagement in the learning process will also increase. Teaching is no longer seen as a 'way of process' from teacher to student. Real education was supposed to happen through discussions, projects and challenging critical minds.

The benefits of students-centered learning are;



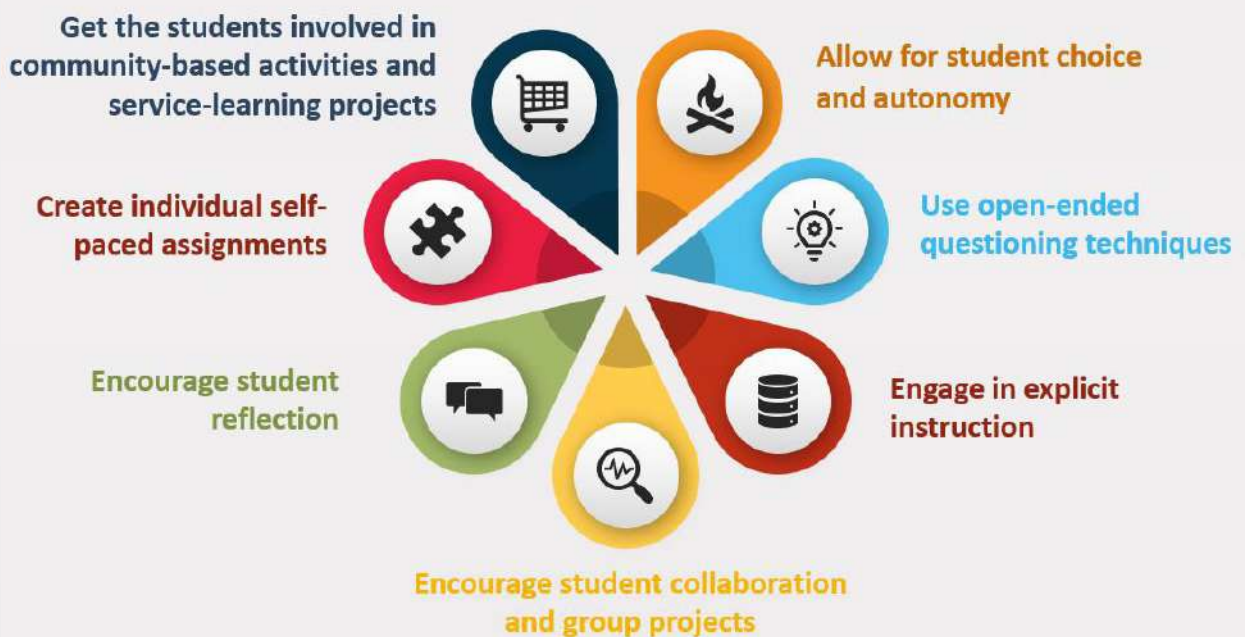
- Provides substance and arrange teaching activities in line with the learners.
- Provides training in thinking process, management, and how to face and respond in various situations.
- Enables learners to think critically.
- Both learners and teachers may learn together, and long-term retention of knowledge.
- Increases student engagement with the content.



## Important of Lecturer/Instructor in the Application of SCL

- The lecturer/instructor creates an environment that:
- Raises students learning
- Accommodates various teaching and learning methods
- Raises students to accept responsibility for learning
- Aligns learning outcomes/objectives, teaching & learning approaches and assessments consistently
- Applies multiple teaching techniques appropriate for student learning goals
- Creates activities in which students interact with the material, the teacher and each other
- Inspires and encourages student ownership of learning

## How to Incorporate Student-Centered Techniques into Classroom?




There are many ways to incorporate student-centered techniques into classroom resources and lessons:

- Allow for student choice and autonomy.** This might mean providing project, classroom and homework assignment options, as well as allowing students to design their own seating arrangements. Providing more types of question types in assessments also gives students the chance to make their own choices. Finally, encourage teachers to give the students a few minutes of downtime to use as they'd like (within reason of course).

- ii. **Use open-ended questioning techniques.** This practice encourages critical and creative thinking and enhances problem-solving skills. Open-ended questioning encourages clear communication and provides students with reassurance that their thoughts and ideas matter.
- iii. **Engage in explicit instruction.** Explicit instruction moves away from the skill and drill attitude of teaching. It is a much more direct and engaging method of instruction that pulls the students right into the heart of the lesson. Students are active participants in what is going on, rather than bystanders and onlookers.
- iv. **Encourage student collaboration and group projects.** When students work with each other they are learning a great deal more than just the lesson content. They are gaining an appreciation for the diversity that exists in our schools and communities. They are also learning to have respect for what may sometimes be very differing points of view. And finally, they are able to bounce their ideas back and forth with each other, creating a much greater opportunity to grow these ideas into something great.
- v. **Encourage student reflection.** Student reflection allows students to slow things down a bit and take a step back to analyse things. It also allows time for their brains to process what they have been learning. Reflection creates space and time for individual and group growth.
- vi. **Create individual self-paced assignments.** All students don't work at the same speed and assignments should reflect this. Allowing students to move through material at a rate that best fits their learning styles and needs makes it more likely that they will gain deeper understanding of the subject matter.
- vii. **Get the students involved in community-based activities and service-learning projects.** This helps students to see their important role in the larger world. They are given the chance to learn how valuable and fulfilling it can be to give back to others. Learning becomes more organic and less rigid. Students have the opportunity to see first-hand that learning opportunities surround us everywhere where we go.



## 4.1 WHAT IS CIDOS?



An open-source **Learning Management System (LMS)**, which is named as Curriculum Information Document Online System (CIDOS) is being used in polytechnic. CIDOS is a **web-based solution** to control effectively the teaching and learning materials, curriculum document inventory and knowledge sharing. By using CIDOS, lecturers can create chat, forum, upload the teaching materials and can also monitor the progress of students.

*(Siti Nurul Mahfuzah Mohamad, Sazilah Salam, & Norasiken Bakar, 2014).*

The Curriculum Information Document Online System (CIDOS) is a fully automated document management platform that manages the uploading, updating and sharing of digital information or digital content through a single integrated component. CIDOS provides a medium for interaction between users including staff of the Division of Curriculum Development, Polytechnic lecturers and students. Moreover, it also provides an interface for the storage, evaluation, authorization and sharing of digital content and information. CIDOS is an electronic document management system, which enables users to access information stored in the database. Lecturers and students comprise the endusers. *(Norhafizah Ismail, Wan Zah Wan Ali<sup>2</sup> and etl, 2014).*

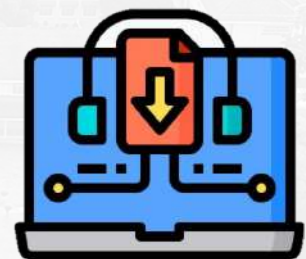
## 4.2 WHAT IS BLENDED LEARNING?

**Blended learning** is a concept that embraces the benefits of traditional teaching in the classroom and ICT supported learning. It includes online and offline learning. The ultimate aim of blended learning is to provide realistic and practical opportunities for students to make learning as independent, useful, sustainable and expansive as possible (Buzzetto-More and SweatGuy, 2006).



**Blended learning** utilizes the best online tools to support a teacher-led classroom and learners are also encouraged to explore and follow their own paths with computer-based modules. Blended learning includes constructive learning, collaborative learning; and computer assisted learning (CAI) (Lalima & Dangwal, 2017).

Besides, according to Greer, Rowland and Smith (2014), blended learning is a traditional face-to-face class where students complete their tasks online and another part is face-to-face with teacher or their classmates.





### 4.3 WHY BLENDED LEARNING?

Students gain the knowledge from computer assisted learning (CAI) and online learning without reducing the social interaction of traditional teaching. As part of learning through ICT, online or offline mode, lecturers and students will have more time in the classroom for creative and cooperative teaching and learning. Besides, students become more tech-savvy and it enhances their digital fluency. Last but not least, students become more professional as they have developed qualities like discipline, self-motivation and self-responsibility (Lalima & Dangwal, 2017).

### 4.4 SUMMARY



#### OBE T&L

How to make the students achieve the outcomes?

#### KEYPOINTS

- Constructive Alignment (between Curriculum, T&L, Assessment)
- Solo Taxonomy
- T&L Strategy
- Student Centered Learning (SCL)

#### TOOLS

- Syllabus document
- SPMP
- SCL (Active F2F Lecture, Lab, Presentation, Webinar, etc.)
- E-Learning :
  - CIDOS
  - MOCC
  - MSTEAMS
  - OFFICE 365
  - etc.

## 5.0 OBE ASSESSMENT

Assessment is the process of identifying, gathering and interpreting information about a learner's achievement, as measured against nationally agreed outcomes for a particular phase of learning. It is not a one-time event, rather, it is an ongoing and continuous effort to improve the quality of instruction, student learning and overall effectiveness of a department or unit.

### 5.1 SPMP SETTING FOR OBE ASSESSMENT

PTSB is currently using the Sistem Pengurusan Maklumat Politeknik (SPMP) system to record and analyze student assessments as follows:

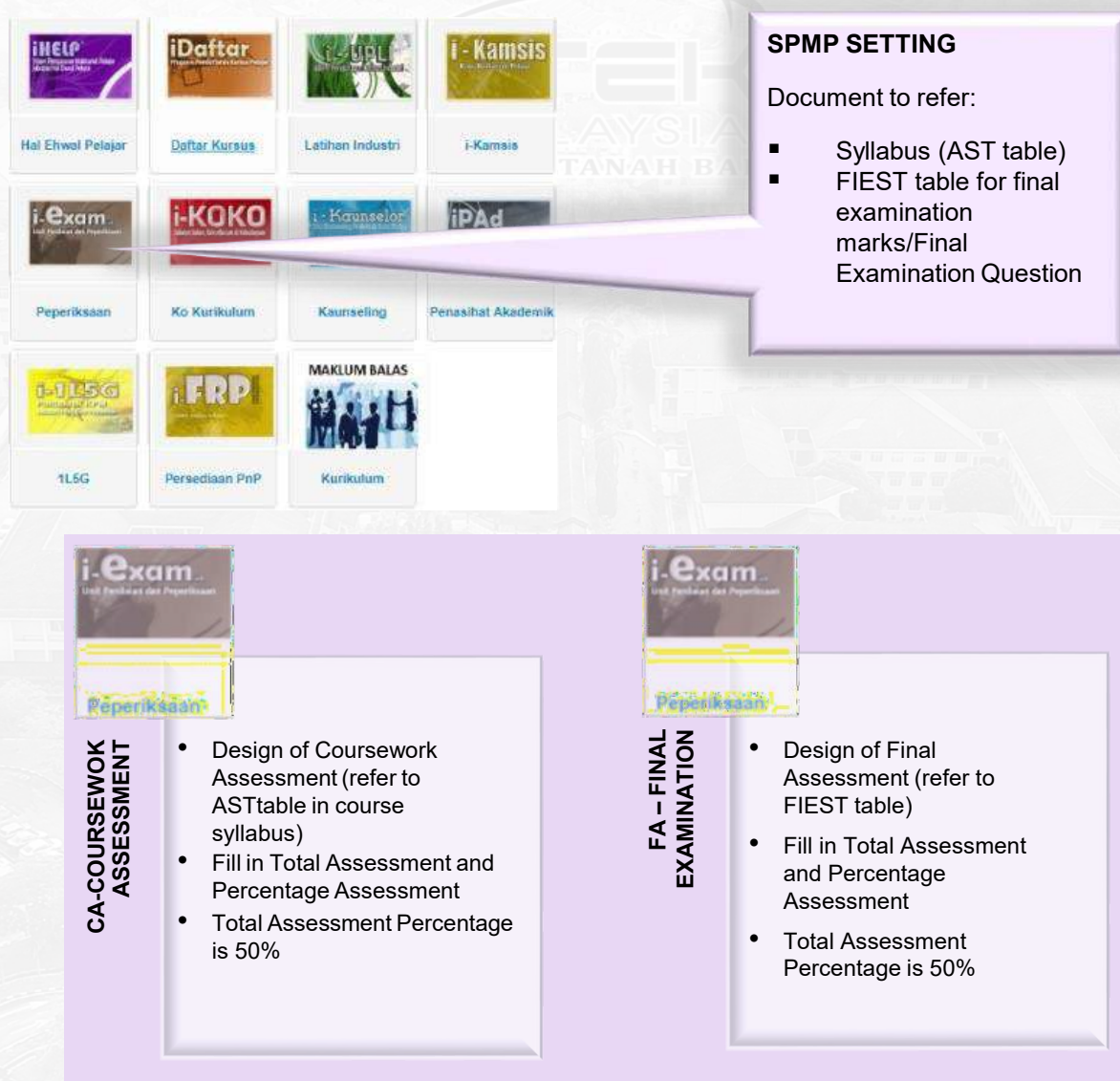


Figure 5.0 SPMP system



## 5.2 CA- COURSEWORK ASSESSMENT IN SPMP SETTING

### Assessment Specification Table (AST)

All the assessment methods listed in AST Table must be set in into SPMP system as follows:

