

# OUTCOME-BASED EDUCATION

Faculty of Electrical and Electronic  
Engineering

# Outlines



OBE CONCEPTS



EAC QUALIFYING  
REQUIREMENTS



IMPLEMENTATION OF  
OBE IN FKEE

# OBE CONCEPT

# Definitions of OBE

- Significant development of outcome-based education approaches begins in the 1960s by **Carroll (1963)**, **Bloom (1968)**, and **Spady (1988)**, among others.
- Quoting definitions by Davis (2003):  

"**OBE** is an approach to education in which decisions about the curriculum are driven by the **exit learning outcomes** that the students should display at the **end of the course**."
- "In OBE, product defines the **process**."
- "**OBE** can be summed up as **results-oriented thinking** and is the **opposite of input-based education** where the emphasis is on the **educational process** and where we are happy to accept whatever is the result."

“Outcome-based education means starting with a clear picture of what is important for **STUDENTS TO BE ABLE TO DO**, then organising the curriculum, instruction, and assessment to make sure that this learning ultimately happens.”

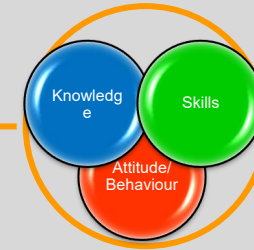
(Spady, 1994)



# CHRONOLOGY OF OBE (M'sia)



**2003** – The planning of OBE implementation should be shown



**1999** – The OBE programme should publish the generic attributes

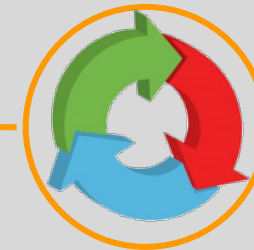
**2005** – Evidence of OBE implementation is available



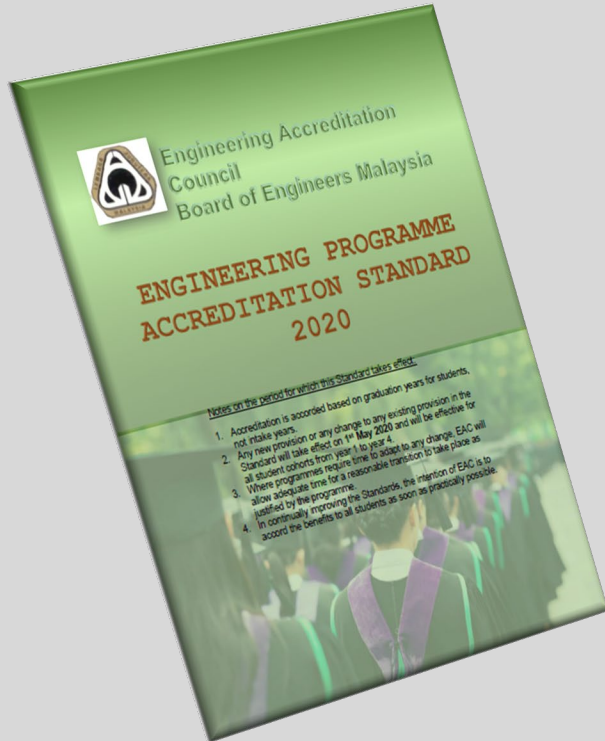
**2007** – Widespread OBE implementation and CQI are evident



**2012** – Full cycle of OBE analysis and CQI for PEO, PLO and CLO



# Why OBE?



**Accredited** Programme



**Measurable** curriculum



**Competent**  
for job markets

# Outcomes-Based Learning Objectives



Focus on the **learner**, not the teacher or the topic.



Students demonstrate what they **“know and are able to do”** at the end of the learning experience.



Facilitate the **assessment** of learning.