| CLO  | PLO | CLS    | DI | PROPOSED TEACHING & LEARNING ACTIVITIES | CONTINUOUS ASSESSMENT WEIGHTAGE (%) |         |                |         |    | FINAL ASSESSMENT WEIGHTAGE (%) | SLT (hours) | PROPOSED TOPIC |
|--|-----|--------|----|---|-------------------------------------|---------|----------------|---------|----|--------------------------------|-------------|----------------|
|  |     |        |    |   | Quiz                                | Test    | Practical Work | Essay   |    |                                |             |                |
|  |     |        |    |   | (2) 10%                             | (1) 10% | (6) 25%        | (1) 10% | 5% | (1) 40%                        |             |                |
| CLO1 : Investigate the principle of wireless in implementing the concept and system of wireless communication using appropriate technique and designated formula | 4   | 2      | C4 | Lecture and Discussion                  | •                                   |         |                |         |    |                                | 78.0        | T1, T4         |
|  |     |        |    |   |                                     | •       |                |         |    |                                |             | T2 - T4        |
|  |     |        |    |   |                                     |         |                | •       |    |                                |             | T2 / T3 / T4   |
|  |     |        |    |   |                                     |         |                |         | •  |                                |             | T1 - T5        |
| CLO2 : Assemble the related wireless communication equipments systematically in performing the assigned practical work   | 5   | 3a, 3c | P4 | Practical Work                          |                                     |         | •              |         |    |                                | 34.5        | T1 - T4        |
| CLO3 : Express the awareness of wireless technology in environment and sustainability on assigned essay questions  | 7   | 5      | A3 | Discussion                              |                                     |         |                |         | •  |                                | 7.5         | T2 / T3 / T4   |
| TOTAL SLT:   |     |        |    |   |                                     |         |                |         |    |                                | 120         |                |

|            |  |                |
|------------|--|----------------|
| Utama PB   | Daftar Pelajar Dibawah Pensyarah Kursus        | Daftar Pelajar |
| MODUL LAMA | Daftar Jenis Penilaian                         | Daftar Markah  |
| MODUL BARU | Daftar Hubungkait PLO dan CLO (Individu)       | Daftar Markah  |
| CLO (CA):  | Daftar Jenis Penilaian (Continuous Assessment) |                |

Kod Kursus : **DEP50063**  
 Seksyen : **S1**  
 Sesi Semasa : **DISEMBER 2020**

|                                     |   |  |      |     |
|-------------------------------------|---|--|------|-----|
| Jumlah End Of Chapter Problem       | 0 | Peratus Keseluruhan End Of Chapter Problem       | 0.0  | %   |
| Jumlah Essay                        | 1 | Peratus Keseluruhan Essay                        | 10.0 | % * |
| Jumlah Essay Writing Assignment     | 0 | Peratus Keseluruhan Essay Writing Assignment     | 0.0  | %   |
| Jumlah Field Trip Report            | 0 | Peratus Keseluruhan Field Trip Report            | 0.0  | %   |
| Jumlah Performance Appraisal        | 0 | Peratus Keseluruhan Performance Appraisal        | 0.0  | %   |
| Jumlah Pidato                       | 0 | Peratus Keseluruhan Pidato                       | 0.0  | %   |
| Jumlah Practical                    | 6 | Peratus Keseluruhan Practical                    | 25.0 | % * |
| Jumlah Practical (Design Work)      | 0 | Peratus Keseluruhan Practical (Design Work)      | 0.0  | %   |
| Jumlah Practical (Field Work)       | 0 | Peratus Keseluruhan Practical (Field Work)       | 0.0  | %   |
| Jumlah Quiz                         | 2 | Peratus Keseluruhan Quiz                         | 10.0 | % * |
| Jumlah Reading Comprehension Test   | 0 | Peratus Keseluruhan Reading Comprehension Test   | 0.0  | %   |
| Jumlah Reflective Journal           | 0 | Peratus Keseluruhan Reflective Journal           | 0.0  | %   |
| Jumlah Report Writing               | 0 | Peratus Keseluruhan Report Writing               | 0.0  | %   |
| Jumlah Roleplay                     | 0 | Peratus Keseluruhan Roleplay                     | 0.0  | %   |
| Jumlah Seminar                      | 0 | Peratus Keseluruhan Seminar                      | 0.0  | %   |
| Jumlah Short Test                   | 0 | Peratus Keseluruhan Short Test                   | 0.0  | %   |
| Jumlah Student Character Validation | 0 | Peratus Keseluruhan Student Character Validation | 0.0  | %   |
| Jumlah Test                         | 1 | Peratus Keseluruhan Test                         | 10.0 | % * |
| <b>OTHER ASSESSMENT TASK</b>        |   | <b>OTHER ASSESSMENT TASK</b>                     |      |     |
| Jumlah Generic Skill                | 1 | Peratus Keseluruhan Generic Skill                | 5.0  | % * |
| Simpan/Kemaskini                    |   | 60.0 % / 60 %<br>Simpan/Kemaskini                |      |     |

Figure 5.1 Assessment setting in SPMP system

## 5.3 FA - FINAL EXAMINATION IN SPMP SETTING

Sila Nyatakan Jumlah Penilaian Berikut:  
Merujuk Kepada Bilangan CLO

Sila Nyatakan Peratus Penilaian Berikut:

CLO (FE): Daftar Jenis Penilaian (Final Exam) | Daftar CLO ikut soalan dan penilaian | Daftar Markah (Individu ikut Penilaian) | Pamer PA CLO | Salin Markah

|                                   |   |  |          |     |
|-----------------------------------|---|--|----------|-----|
| Jumlah Final Examination          | 0 | Peratus Keseluruhan Final Examination          | 0.0      | %   |
| Jumlah Objective                  | 0 | Peratus Keseluruhan Objective                  | 0.0      | %   |
| Jumlah Structure (Short Question) | 0 | Peratus Keseluruhan Structure (Short Question) | 0.0      | %   |
| Jumlah Essay                      | 1 | Peratus Keseluruhan Essay                      | 20.0     | % * |
| Jumlah Structure                  | 4 | Peratus Keseluruhan Structure                  | 80.0     | % * |
| Jumlah Peratus Keseluruhan        |   | 100.0  | % / 100% |     |

Markah Maximum PA ialah 100%

Simpan/Kemaskini

Peraturan Setiap Penilaian : (Bil. Soalan adalah ditentukan oleh Pensyarah yang mengajar bagi tujuan penghasilan CLO/PLO)  
**Modul Baru** : Bil. SOALAN adalah merujuk kepada bilangan CLO dalam setiap penilaian.  
**Contoh** : Jika terdapat 40 soalan Objektif tetapi hanya melibatkan 2 CLO, masukkan '2' dalam ruangan 'Bil Soalan'.  
**Peratus** : Peratus adalah bergantung kepada penilaian yang dilaksanakan oleh pengguna.

**Modul Lama**: Sila ABAIKAN bil Soalan. Sila isikan Peratus sahaja.

| Peraturan ESSAY |         |            | Peraturan STRUCTURE |         |            |
|-----------------|---------|------------|---------------------|---------|------------|
| Jenis Penilaian | Peratus | Bil Soalan | Jenis Penilaian     | Peratus | Bil Soalan |
| ESSAY 1         | 20.0 %  | 1          | STRUCTURE 1         | 20.0 %  | 1          |
|                 |         |            | STRUCTURE 2         | 20.0 %  | 1          |
|                 |         |            | STRUCTURE 3         | 20.0 %  | 1          |
|                 |         |            | STRUCTURE 4         | 20.0 %  | 1          |

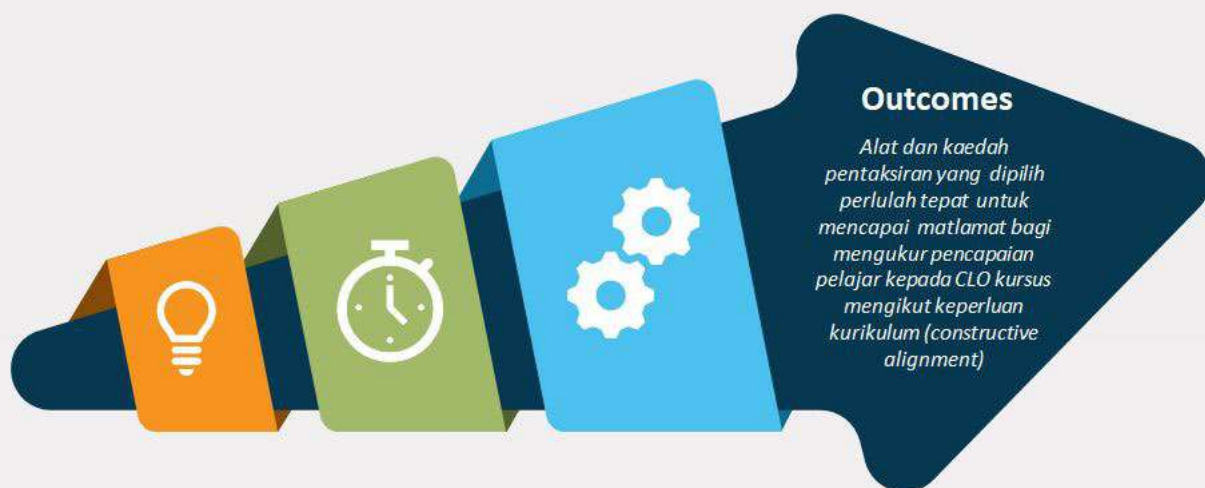
All types of questions that listed in Final Examination Item Specification Table (FEIST) Table must be key in into SPMP system as follows:

|                          |  |               |               |
|--------------------------|--|---------------|---------------|
| POLITEKNIK PENYELARAS    | POLITEKNIK SEBERANG PERAI                    |               |               |
| JABATAN AKADEMIK         | JABATAN KEJURUTERAAN ELEKTRIK                |               |               |
| NAMA PROGRAM             | DIPLOMA KEJURUTERAAN ELEKTRONIK (KOMUNIKASI) |               |               |
| NAMA KETUA PROGRAM       | SAIFULHANIF BIN MAT DIN                      |               |               |
| TAHIRAH/SESI BERKUALITI  | SESI DIS 2020                                |               |               |
| KOD/NAMA KURSUS          | DEP20032 WIRELESS COMMUNICATION              |               |               |
| NAMA PENYARAH KURSUS     |  |               |               |
| TEMPOH PEPERIKSAAN       | 2 JAM  |               |               |
| FORMAT PEPERIKSAAN AKHIR |  | Jumlah Soalan | Jumlah Markah |
|                          | (A) SOALAN STRUKTUR (SQ)                     | 4             | 80            |
|                          | (B) SOALAN ESEI (ES)                         | 1             | 20            |
|                          | JUMLAH MARKAH                                |               | 100           |
| BAHAN MENJAWAB           | JAWAB SEMUA SOALAN                           |               |               |

| COURSE LEARNING OUTCOME (CLO)  |       |    |    |    |    |                                      |   |                      |   |        |   |        |  |        |  |        |               |
|--|-------|----|----|----|----|--------------------------------------|---|----------------------|---|--------|---|--------|--|--------|--|--------|---------------|
| 1. Investigate the principle of wireless in implementing the concept and system of wireless communication using appropriate technique and designated formula. (C4, PLO4) |       |    |    |    |    |                                      |   |                      |   |        |   |        |  |        |  |        |               |
| 2. Assemble the related wireless communication equipments systematically in performing the assigned practical work. (P4, PLO5)   |       |    |    |    |    |                                      |   |                      |   |        |   |        |  |        |  |        |               |
| 3. Express the awareness of wireless technology in environment and sustainability on assigned essay questions. (A3, PLO7)  |       |    |    |    |    |                                      |   |                      |   |        |   |        |  |        |  |        |               |
| COURSE LEARNING OUTCOME (CLO)  | TOPIK |    |    |    |    | JENIS SOALAN                         |   |                      |   |        |   |        |  |        |  |        | JUMLAH MARKAH |
|  | T1    | T2 | T3 | T4 | T5 | BAHAGIAN A: STRUCTURED QUESTION (SQ) |   | BAHAGIAN B: BIL ITEM |   | MARKAH |   | MARKAH |  | MARKAH |  | MARKAH |               |
| CLO2   | /     |    |    |    |    | 01(a)                                | 1 | 4                    |   |        |   |        |  |        |  |        | 4             |
|  | /     |    |    |    |    | 01(b)                                |   |                      | 1 | 6      |   |        |  |        |  |        | 6             |
|  | /     |    |    |    |    | 01(c)                                |   |                      |   |        | 1 | 10     |  |        |  |        | 10            |
|  | /     |    |    |    |    | 02(a)                                |   |                      |   |        | 4 |        |  |        |  |        | 4             |
|  | /     |    |    |    |    | 02(b)                                |   |                      |   |        | 1 | 8      |  |        |  |        | 8             |
|  | /     |    |    |    |    | 02(c)                                |   |                      |   |        | 1 | 8      |  |        |  |        | 8             |
|  | /     |    |    |    |    | 03(a)                                |   |                      | 1 | 4      |   |        |  |        |  |        | 4             |
|  | /     |    |    |    |    | 03(b)                                |   |                      |   |        | 1 | 8      |  |        |  |        | 8             |
|  | /     |    |    |    |    | 03(c)                                |   |                      |   |        | 1 | 8      |  |        |  |        | 8             |
|  | /     |    |    |    |    | 04(a)                                |   |                      | 1 | 6      |   |        |  |        |  |        | 6             |
| CLO1   | /     |    |    |    |    | 04(b)                                |   |                      |   |        | 1 | 10     |  |        |  |        | 10            |
|  | /     |    |    |    |    | 04(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 05(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 05(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 05(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 06(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 06(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 06(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 07(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 07(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO3   | /     |    |    |    |    | 07(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 08(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 08(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 08(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 09(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 09(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 09(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 10(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 10(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 10(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO4   | /     |    |    |    |    | 11(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 11(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 11(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 12(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 12(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 12(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 13(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 13(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 13(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 14(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO5   | /     |    |    |    |    | 14(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 14(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 15(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 15(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 15(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 16(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 16(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 16(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 17(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 17(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO6   | /     |    |    |    |    | 17(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 18(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 18(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 18(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 19(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 19(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 19(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 20(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 20(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 20(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO7   | /     |    |    |    |    | 21(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 21(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 21(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 22(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 22(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 22(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 23(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 23(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 23(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 24(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO8   | /     |    |    |    |    | 24(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 24(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 25(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 25(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 25(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 26(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 26(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 26(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 27(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 27(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO9   | /     |    |    |    |    | 27(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 28(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 28(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 28(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 29(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 29(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 29(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 30(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 30(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 30(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO10  | /     |    |    |    |    | 31(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 31(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 31(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 32(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 32(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 32(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 33(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 33(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 33(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 34(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO11  | /     |    |    |    |    | 34(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 34(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 35(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 35(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 35(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 36(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 36(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 36(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 37(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 37(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO12  | /     |    |    |    |    | 37(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 38(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 38(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 38(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 39(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 39(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 39(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 40(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 40(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 40(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO13  | /     |    |    |    |    | 41(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 41(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 41(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 42(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 42(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 42(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 43(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 43(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 43(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 44(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO14  | /     |    |    |    |    | 44(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 44(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 45(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 45(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 45(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 46(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 46(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 46(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 47(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 47(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
| CLO15  | /     |    |    |    |    | 47(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 48(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 48(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 48(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 49(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 49(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 49(c)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 50(a)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 50(b)                                |   |                      |   |        |   |        |  |        |  |        | 0             |
|  | /     |    |    |    |    | 50(c)                                |   |                      |   |        |   |        |  |        |  |        |               |



## 5.4 SUMMARY



### OBE ASSESSMENT

*(How to measure what the student has achieved?)*

### KEYPOINTS

- Level of Assessment
- Summative assessment
- Formative assessment
- Rubric
- Item & Marking scheme

### TOOLS

- Syllabus document
- Rubric
- ICGPA (Affective domain)
- Marking scheme
- SPMP
- Taxonomi Politeknik 2016
- CIST
- FEIST
- PAIST (FEIST for PALT)
- Buku-buku Panduan (JKE -JPPKK)

## 6.0 OBE CONTINUOUS QUALITY IMPROVEMENT (CQI)

Continuous Quality Improvement (CQI) is essential, in improving the quality of the programme. This process would help identifying problem and solution to any weakness as well as further improve the quality of the programme. Figure 6.1 show the loops CQI for each stage of OBE CQI level.

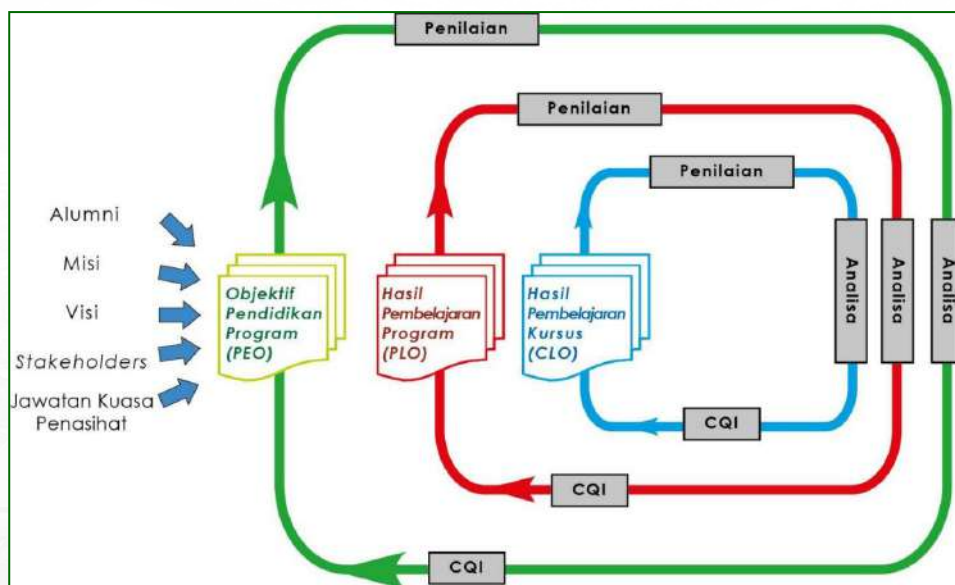


Figure 6.0 Continuous Quality Improvement

## 6.1 EVALUATION OF PEO, PLO AND CLO

PEOs are declarations representing the objectives of the programme and are measured 3 to 5 years after graduation. Surveys are normally conducted to gain data on the attainment of the alumni. The result of the survey is used to analyze the success of the programme and actions that need to be taken to further improve the programme. The attainment of PEOs very much depend on the graduates. Graduates should, by the time of graduation, have minimum achievement of the PLOs stated.

While PLOs are assessed at the end of their study, the attainment of PLO is directly measured at the end of each semester before cumulative average of the attainment is obtained. This continual assessment strategy allows the department to identify weaknesses and prepare a continual quality improvement strategy. The CQI process can be done at curriculum level (review) or at course level. At course level, attainment of the CLO is measured directly via various tools.

The responsibility of the lecturer is to identify weaknesses in the planning, delivery and assessment processes.



## 6.2 CQI FOR CLO AND PLO

The CLOs attainment is collected from the 'Sistem Pengurusan Maklumat Politeknik' SPMP. The respective lecturer can sort out analysis for determining the attainment of related CLO. The analysis results will then determine the appropriate actions for CQI.

For the PLOs attainment, since each course has its CLO mapped to a PLO that has been set for each academic programme, the data obtained from SPMP will be used as an input to measure the achievement of PLOs. The analysis results will then determine the appropriate actions for CQI.

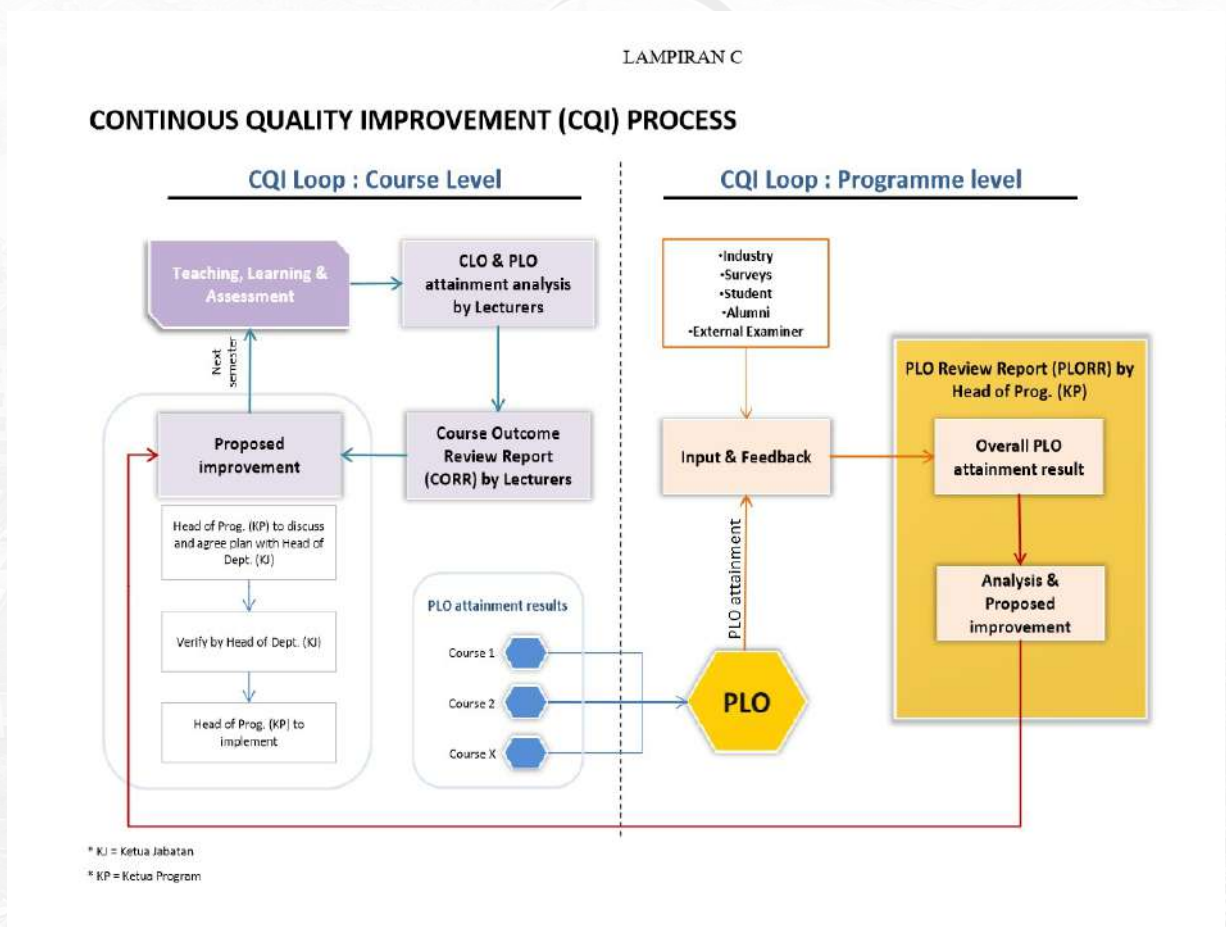


Figure 6.1 CQI Loop at Course Level and Programme Level

6.3 SPMP SETTING

A screenshot of the ‘Daftar PLO dan CLO’ in SPMP is shown in Figure 6.3. The heads of Programme are responsible to register all PLOs and CLOs. The mapping CLO vs PLO, PLO vs GSA and PLO vs LD should be done by heads of programme as shown in Figure 6.4.

### Daftar PLO dan CLO

- Daftar *Programme Learning Outcomes* (PLO)
- Daftar *Courses Learning Outcomes* (CLO)
- Daftar Template Hubungkait CLO vs PLO ikut Kod Kursus
- Semakan Hubungkait CLO vs PLO ikut Kod Kursus Pensyarah
- Daftar Hubungkait PLO dan GSA (*Generic Skills Attribute*)
- Daftar Hubungkait PLO dan 9 LD (*Learning Domain*)
- Daftar Hubungkait 9 LD POLI dan 8 LD KPM (*Learning Domain*) Untuk Jana iCGPA

- Cetak Senarai Lulusan Semester Akhir
- Cetak Analisa Taburan Skor Pencapaian Pelajar Semua Semester (PNM)
- Cetak Analisa Taburan Skor Pencapaian Pelajar Semua Semester (HPNM)
- Cetak Analisa Taburan Skor Pencapaian Pelajar Semester Akhir (PNM)
- Cetak Analisa Taburan Skor Pencapaian Pelajar Semester Akhir (HPNM)
- Cetak Data Semua Pelajar Semester Akhir
- Pamer Pelajar Beserta Drop Kursus
- Pamer Pelajar Beserta Kod Kursus Gagal
- Pamer/Cetak Statistik (data Penilaian Akhir (PA) <= 20 )

Figure 6.2 Screenshot ‘Daftar PLO dan CLO’

Daftar/Kemaskini Template Rekod PLO dan CLO ikut Kod Kursus

Makluman: Kaedah ini adalah pendaftaran hubungkait clo dan plo mengikut kod kursus yang didaftarkan. Pastikan program yang terlibat didaftarkan hubungkait yang betul dan tepat. Pensyarah akan salin ikut template yang disediakan disini.

Sila Masukkan Kod Kursus

Kod Kursus :

Berikut adalah kod kursus yang berdaftar:

Step 1: Sila Pilih Kod Program Berikut Jika hubungkait CLO dan PLO adalah sama.

DEP

| BIL | PLO                                | CLO                                |  |
|-----|------------------------------------|------------------------------------|--|
| 1.  |                                    |                                    |  |
|     | <input type="text" value="Pilih"/> | <input type="text" value="Pilih"/> | <input type="button" value="Daftar Baru"/> |
| BIL | PLO                                | CLO                                | PADAM                                      |
| 1   | PLO004                             | CLO1C                              | Padam Rekod                                |
| 2   | PLO005                             | CLO2P                              | Padam Rekod                                |
| 3   | PLO007                             | CLO3A                              | Padam Rekod                                |

Disebabkan hubungkait CLO dan PLO adalah berdasarkan kepada program, maka setiap program akan disetkan secara berlainan merujuk kepada syllabus/kurikulum.

Figure 6.3 Screenshot of the mapping CLO vs PLO



The respective lecturer is responsible to map assessments vs CLOs as shown in Figure 6.5. The mapping process also requires in Final Examination Question as shown in Figure 6.6.

Sesi Semasa : DISEMBER 2020 : DIS2020 | Utama SPMP | Menu Exam | Logout |

Utama PB | Daftar Pelajar Dibawah Pensyarah Kursus | Daftar-CLO- | Daftar-PLG- |

MODUL LAMA | Daftar-Jenis-Penilaian | Daftar-Markah | Pamer-Markah-Untuk-Samakan-Pelajar | Pamer-PB-(ISO/UPEP) | Salin-Markah-PB-(Modul-Lama) |

MODUL BARU | Daftar-Hubungkait-PLO-dan-CLO-(Individu) | Domain-Taksonomi-Bloom | Rubrik-Politeknik |

CLO (CA): | Daftar-Jenis-Penilaian (Continuous Assessment) | Daftar-CLO-ikut-soalan-dan-penilaian | Daftar-Markah (Kumpulan) | Daftar-Markah (Individu) |  
 | Pamer-Markah-Untuk-Samakan-Pelajar | Pamer-PB-(ISO/UPEP) |  
 | Salin-Markah-PB-ke-Rekod-Daftar-Markah-PA-dan-PB-(Modul-Baharu) | Pamer-PB-CLO | Pamer-Graf-CORR-CLO | Pamer-Graf-CORR-Grade-Kohot-Lama |  
 | Pamer-Graf-CORR-Grade-Kohot-Baru | Pamer-CLO/PLO/GSA-Kohot-Baru | Pamer-CLO/PLO/GSA-Kohot-Lama | Pamer-Graf-PLO/GSA |  
 | Pamer-Graf-CAFA | Cetak-Analisa-CORR-Kohot-Lama | Cetak-Analisa-CORR-Kohot-Baru | Analisa-Pencapaian-Penilaian-Akhir-Kohot-Baru |  
 | Analisa-Pencapaian-Penilaian-Akhir-Kohot-Lama | Kemaskini-Rekod-CA |  
 | PANATIA: <<< Cetak-Analisa-CORR-Semua-Program-Kohot-Lama | Cetak-Analisa-CORR-Semua-Program-Kohot-Baru |

CLO (FE): | Daftar-Jenis-Penilaian (Final Exam) | Daftar-CLO-ikut-soalan-dan-penilaian | Daftar-Markah (Kumpulan) | Daftar-Markah (Individu Keseluruhan) |  
 | Daftar-Markah (Individu-ikut-Penilaian) | Pamer-PA-CLO | Salin-Markah-PA-ke-Rekod-Daftar-Markah-PA-dan-PB-(Modul-Baharu) | Kemaskini-Rekod-FE |  
 | Cetak-Borang-Markah-Item-Penepiksaan-Akhir |

PA/PB > Daftar-Markah-PA-dan-PB [TUTUP] | Cetak-Borang-Markah-PA-dan-PB |

Markah Penilaian Berterusan | Sila Masukkan Markah Mengikut Jenis Penilaian :

Sila Pilih Format Penilaian :  
☐ ESSAY ☐ GENERIC SKILL ☐ PRACTICAL ☒ QUIZ ☐ TEST

Sila Klik Penilaian Dibawah Untuk Memasukkan Markah.

1. QUIZ 1 10.0 % Kod Kursus : DEP50063  
 2. QUIZ 2 10.0 % Kod Kursus : DEP50063

Penentuan CLO mengikut soalan Q1 (10.0%) yang telah dinyatakan sebanyak 1 soalan

\*\* Sila Setkan CLO Bagi Q1 bagi sesi DIS2020. Jumlah keseluruhan ialah sebanyak 10.0 peratus.  
 Makluman: Untuk perincian, sila rujuk Sukatan Mata pelajaran/Silabus bagi kod modul DEP50063 berkaitan CLO (Course Learning Outcome) yang dinyatakan. Harap maklum.

| BIL                                | NO. SOALAN | CLO   | JUM. MARKAH | PADAM              |
|------------------------------------|------------|-------|-------------|--------------------|
| 1                                  | Soalan 1   | CLO1C | 10.0        | Markah Padam Rekod |
| Jumlah Keseluruhan Markah Bagi Q1: |            |       | 10.0        | / 10.0             |

Simpan/Kemaskini

Figure 6.4 Screenshot of the mapping assessments vs CLOs

Sesi Semasa : DISEMBER 2020 : DIS2020 | Utama SPMP | Menu Exam | Logout |

Utama PB | Daftar Pelajar Dibawah Pensyarah Kursus | Daftar-CLO- | Daftar-PLG- |

MODUL LAMA | Daftar-Jenis-Penilaian | Daftar-Markah | Pamer-Markah-Untuk-Samakan-Pelajar | Pamer-PB-(ISO/UPEP) | Salin-Markah-PB-(Modul-Lama) |

MODUL BARU | Daftar-Hubungkait-PLO-dan-CLO-(Individu) | Domain-Taksonomi-Bloom | Rubrik-Politeknik |

CLO (CA): | Daftar-Jenis-Penilaian (Continuous Assessment) | Daftar-CLO-ikut-soalan-dan-penilaian | Daftar-Markah (Kumpulan) | Daftar-Markah (Individu) |  
 | Pamer-Markah-Untuk-Samakan-Pelajar | Pamer-PB-(ISO/UPEP) |  
 | Salin-Markah-PB-ke-Rekod-Daftar-Markah-PA-dan-PB-(Modul-Baharu) | Pamer-PB-CLO | Pamer-Graf-CORR-CLO | Pamer-Graf-CORR-Grade-Kohot-Lama |  
 | Pamer-Graf-CORR-Grade-Kohot-Baru | Pamer-CLO/PLO/GSA-Kohot-Baru | Pamer-CLO/PLO/GSA-Kohot-Lama | Pamer-Graf-PLO/GSA |  
 | Pamer-Graf-CAFA | Cetak-Analisa-CORR-Kohot-Lama | Cetak-Analisa-CORR-Kohot-Baru | Analisa-Pencapaian-Penilaian-Akhir-Kohot-Baru |  
 | Analisa-Pencapaian-Penilaian-Akhir-Kohot-Lama | Kemaskini-Rekod-CA |  
 | PANATIA: <<< Cetak-Analisa-CORR-Semua-Program-Kohot-Lama | Cetak-Analisa-CORR-Semua-Program-Kohot-Baru |

CLO (FE): | Daftar-Jenis-Penilaian (Final Exam) | Daftar-CLO-ikut-soalan-dan-penilaian | Daftar-Markah (Kumpulan) | Daftar-Markah (Individu Keseluruhan) |  
 | Daftar-Markah (Individu-ikut-Penilaian) | Pamer-PA-CLO | Salin-Markah-PA-ke-Rekod-Daftar-Markah-PA-dan-PB-(Modul-Baharu) | Kemaskini-Rekod-FE |  
 | Cetak-Borang-Markah-Item-Penepiksaan-Akhir |

PA/PB > Daftar-Markah-PA-dan-PB [TUTUP] | Cetak-Borang-Markah-PA-dan-PB |

Markah Penilaian Akhir | Sila Masukkan Markah Mengikut Jenis Penilaian :

Sila Pilih Format Penilaian :  
☐ ESSAY ☒ STRUCTURE

Sila Klik Penilaian Dibawah Untuk Memasukkan Markah.

1. STRUCTURE 1 20.0 % Kod Kursus : DEP50063  
 2. STRUCTURE 2 20.0 % Kod Kursus : DEP50063  
 3. STRUCTURE 3 20.0 % Kod Kursus : DEP50063  
 4. STRUCTURE 4 20.0 % Kod Kursus : DEP50063

Penentuan CLO mengikut soalan STRUCT1 (20.0%) yang telah dinyatakan sebanyak 1 soalan

\*\* Sila Setkan CLO Bagi STRUCT1 bagi sesi DIS2020. Jumlah keseluruhan ialah sebanyak 20.0 peratus.  
 Makluman: Untuk perincian, sila rujuk Sukatan Mata pelajaran/Silabus bagi kod modul DEP50063 berkaitan CLO (Course Learning Outcome) yang dinyatakan. Harap maklum.

| BIL                                     | NO. SOALAN | CLO   | JUM. MARKAH | PADAM              |
|---|------------|-------|-------------|--------------------|
| 1                                       | Soalan 1   | CLO1C | 20.0        | Markah Padam Rekod |
| Jumlah Keseluruhan Markah Bagi STRUCT1: |            |       | 20.0        | / 20.0             |

Simpan/Kemaskini

Figure 6.5 Screenshot of the mapping Final Exam (FE) Question vs CLOs



The respective lecturer can print out the analysis of Course Outcome Review Report (CORR) from SPMP as shown in Figure 6.7. An example of CORR report as shown in Figure 6.8. From the analysis, the attainment of CLO1C is 48% which is not achieving the target which is 50%. The respective lecturer should suggest CQI to be implemented for the next session.

|            |  |   |   |
|------------|--|---|---|
| Utama PB   | Daftar Pelajar Dibawah Pensyarah Kursus              | Daftar CLO                                  | Daftar PLO  |
| MODUL LAMA | Daftar Jenis Penilaian                               | Daftar Markah                               | Pamer Markah Untuk Semakan Pelajar                              |
| MODUL BARU | Daftar Hubungkait PLO dan CLO (Individu)             | Domain Taksonomi Bloom                      | Rubrik Politeknik   |
| CLO (CA):  | Daftar Jenis Penilaian (Continuous Assessment)       | Daftar CLO ikut soalan dan penilaian        | Daftar Markah (Kumpulan)  |
|            | Pamer Markah Untuk Semakan Pelajar                   | Pamer PB (ISO/IUEP)                         | Salin Markah PB ke Rekod Daftar Markah PA dan PB (Modul Baharu) |
|            | Pamer Graf CORR Grade Kohot Baru                     | Pamer CLO/PLO/GSA Kohot Baru                | Pamer CLO/PLO/GSA Kohot Lama                                    |
|            | Pamer Graf CAFA                                      | Cetak Analisa CORR Kohot Lama               | Cetak Analisa CORR Kohot Baru                                   |
|            | Analisa Pencapaian Penilaian Akhir Kohot Lama        | Kemaskini Rekod CA                          |   |
| CLO (FE):  | PANATIA: Cetak Analisa CORR Semua Program Kohot Lama | Cetak Analisa CORR Semua Program Kohot Baru |   |
|            | Daftar Jenis Penilaian (Final Exam)                  | Daftar CLO ikut soalan dan penilaian        | Daftar Markah (Kumpulan)  |
|            | Daftar Markah (Individu ikut Penilaian)              | Pamer PA_CLO                                | Salin Markah PA ke Rekod Daftar Markah PA dan PB (Modul Baharu) |
|            | Cetak Borang Markah Item Peperiksaan Akhir           |   | Kemaskini Rekod FE  |
| PA/PB      | Daftar Markah PA dan PB                              | Cetak Borang Markah PA dan PB               |   |

Figure 6.6 Screenshot of printing CORR

1. COURSE INFORMATION

Programme : DIPLOMA KEJURUTERAAN ELEKTRONIK (KOMUNIKASI) [ DEP ]  
Class : DEP5A, DEP6B  
Course Name : DEP50063 - WIRELESS COMMUNICATION  
Lecture : MOHD AFFENDY BIN CHIN'ONG  
Number Of Student : 13  
Date : 07/08/2021 Cth Tarikh : 24/07/2012

2. PERFORMANCE INDICATOR

|   | TARGET (%) | ACHIEVEMENT |
|---|------------|-------------|
| 1. Student Performance : % achieving grade C and above.                     | 50         | 92.3        |
| 2. CLO achievement : >50% attainment for CLO's.                             | 50         | 100.0       |
| 3. PLO achievement : >50% attainment for PLO's.                             | 50         | 100.0       |
| 4. Student achieve > 80% - attendance                                       | 100        | 100         |
| 5. < 30% difference between continuous assessment (CA) and final exam (FE). | 30         | 53.8        |

3. STUDENT PERFORMANCE

| Grade(% of student) |      |     |      |      |      |    |      |     |    |   |   |   |
|---------------------|------|-----|------|------|------|----|------|-----|----|---|---|---|
| A+                  | A    | A-  | B+   | B    | B-   | C+ | C    | C-  | D+ | D | E | F |
| 0                   | 23.1 | 7.7 | 15.4 | 15.4 | 15.4 | 0  | 15.4 | 7.7 | 0  | 0 | 0 | 0 |

4. COURSE LEARNING OUTCOME

|       |   | Group Attainment (%) | Student Achieve >= 50% |
|-------|---|----------------------|------------------------|
| CLO1C | Investigate the principle of wireless in implementing the concept and system of wireless communication using appropriate technique and designated formula (C4,PLO4) | 53.0                 | 61.5                   |
| CLO2P | Assemble the related wireless communication equipment's systematically in performing the assigned practical work (P4,PLO5)  | 88.0                 | 100                    |
| CLO3A | Express the awareness of wireless technology in environment and sustainability on assigned essay questions (A3,PLO7)  | 85.0                 | 100                    |

5. PROGRAMME LEARNING OUTCOME

|        |  | Group Attainment (%) | Student Achieve >= 50% |
|--------|--|----------------------|------------------------|
| PLO004 | Conduct investigations of well-defined problems: locate and search relevant codes and catalogues, conduct standard tests and measurements  | 53                   | 61.5                   |
| PLO006 | Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)                          | 88                   | 100                    |
| PLO007 | 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) | 85                   | 100                    |

6. REFLECTION (KOMEN DAN CADANGAN)

| PENCAPAIAN / ACHIEVEMENT  | CADANGAN<br>(Cadangan untuk baiki PLO < 50%)  |
|---|---|
| Seperti yang dilihat, pencapaian pada kesemua PLO adalah memuaskan.<br>Walaupun bagaimanapun, pencapaian PLO1 perlu ditingkatkan lagi supaya melepasi target 50%. | 1. Perlu penambahbaikan kepada soalan-soalan Assessment yang melibatkan Chapter 2 dan Chapter 4.<br>2. Perlu penambahbaikan kepada soalan-soalan Tutorial dimana soalan akan ditumpukan pada Chapter 2 dan Chapter 4. |

7. KEMASKINI/SIMPAN DAN CETAK CORR

Simpan Rekod
Cetak CORR

Figure 6.7 CORR Report generated from SPMP



In Figure 6.8 shows that course lecturer has to propose the CQI in CORR Report generated from SPMP. This CQI must be discussed first with the course coordinator before they can propose it.



**CONTINUOUS QUALITY IMPROVEMENT REPORT (CQI)**  
(Session: JUN 2020)

|  |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
|--|---|----------------------------|----|----|---|----|----|---|----|----|---|---|----|---|
| <b>1.0 Course Information</b>                    |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 1.1 Program                                      | DEP   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 1.1 Code & Course Name                           | DEP 50063 & WIRELESS COMMUNICATION  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 1.2 Class & 1.3 Lecturer                         | i. DEP5A  | MOHD AFFENDY BIN CHI' NONG |    |    |   |    |    |   |    |    |   |   |    |   |
|  | ii. DEP5B   | MOHD AFFENDY BIN CHI' NONG |    |    |   |    |    |   |    |    |   |   |    |   |
|  | iii.  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 1.4 Number of Students                           | 37  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| <b>2.0 Discussion Minutes JUN 2020</b>           |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 2.1 Attendance                                   | 100%  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 2.2 Date   | 3.8.2020  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 2.3 Time   | 3.00pm  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 2.4 Venue  | Bilik Perbincangan Aras 1, JKE  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| <b>3.0 Issue / Problem CLO &amp; PLO DIS2019</b> |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 3.1 CLO  | Meningkatkan CLO 3 kepada 70%   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 3.2 PLO  | Meningkatkan PLO 7 kepada 70%   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| <b>4.0 CQI Programme/ Activity/ Task JUN2020</b> |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 4.1 Name of Activity/ Programme                  | Cadangan aktiviti adalah mengadakan sesi "Knowledge Sharing" bersama pelajar tentang ilmu "Environment & Sustainability".   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 4.2 Date of Execution                            | S sepanjang sesi Jun 2020   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 4.3 Number of students                           | 37  |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 4.4 Objectives                                   | 1. Meningkatkan pencapaian pelajar bagi CLO 3 dan PLO 7<br>2. Memberi penjelasan dan penerangan mengenai PLO7 iaitu berkaitan Environment & Sustainability dengan kursus wireless communication |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 4.5 Summary of Activity                          | Memandangkan sesi Jun 2020 proses pengajaran dan pembelajaran dilaksanakan secara dalam talian, oleh itu sesi knowledge sharing dilakukan secara atas talian (online)                           |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| <b>5.0 Student Achievement</b>                   |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| 5.1 Student Grade (% of student)                 |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |
| GRADE  | A+  | A                          | A- | B+ | B | B- | C+ | C | C- | D+ | D | E | E- | F |
| SESSION  |   |                            |    |    |   |    |    |   |    |    |   |   |    |   |

Figure 6.8 The figure shows an example of a CQI proposal report from the results of discussions between the course coordinator and the course lecturer together with the Head of Program and Head of Department.

In Figure 6.9 shows that the example of a CQI proposal report from the results of discussions between the course coordinator and the course lecturer together with the Head of Program and Head of Department. Usually, a discussion will be done first between the Course Coordinator and the course Lecturer about the proposed CQI action that will be done for the next semester.

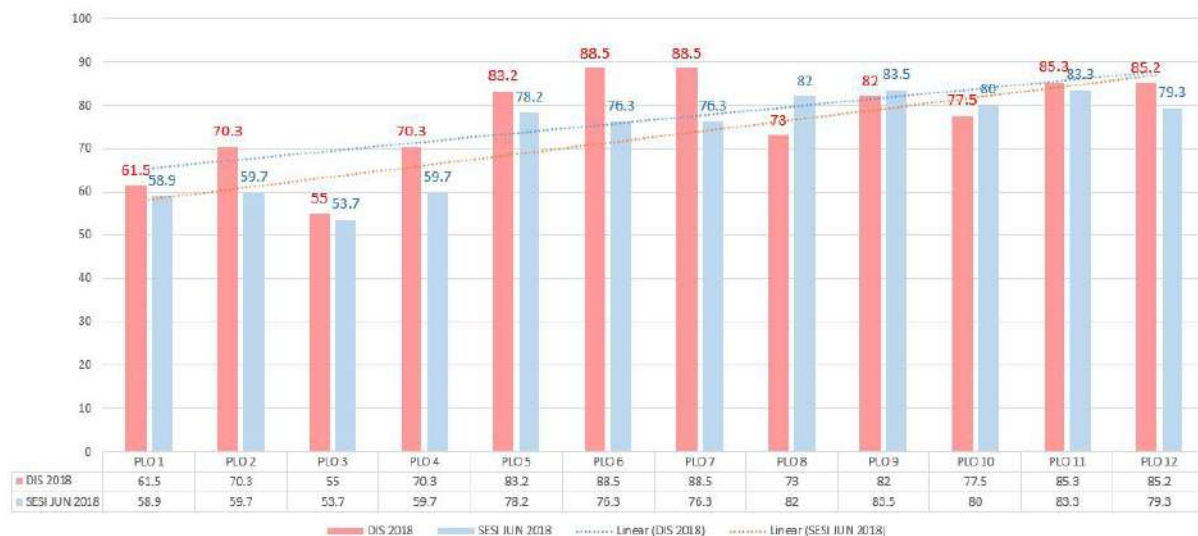
### PLO ACHIEVEMENT PERFORMANCE FOR SEMESTER 1 - 6 FOR DEC 2018 SESSION

|            | PLO 1 | PLO 2 | PLO 3 | PLO 4 | PLO 5 | PLO 6 | PLO 7 | PLO 8 | PLO 9 | PLO 10 | PLO 11 | PLO 12 | Average % |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|-----------|
| SEMESTER 1 | 52    | 82    | 74    |       | 75    |       |       | 83    | 83    | 77     |        | 74     | 75.0      |
| SEMESTER 2 | 49    | 80    |       |       | 73    |       |       | 76    | 84    | 80     |        | 73     | 73.6      |
| SEMESTER 3 | 46    | 70    | 74    |       | 74    | 84    |       |       | 74    | 75     |        | 79     | 71.0      |
| SEMESTER 4 | 35    | 49    | 58    | 56    | 80    | 91    | 92    |       |       | 76     | 84     | 77     | 69.8      |
| SEMESTER 5 | 41    | 45    | 68    | 59    | 82    | 97    | 83    | 79    | 83    | 78     | 78     | 85     | 73.2      |
| SEMESTER 6 | 43    | 35    | 67    | 48    | 81    |       | 84    |       |       | 81     | 83     | 78     | 66.7      |
| AVERAGE %  | 44.3  | 60.2  | 68.2  | 54.3  | 77.5  | 90.7  | 86.3  | 79.3  | 81.0  | 77.8   | 81.7   | 77.7   |           |

Figure 6.9 Example of PLORR Report for the specific cohort from semester 1 to semester 6 generated from SPMP system



# PLO ACHIEVEMENT COMPARISON BETWEEN DEC 2018 & JUNE 2018 (12 PLOs)



**Figure 6.10 diagram showing the difference in PLO achievement between semesters before (JUNE 2018) and after (DEC 2018) generated from SPMP system.**

In Figure 6.11 shows the example of difference in PLO achievement between semesters before (JUNE 2018) and after (DEC 2018) generated from SPMP system. Normally, these graphs and reports (Figure 6.10 and Figure 6.11) will be presented to the Academic Deputy during the Academic Management Meeting between the TPA, the Head of Program for all departments and also the Heads of Departments.

**POLITEKNIK TUANKU SULTANAH BAHYAH**  
**STUDENT PROGRAMME LEARNING OUTCOME REVIEW REPORT**

**1. COURSE INFORMATION**

PROGRAMME : DIPLOMA KEJURUTERAAN ELEKTRONIK (KOMUNIKASI)  
 NAME : MUHAMMAD SANIM ASHRAF BIN SOBRI  
 ID NO : 16DEP18F2001  
 SESSION : DECEMBER 2020

**2. PROGRAMME LEARNING OUTCOME**

| PLO    | SECTION   | ATTAINMENT (%) |
|--------|---|----------------|
| PLO001 | 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  | 65             |
| PLO002 | Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)   | 74             |
| PLO003 | 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) | 82             |
| PLO004 | Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements   | 72             |
| PLO005 | Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)   | 84             |
| PLO006 | 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)   | 78             |
| PLO007 | 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)  | 97             |
| PLO008 | Understand and commit to professional ethics and responsibilities and norms of technician practice  | 77             |
| PLO009 | Function effectively as an individual, and as a member in diverse technical teams   | 73             |
| PLO010 | 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                           | 87             |
| PLO011 | 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  | 84             |
| PLO012 | Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge  | 79             |

**3. PREPARED BY / DISEDIKAN OLEH**

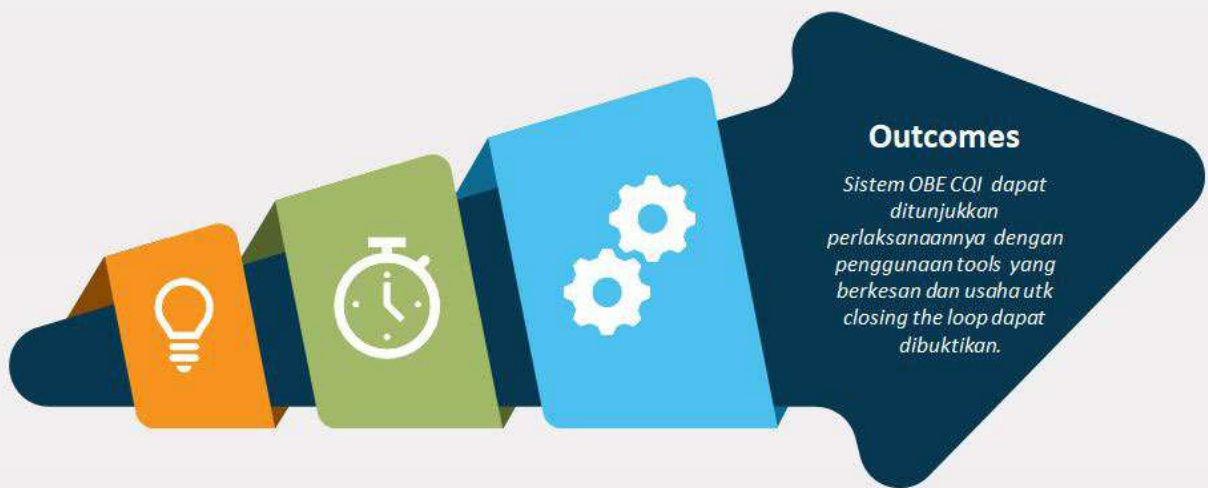
|                    | Nama                 | Signature | Date: |
|--------------------|----------------------|-----------|-------|
| Penasihat Akademik | ZAWIYAH BT. MOKHTAR  |           |       |
| Ketua Jabatan      | HUSAINI AZA BIN ADAM |           |       |

In Figure 6.11 shows the example of Programme Learning Outcome Report (PLORR) for students that can be obtained from the SPMP system.

In Figure 6.12, shows the PLORR report for students that can be obtained from the SPMP system. From this report, students and Academic Advisors (PAs) can see student achievement and can make discussions and plans for the next semester.



## 6.4 SUMMARY



### OBE CQI

*(To ensure the OBE system is constantly undergoing a process of improvement)*

### KEYPOINTS

- Closing the loops
- CQI CLO
- CQI PLO
- CQI PEO
- CQI loop
- PLO Achievement ( For Students)

### TOOLS

- SPMP
- CORR
- Borang CQI
- PLORR
- PEO Survey

## 7.0 STEPS TOWARDS THE OBE

work steps of the lecturers each semester involve three (3) main phases in figure 7. 1

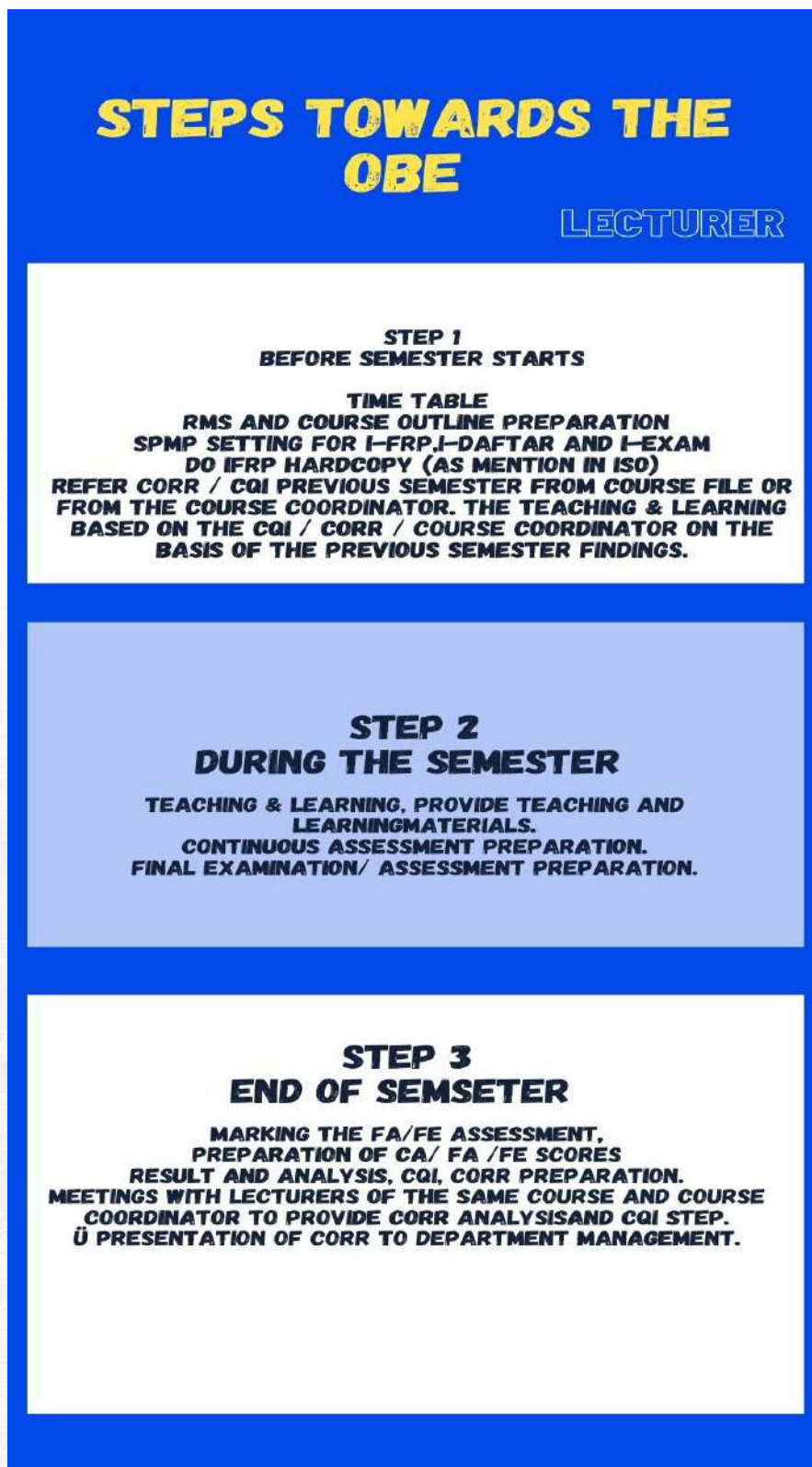


figure 7.0 : work steps of the lecturers each semester.



# 7.0 STEPS TOWARDS THE OBE

The procedure and tools used in helping lecturer to develop a constructive teaching plan is shown in Figure 7.2.

| STEP 1   | STEP 2   | STEP 3   |
|--|--|--|
| <ul style="list-style-type: none"><li>• Interpret and implement the curriculum.</li><li>• Plan learning and teaching activities: RMS, Course Outline, Sistem Pengurusan Maklumat Politeknik (SPMP) setting for i-FRP, i- Daftar and i-Exam.</li><li>• Provide teaching and learning materials.</li></ul> | <ul style="list-style-type: none"><li>• Deliver learning and teaching (theories and practical).</li><li>• Implement student performance evaluation.</li><li>• Continuous Assessment preparation by referring AST/ CIST/ CAIST.</li><li>• Final Examination/ Assessment preparation by referring FEIST/FAIST.</li></ul> | <ul style="list-style-type: none"><li>• Improve the learning and teaching process from time to time:</li><li>• Result Spreadsheet preparation and analysis, CQI, CORR preparation.</li></ul> |

figure 7.1 : The procedure and tools used in helping lecturer to develop a constructive teaching plan.

## 7.1 ABBREVIATION

- SPMP : Sistem Pengurusan Maklumat Politeknik
- FRP: Fail Rekod Pensyarah
- AST: Assessment Specification Table
- CIST Coursework Item Specification Table
- CAIST: Coursework Assessment Item Specification Table
- FEIST: Final Exam Item Specification Table
- FAIST: Final Assessment Item Specification Table
- CQI: Continuous Quality Improvement

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## **APPENDIX A:**

### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO) & PROGRAMME LEARNING OUTCOMES (PLO)**

#### **1.0 ELECTRICAL ENGINEERING DEPARTMENT:**

**DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING**

**DIPLOMA IN ELECTRONIC ENGINEERING (COMPUTER)**

**DIPLOMA IN ELECTRONIC ENGINEERING (COMMUNICATION)**

**DIPLOMA IN ELECTRICAL ENGINEERING**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

The engineering programme should produce balanced TVET graduates who are:

PEO1: Practicing technician in electrical engineering related field

PEO2: Contributing to society with professional ethic and responsibilities

PEO3: Engaging in enterprising activities that apply engineering knowledge and technical skills

PEO4: Engaging in activities to enhance knowledge for successful career advancement

#### **PROGRAMME LEARNING OUTCOMES (PLO)**

##### **1.1.1 DIPLOMA IN ELECTRICAL AND ELECTRONIC ENGINEERING**

Upon completion of the programme, students should be able to:

PLO1: 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.

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4).



PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams.

PLO10: 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

PLO11: 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

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

### **1.2.1 DIPLOMA IN ELECTRONIC ENGINEERING (COMPUTER)**

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)



PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

### **1.3.1 DIPLOMA IN ELECTRONIC ENGINEERING (COMMUNICATION)**

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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



PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

### **1.4.1 DIPLOMA IN ELECTRICAL ENGINEERING**

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

## **2.0 MECHANICAL ENGINEERING DEPARTMENT:**

### **2.1 DIPLOMA IN MECHANICAL ENGINEERING (MANUFACTURING)**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

**The Diploma in Mechanical Engineering (Manufacturing) programme should produce Assistant Mechanical Engineers who are:**

- PEO1: Equipped with industry-relevant knowledge and skills in Mechanical Engineering field.
- PEO2: Engaging on lifelong and continuous learning to enhance knowledge and skills.
- PEO3: Instilled with entrepreneurial skills and mind set in the real working environment.
- PEO4: Established with strong linkage with society and players in the industry.



## 2.2 DIPLOMA IN MECHANICAL ENGINEERING

**The Diploma in Mechanical Engineering and Mechatronic Engineering programme should produce balanced and competent technical workers who are:**

- PEO1: Equipped with industry-relevant knowledge and skills in Mechanical Engineering field
- PEO2: Engaging on lifelong and continuous learning to enhance knowledge and skills
- PEO3: Instilled with entrepreneurial skills and mind set in the real working environment
- PEO4: established strong linkage with society and players in the industry

## 2.3 DIPLOMA IN MECHATRONIC ENGINEERING

**The Diploma in Mechanical Engineering programme should produce balanced and competent technical workers who are:**

- PEO1: Equipped with industry-relevant knowledge and skills in mechanical engineering field
- PEO2: Engaging on lifelong and continuous learning to enhance knowledge and skills
- PEO3: Instilled with entrepreneurial skills and mind set in the real working environment
- PEO4: Established strong linkage with society and players in the industry

## **PROGRAMME LEARNING OUTCOMES (PLO)**

### **2.1.1 DIPLOMA IN MECHANICAL ENGINEERING (MANUFACTURING)**

Upon completion of the programme, students should be able to:

PLO1: Apply knowledge of applied mathematics, applied science, engineering fundamentals and an engineering specialisation as specified in DK1 to DK4 respectively for practical procedures and practices

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)



PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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

PLO12: recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

### **2.2.1 DIPLOMA IN MECHANICAL ENGINEERING**

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge



### 2.3.1 DIPLOMA IN MECHATRONIC ENGINEERING

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: 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)

PLO3: Design / development of solution: 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)

PLO4: Investigation: conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements

PLO5: 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)

PLO6: 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)

PLO7: 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)

PLO8: Ethics: understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Individual and team work: function effectively as an individual, and as a member in diverse technical teams

PLO10: Communication: 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

PLO11: 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

PLO12: Lifelong learning: recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

### **3.0 CIVIL ENGINEERING DEPARTMENT :**

#### **3.1 DIPLOMA IN GEOMATICS**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

**Diploma in Geomatics programme should produce Geomatician that able to :**

PEO1: Adapt themselves with new technological advancement and challenges in the field of geomatics

PEO2: Become a leader and work as a team

PEO3: Promote good morality and behavior that will continuously enhance their knowledge and skills



PEO4: Solve managerial and field problems and possess entrepreneur skills to prepare themselves for future challenges as lifelong learning

### **3.2 DIPLOMA IN CIVIL ENGINEERING**

**The Diploma in Civil Engineering programme shall produce semi-professionals who are:**

PEO1: Working in the field of civil engineering

PEO2: Lead or a team member to support their role in industries

PEO3: Engaged in activities to enhance knowledge or starting/embark their own enterprise

PEO4: Fulfill professional and communitie responsibilities, conforming to ethical and environmental values

### **PROGRAMME LEARNING OUTCOMES (PLO)**

#### **3.1.1 DIPLOMA IN GEOMATICS**

Upon completion of the programme, students should be able to:

PLO1: Apply knowledge in geomatics discipline that fulfills standard terms requirement

PLO2: Analyse field problems critically and creatively

PLO3: Construct practical skills by using appropriate technic and surveying instrument in geomatics discipline

PLO4: Integrate communication skills and collaborative skills in networking and culture issues

PLO5: Organize information and pursue knowledge relating to digital and numerical skills

PLO6: Organize leadership and responsibilities of team work in geomatics field

PLO7: Organize personal skills and entrepreneurial mind set for career path development

PLO8: Organize high ethical standards and professionalism pertaining to the surveying practices

### **3.2.1 DIPLOMA IN CIVIL ENGINEERING**

Upon completion of the programme, students should be able to:

PLO1: 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

PLO2: Identify and analyse well-defined engineering problems reaching substantiated conclusions using codified methods of analysis specific to their field of activity (DK1 to DK4)

PLO3: 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)

PLO4: Conduct investigations of well-defined problems; locate and search relevant codes and catalogues, conduct standard tests and measurements



PLO5: Apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6)

PLO6: 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)

PLO7: 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)

PLO8: Understand and commit to professional ethics and responsibilities and norms of technician practice

PLO9: Function effectively as an individual, and as a member in diverse technical teams

PLO10: 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

PLO11: 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

PLO12: Recognise the need for, and have the ability to engage in independent updating in the context of specialised technical knowledge

## **4.0 COMMERCE DEPARTMENT :**

### **4.1 DIPLOMA IN BUSINESS STUDIES**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

**The Diploma in Business Studies programme shall produce semi-professionals who are:**

- PEO1: Business practitioners who apply knowledge, understanding and managerial skills in providing solutions for business issues and challenges.
- PEO2: Business practitioners who are agile in the execution of and able to manipulate digital applications and data to perform business tasks.
- PEO3: Business practitioners who communicate effectively in executing the roles of a leader as to provide high quality of services to the business operations.
- PEO4: Business practitioners who proactively acquire new knowledge and skills for career advancement and comply with organizational and professional ethics in work and social environment.

### **4.2 DIPLOMA IN ACCOUNTANCY**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO):**

**Diploma in Accountancy programmed shall produce semi-professionals accounting practitioners who are:**

- PEO1 : Knowledgeable and technically competent in accounting discipline in line with the industry requirement
- PEO2 : Able to integrate values, attitudes, professionalism and social skills in engaging with society and stakeholders
- PEO3 : Adopt the roles of a leader and a team member, and communicate effectively to provide data driven solutions for accounting problems



PEO4 : Proactively acquire new knowledge and skills for career advancement and innovatively manage resources and information

### **4.3 DIPLOMA IN MARKETING**

#### **PROGRAMME EDUCATIONAL OBJECTIVES (PEO):**

**The Diploma in Marketing programmer shall produce semi-professionals who are able to:**

- PEO1: Occupy the field of marketing with marketers who are knowledgeable and skillful in marketing world.
- PEO2: Provide the industries with marketers who can communicate well in written and spoken to convey information as a leader or a member of a team in executing programmers related to marketing as well as other activities in a variety of contexts.
- PEO3: Produce marketers who are involved in continuously seeking knowledge and skills activities or emerge as an entrepreneur in order to sustain themselves in the challenging world of information and technology.
- PEO4: Establish the behaviour of marketers by conforming to the ethics and professionalism of marketing in order to grow and succeed in life within industries, organisations as well as society.

#### **PROGRAMME LEARNING OUTCOMES (PLO)**

##### **4.1.1 DIPLOMA IN BUSINESS STUDIES**

Upon completion of the programme, students should be able to:

- PLO1: Apply principles of business and other related areas in managing business operations.

PLO2: Analyze issues and solutions in conducting business operations.

PLO3: Demonstrate business technical skills in business activities.

PLO4: Demonstrate effective communication and interpersonal skills in a team.

PLO5: Use digital application and interpret data in managing business operations.

PLO6: Demonstrate social skills and responsibilities by taking alternate roles as a leader or member of a diverse team.

PLO7: Demonstrate personal and entrepreneurial skills in managing business operating activities.

PLO8: Integrate professionalism, positive attitudes and values in engaging with society and stakeholders.

#### **4.2.1 DIPLOMA IN ACCOUNTANCY**

Upon completion of this programme, students should be able to:

PLO1: Discuss knowledge of accounting and related field in an organization.

PLO2: Apply financial and non-financial information in decision making process.

PLO3: Prepare financial statements and internal reports that comply with approved standards and provide tax, audit and other accounting related services.

PLO4: Demonstrate effective communication to relevant stakeholders in all aspects of decision making.



PLO5: Apply various types of digital application ethically and propose data driven solutions.

PLO6: Develop leadership to manage diverse team in order to be effective members in organization.

PLO7: Demonstrate a commitment to continue in professional development and possess entrepreneurial skills.

PLO8: Demonstrate positive values, ethics and accountability with professional scepticism in engaging with society and stakeholders.

#### **4.3.1 DIPLOMA IN MARKETING**

Upon completion of the programme, students should be able to:

PLO1: Apply good understanding of concepts and theories in the field of marketing.

PLO2: Analyze valuable information and ideas gathered by possessing scientific skills and utilizing different thinking skills in order to solve problems in marketing.

PLO3: Perform marketing practical work skills in managing marketing activities.

PLO4: Display the ability to work in a group effectively by conveying verbal and written information coherently as a leader or a member of a team in managing marketing operations.

PLO5: Adopt a variety of skills in managing information including the use of digital application and commit to continue seeking knowledge for self improvement.

PLO6: Demonstrate the ability of being a responsible individual either as a leader or a member of a team by using social skills in delivering messages, thoughts and feelings with others.

PLO7: Decide career path by identifying self-improvement initiatives and possibilities of being an entrepreneur during exploration and engagement in entrepreneurial activities.

PLO8: Exhibit acts of integrity through positive values, ethics and professionalism in executing marketing activities.





## APPENDIX B:

### RUBRICS

#### ELECTRICAL ENGINEERING DEPARTMENT

##### DET30043 ELECTRICAL MACHINE –

##### RUBRICS FOR PRACTICAL WORKS CLO2 WITH GENERIC SKILLS CLO3

PRACTICAL WORK:

PROGRAM:

GROUP:

DATE:

| Criteria/<br>Students | Practical Skill Assessment<br>/CLO2 (P4) |          |          |          |          |               | Generic Skill<br>Assessment/CLO3 (A3) |          |          |          |          |               |
|-----------------------|--|----------|----------|----------|----------|---------------|---------------------------------------|----------|----------|----------|----------|---------------|
|                       | A<br>(5)                                 | B<br>(5) | C<br>(5) | D<br>(5) | E<br>(5) | Total<br>(25) | A<br>(5)                              | B<br>(5) | C<br>(5) | D<br>(5) | E<br>(5) | Total<br>(25) |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |
|                       |  |          |          |          |          |               |                                       |          |          |          |          |               |

**\*\*Remarks**

- A – Set-up using appropriate equipment
- B – Ability to conduct experiment use essential equipment Electrical Machine
- C – Following safety rules
- D – Data collection and conclusion of Electrical Machine method
- E – Question and answer

##### Practical Skill Assessment / CLO2 (Assessment A - E)

| Score | Description   |
|-------|---|
| 5     | Student can complete all tasks assigned without errors        |
| 4     | Student can complete all tasks assigned with a few errors     |
| 3     | Student can complete partial tasks assigned without errors    |
| 2     | Student can complete partial tasks assigned with a few errors |
| 1     | Student participate partially.                                |
| 0     | Student shows no response/task not attempted                  |

### Generic Skill Assessment / CLO3 Leadership

#### A: Knowledge and skills in leadership, B: Effective leadership,

| Marks      |                                    | 1 mark  | 2 mark  | 3 marks  | 4 marks  | 5 marks   |
|------------|------------------------------------|---|---|--|--|---|
| Attribute  | Subattribute                       | Very Weak   | Weak  | Fair   | Good   | Very Good   |
| Leadership | Knowledge and skills in leadership | No clear evidence of knowledge and understanding demonstrated in practice | Able to demonstrate knowledge and understanding in practice but require improvements                              | Able to demonstrate knowledge and understanding in practice and require minor improvements               | Able to demonstrate knowledge and understanding in practice well     | Very clear evidence of knowledge and understanding demonstrated in practice   |
|            | Effective leadership               | No clear evidence of ability to lead self and/or others                   | Able to lead self and/or others towards goal achievement but with limited effect and require further improvements | Able to lead self and/or others towards goal achievement with some effect and require minor improvements | Able to lead effectively self and/or others towards goal achievement | High ability to lead effectively self and/or others towards goal achievement. |

### Generic Skill Assessment / CLO3 Team-work

#### C: Foster good relationship, D: Alternate roles, E: Respect and accept opinions

| Marks     |                             | 1 mark   | 2 mark   | 3 marks  | 4 marks   | 5 marks  |
|-----------|-----------------------------|--|--|--|---|--|
| Attribute | Subattribute                | Very Weak  | Weak   | Fair   | Good  | Very Good  |
| Teamwork  | Foster good relationship    | No clear evidence of ability to foster good relationships and work together effectively with other group members towards goal achievement. | Able to foster relationship and work together with other group members towards goal achievement but with limited effect and require improvements       | Able to foster relationship and work together with other group members towards goal achievement with some effect(s) and require minor improvements           | Able to foster good relationship and work together with other group members towards goal achievement                                | High ability to foster good relationship and work together effectively with other group members towards goal achievement |
|           | Alternate roles             | No clear evidence of ability to assume alternate roles as a group leader and group members demonstrated in practice                        | Attempt to demonstrate in practice the ability to alternate roles as a group leader and group members but with limited effect and require improvements | Able to demonstrate in practice the ability to assume alternate roles as a group leader and group members with some effect(s) and require minor improvements | Able to demonstrate in practice the ability to assume alternate roles as a group leader and a group member to achieve the same goal | Show clear evidence to assume alternate roles as a group leader and a group member demonstrated in practice              |
|           | Respect and accept opinions | Not able to respect and accept opinion of others that leads to conflicts   | Limited respect and acceptance of others' opinions in achieving group's objectives   | Able to respect and accept opinion of others in achieving group's objectives   | Able to well respect and accept opinion of others in achieving group's objectives   | Able to very well respect and accept opinion of others in achieving group's objectives                                   |



# MECHANICAL ENGINEERING DEPARTMENT

DJJ20063

## Rubrics for Practical Task (10%)

| COURSE LEARNING OUTCOME  |                                 | PROGRAMME LEARNING OUTCOME  |  |  |   | ASSESSMENT TOOL (%) : PT (10%)  |         |
|--|---------------------------------|---|--|--|---|---|---------|
| CLO3(P4) - Organize appropriately experiments according to the Standard Operating Procedures (P4, PLO 5) |                                 | PLO5: apply appropriate techniques, resources, and modern engineering and IT tools to well-defined engineering problems, with an awareness of the limitations (DK6) |  |  |   | DP1-Depth of Knowledge<br>DP3-Depth of Analysis required<br>DP4-Familiarity of issues   |         |
| DP/<br>PSYCHOMOTOR   | CRITERIA                        | POOR (1)  | FAIR (2)   | MODERATE (3)   | GOOD (4)  | EXCELLENT (5)   | MARKS   |
| DP1/P1   | Demonstrate Knowledge of Theory | Student is unable to either identify or explain any related theories to the experiments.  | Student is not able to both identify and explain major theories.   | Student is unable to identify or explain concepts without major prompting.   | Student is able to identify and explain necessary theories for completion of the experiments with some assistance.  | Student knows and is able to identify and explain necessary theories for completion of the experiments.   | /5      |
| DP1/P1   | Usage of Tools                  | Student is not able to both identify and use tools  | Student knows and is able to identify necessary tools for completion of the task without major prompting   | Student knows and is able to identify necessary tools for completion of the task with some assistance  | Student knows and is able to identify necessary tools for completion of the task with less assistance   | Student knows and able to identify necessary tools to complete the task   | /5      |
| DP3/P3   | Laboratory Technique            | Measurements, skills or techniques are incomplete, inaccurate and/or very imprecise   | Measurements, skills or techniques are somewhat inaccurate and imprecise.  | Measurements, skills or techniques are mostly accurate.  | Measurements, skills or techniques are accurate with reasonable precision   | Measurements, skills or techniques are both accurate and precise and may show some innovation.  | /5      |
| DP3/P3   | Display of Results              | Not genuine results with too far from theoretical prediction. Outcomes are included but not label   | Not genuine results with too far from theoretical prediction. Outcomes are included but missing the important labels                                 | Not genuine results but not too far from theoretical prediction. Outcomes are included but missing some labels   | A good genuine results with relevant from theoretical prediction. Clear and reliable outcomes but missing some labels   | An excellent genuine results with relevant from theoretical prediction. Clear and reliable outcomes with complete labels                                  | /5      |
| DP4/P3   | Safety Culture                  | Proper safety precautions are consistently missed;  | Proper safety precautions are often missed   | Proper safety precautions are generally displayed  | Proper safety precautions displayed most of the time  | Proper safety precautions are displayed very consistently   | /5      |
| DP4/P3   | Housekeeping                    | Proper clean-up procedures are seldom used. Requires lecturer's help to complete clean-up. 3 or more items left at station or station not cleaned                   | Needs to be reminded more than once to use proper clean-up procedures. 1 or 2 items left at station or not cleaned.                                  | Proper clean-up procedures generally used. May need reminding once to complete clean-up. Station generally left clean.   | Consistently uses proper clean-up procedures. Reminds others of their responsibility; Station generally neat and clean.   | Consistently uses proper clean-up procedures. Station left neat and clean, pitches in an helps others clean up and directs others to do the same.         | /5      |
| DP4/P4   | Quality of Work                 | Provide complete task/project with more than 4 defects  | Provide complete task/project with 4 or less defects   | Provide complete task/project with 2 or less defects   | Provides high quality work with 1 or less defect  | Provides work of higher quality with no defects   | /5      |
| DP4/P4   | Outcomes                        | All assigned questions are not answered and no discussion on results  | All assigned questions are not answered. Discussion on results is inappropriate for the lab and shows a lack of comprehension of scientific concepts | Some assigned questions are answered. Discussion on results does not identify appropriate concepts, needs significant work and/ or show a weak grasp of concepts | All assigned questions are answered and discussed lightly. Discussion on results needs some refinement but shows strong grasp of the scientific concepts covered by the lab | All assigned questions are answered and discussed appropriately. Discussion of results shows a strong grasp of the scientific concepts covered by the lab | /5      |
| TOTAL  |                                 |   |  |  |   |   | /40*10% |

SIGNATURE :  
LECTURER NAME :

# RUBRIC FOR PROPOSAL DCG 5152 (To be completed by Supervisor)

Student Name :  
Student ID :

Class :

| Criteria  | 5  | 4  | 3   | 2  | 1  | MARKS       |
|---|--|--|---|--|--|-------------|
| <b>1.Introduction</b>                               | Clearly stated, well written and includes a clear description of the studies   | Clearly stated, well written and includes an adequate description of the studies   | Somewhat clear and/or relates to the studies  | Unclear/poorly written/unrelated to the studies  | No introduction given  |             |
| <b>2. Objective</b>                                 | Clearly and concisely states the paper's purpose in a single sentences, which is engaging and thought provoking.                       | Clearly and concisely states the paper's purpose in a single sentences.  | States the paper's purpose in a single sentences.   | Incomplete and/or unfocused.   | Absent, no evidence  |             |
| <b>3. Problem Statement</b>                         | Clearly stated, well written and includes a clear description of the problem statement   | Clearly stated, well written and includes an adequate description of the problem statement   | Somewhat clear and/or relates to the problem  | Unclear/poorly written/unrelated to the problem  | No objective stated  |             |
| <b>4.Literature Review</b>                          | 5 and more Literature Reviews  | 4 Literature Reviews   | 3 Literature Reviews  | 1-2 Literature Reviews   | No Literature Review sated   |             |
| <b>5.Methodology</b>                                | Detailed and clearly stated, can be easily implemented/understood  | Easily implemented/understood  | Somewhat organized, easily understood, easy to implement  | Not numbered/disorderly/difficult to understand or not easy to implement   | No methodology included  |             |
| <b>6.Punctuation, Capitalization &amp; Spelling</b> | There are no grammatical, spelling or punctuation errors   | There are 1 or 2 minor grammatical, spelling or punctuation errors   | There are 3 or 4 minor errors in punctuation, grammar and/or spelling which do not break the flow for the reader              | There are 1 or 2 major errors in punctuation, grammar and/or spelling which do interrupt the flow for the reader             | There are a number of major errors in punctuation, grammar and/or spelling which make it difficult to read |             |
| <b>7.Reference</b>                                  | References page contains 15 and more sources .<br><br>Follows APA guidelines of components: double space, 12 pt. font, hanging indent. | References page contains: 15 source.<br><br>Follows <b>most</b> of APA guidelines components: double space, 12 pt. font, hanging indent. | References page contains less than 15 total.<br><br>Many errors of APA guidelines: double space, 12 pt. font, hanging indent. | References page contains less than 15 .<br><br>Too Many errors of APA guidelines: double space, 12 pt. font, hanging indent. | References page contains less than 15 .<br><br>Didn't follow APA guidelines.                               |             |
| <b>8.Format</b>                                     | Page numbering, spacing, font size, margins as specified by guidelines.  | Page numbering, spacing, font size, margins as specified by guidelines but not too perfect   | Page numbering, spacing, font size, margins as specified by guidelines but not too perfect and due some errors.               | Page numbering, spacing, font size, margins as specified by guidelines but not too perfect and due major errors              | Page numbering, spacing, font size, margins not follow the guidelines                                      |             |
| <b>Total Marks Proposal Writing [CLO 1C]</b>        |  |  |   |  |  | <b>/ 40</b> |



**RUBRIC FOR INDIVIDUAL EVALUATION DCG 5152** *(To be completed by Supervisor)*

|  |  | Criteria  |   |   |  | Points |
|--|--|---|---|---|--|--------|
|  |  | 4   | 3   | 2   | 1  |        |
| 1                                      | Level of engagement in class.<br>(meet supervisor) | Student proactively contributes to class by offering ideas and asking questions more than once per class.   | Student proactively contributes to class by offering ideas and asking questions once per class.   | Student rarely contributes to class by offering ideas and asking questions.   | Student never contributes to class by offering ideas and asking question.  |        |
| 2                                      | Listening, questioning and discussing.             | Respectfully listen, discusses and asks questions and helps group in solving problem.   | Respectfully listen, discusses and asks questions   | Has trouble listening with respect and takes over discussions without letting other people have a turn.   | Does not listen with respect, argues with teammates and does not consider other ideas. Blocks group from reaching agreements.  |        |
| 3                                      | Behavior   | Student almost never displays disruptive behavior during class discussions and group activities.  | Student rarely displays disruptive behaviour during class discussion and group activities.  | Student occasionally displays disruptive behaviour during class discussions and group activities.   | Student almost always displays disruptive behaviour during class discussion and group activities.  |        |
| 4                                      | Preparation (organize data/ weekly journal)        | Student is almost always prepared with assignments and required class materials.  | Student is usually prepared with assignments and required class materials.  | Students is rarely prepared with assignments and required class materials.  | Student is almost never prepared with assignments and required class materials.  |        |
| 5                                      | Problem solving                                    | Actively seeks and suggest solution to problems.  | Improves on solutions suggested by other group members.   | Does not offer solutions, but is willing to try solutions suggested by other group members  | Does not try to solve problems or help others solve problems.  |        |
| 6                                      | Group/partner teamwork                             | Works to complete all group goals. Always has a positive attitude about the task and work of others. All team members contribute equally. Performed all duties of assigned team role. | Usually helps to complete group goals. Usually has a positive attitude about the tasks and work of others. Assisted team members in the finished project. Performed nearly all duties of assigned team role | Occasionally helps to complete group goals. Sometimes makes fun of the group tasks and work of others. Finished individual task but did not assist team members. Performed some duties of assigned team role. | Does not work well with others and shows no interest in completing group goals. Often makes fun of the work of others and has a negative attitude. Contributed little to group effort. Did not perform duties of assigned team role. |        |
| <b>Total Marks Individual [CLO 2P]</b> |  |   |   |   |  |        |

**Supervisor Approval:**

**Name :**

**Signature :**

**Official Stamping:**

POLYTECHNIC LOGO  
(Name of Programme & Department)

Course Code and Name: \_\_\_\_\_

Session: \_\_\_\_\_

CLUSTER 3a RUBRIC: PRACTICAL SKILLS

| ATTRIBUTE        | SUB ATTRIBUTE | WEIGHTAGE | POOR (1-2)  | FAIR (3-4)  | SATISFACTORY (5-6)  | GOOD (7-8)  | EXCELLENT (9-10)   | MARKS |
|------------------|---------------|-----------|---|---|---|---|--|-------|
| PRACTICAL SKILLS | PREPARATION   | 2*        | <ul style="list-style-type: none"> <li>Show very limited ability to master a task through further actions<sup>#</sup></li> <li>Hardly able to identify and discuss the relevant theories<sup>##</sup> (ill-prepared) in initiating the task</li> </ul>  | <ul style="list-style-type: none"> <li>Show limited ability to master a task through further actions<sup>#</sup></li> <li>Fairly able to identify and discuss the relevant theories<sup>##</sup> in initiating the task</li> </ul>  | <ul style="list-style-type: none"> <li>Show moderate ability to master a task through further actions<sup>#</sup></li> <li>Average able to identify and discuss the relevant theories<sup>##</sup> in initiating the task</li> </ul>  | <ul style="list-style-type: none"> <li>Show above average ability to master a task through further actions<sup>#</sup></li> <li>Good at identifying and discussing the relevant theories<sup>##</sup> in initiating the task</li> </ul>   | <ul style="list-style-type: none"> <li>Show exemplary ability to master a task through further actions<sup>#</sup></li> <li>Excellent at identifying and discussing the relevant theories<sup>##</sup> in initiating the task</li> </ul>   | /20*  |
|                  | APPLICATION   | 2*        | <ul style="list-style-type: none"> <li>Very rarely apply essential skills<sup>^</sup> in executing a task</li> <li>Hardly suitable skill sets used, thus need a lot of improvement</li> <li>Achieve less than 60% of the required skills needed</li> </ul>  | <ul style="list-style-type: none"> <li>Rarely apply essential skills<sup>^</sup> in executing a task</li> <li>Occasionally suitable skill sets used, thus need improvement</li> <li>Achieve between 60% and 69% of the required skills needed</li> </ul>  | <ul style="list-style-type: none"> <li>Sometimes apply essential skills<sup>^</sup> in executing a task</li> <li>Sometimes suitable skill sets used, thus need moderate improvement</li> <li>Achieve between 70% and 79% of the required skills needed</li> </ul>   | <ul style="list-style-type: none"> <li>Usually apply essential skills<sup>^</sup> in executing a task</li> <li>Frequently suitable skill sets used, thus need little improvement</li> <li>Achieve between 80% and 89% of the required skills needed</li> </ul>  | <ul style="list-style-type: none"> <li>Always apply essential skills<sup>^</sup> in executing a task</li> <li>Very frequently suitable skill sets used, thus need very little/no improvement</li> <li>Achieve more than 89% of the required skills needed</li> </ul>   | /20*  |
|                  | METHOD        | 2*        | <ul style="list-style-type: none"> <li>Poor implementation of task with no flow of steps/workings shown properly</li> <li>Very seldomly apply suitable method<sup>^^</sup> thoroughly to perform the task</li> <li>Comply with the required method(s) as mentioned at the range of less than 60%</li> </ul> | <ul style="list-style-type: none"> <li>Fair implementation of task with few flows of steps/workings shown properly</li> <li>Seldomly apply suitable method<sup>^^</sup> thoroughly to perform the task</li> <li>Comply with the required method(s) as mentioned at the range between 60% and 69%</li> </ul> | <ul style="list-style-type: none"> <li>Satisfactory implementation with some flows of steps/workings shown properly</li> <li>Quite regularly apply suitable method<sup>^^</sup> thoroughly to perform the task</li> <li>Comply with the required method(s) as mentioned at the range between 70% and 79%</li> </ul> | <ul style="list-style-type: none"> <li>Good implementation of task with more flows of steps/workings shown properly</li> <li>Regularly apply suitable method<sup>^^</sup> thoroughly to perform the task</li> <li>Comply with the required method(s) as mentioned at the range between 80% and 89%</li> </ul> | <ul style="list-style-type: none"> <li>Excellent implementation with most flows of steps/workings shown properly</li> <li>Very regularly apply suitable method<sup>^^</sup> thoroughly to perform the task</li> <li>Comply with the required method(s) as mentioned at the range of more than 89%</li> </ul> | /20*  |

Note: \* - weightage can be amended according to the courses but do ensure total marks still 100.

<sup>#</sup> - actions refer to readings, trials, discussions, or etc.

<sup>##</sup> - theories refer to concepts, principles, standards, conventions, or etc., used in accounting field.

<sup>^</sup> - skills refer to necessary skill sets to carry out the accounting, computer, costing, taxation, management or other tasks until completion.

<sup>^^</sup> - method refers to particular way/accepted way to complete the accounting, computer, costing, taxation, management or other tasks.



POLYTECHNIC LOGO  
(Name of Programme & Department)

Course Code and Name: \_\_\_\_\_ Session: \_\_\_\_\_

CLUSTER 3a RUBRIC: PRACTICAL SKILLS



**Note:** \* - weightage can be amended according to the courses but do ensure total marks still 100.

# - actions refer to readings, trials, discussions, or etc.



## - theories refer to concepts, principles, standards, conventions, or etc., used in accounting field.

^ - skills refer to necessary skill sets to carry out the accounting, computer, costing, taxation, management or other tasks until completion.

^^ - method refers to particular way/accepted way to complete the accounting, computer, costing, taxation, management or other tasks.

## APPENDIX C:

### FORM

|   |                      |  |
|---|----------------------|--|
|  | LAPORAN AKTIVITI OBE |  |
|---|----------------------|--|

|                |  |
|----------------|--|
| TAJUK          |  |
| TARIKH         |  |
| JABATAN / UNIT |  |
| PROGRAM        |  |
| KELAS          |  |
| BIL PESERTA    |  |
| LOKASI         |  |

| PENERANGAN         |  |
|--------------------|--|
| PENGENALAN         |  |
| AKTIVITI           |  |
| IMPAK              |  |
| GAMBAR<br>AKTIVITI |  |

| PENGESEAHAN                  |                              |                              |
|------------------------------|------------------------------|------------------------------|
| PELAKSANA AKTIVITI           | KETUA JABATAN                | UNIT OBE PTSB                |
| NAMA:<br>JAWATAN:<br>TARIKH: | NAMA:<br>JAWATAN:<br>TARIKH: | NAMA:<br>JAWATAN:<br>TARIKH: |