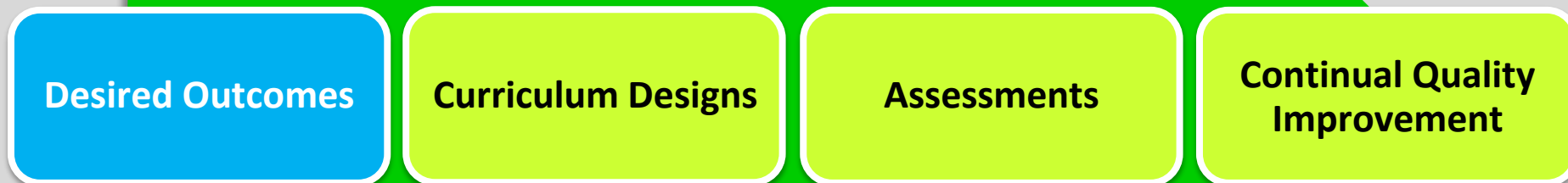


# OBE Versus Traditional Education (TE)

## TE – Teacher-Centered Learning



## OBE – Student-Centered Learning



# OBE – Paradigm Shift



# Examples

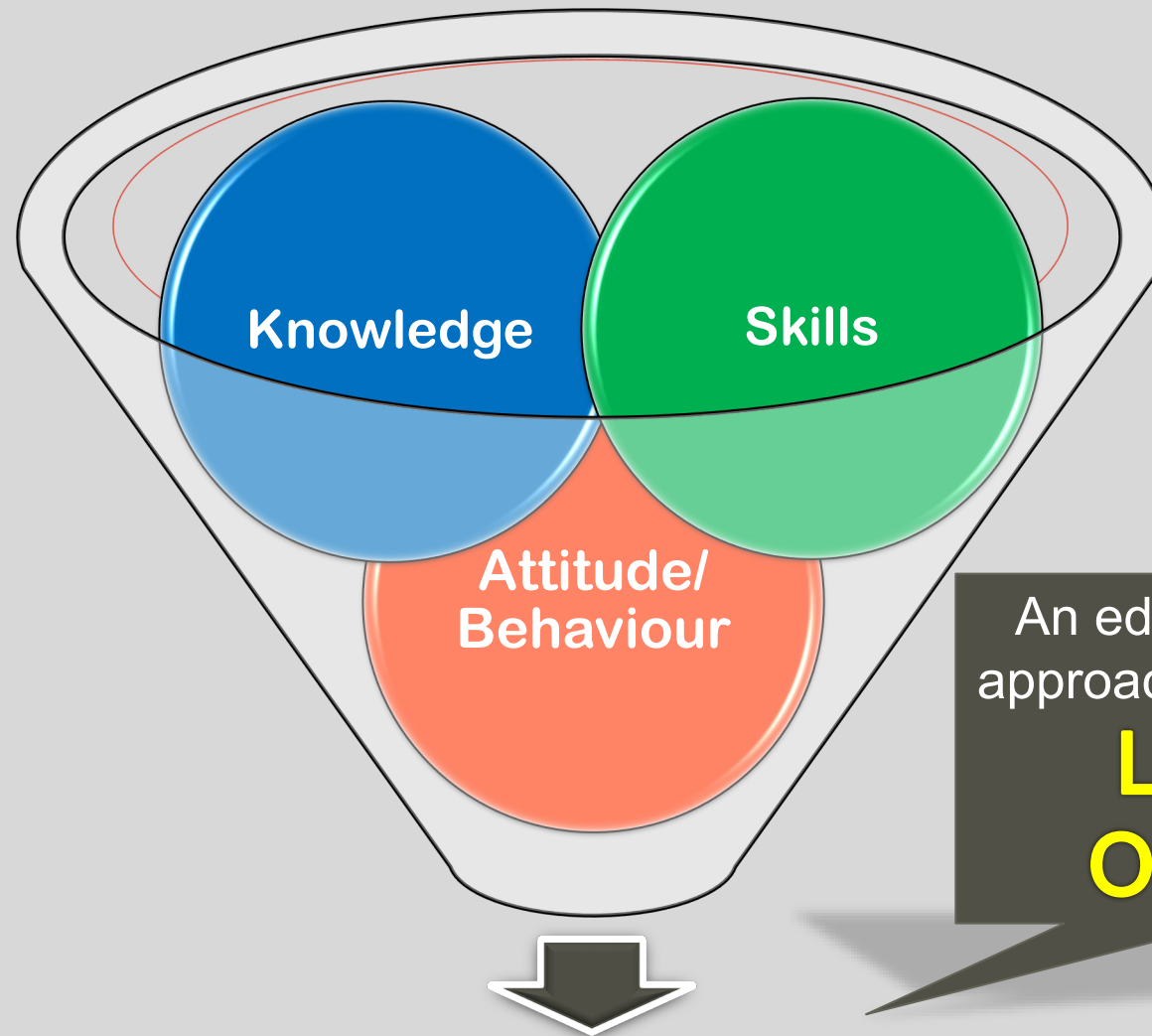
- Example of an **Outcomes-based objective**:

At the end of this module, students will be able to describe four principles of outcome-based education.

- Example of a **non-Outcomes-based objective**:

The objective of the module is to introduce four principles of outcome-based education.

**O**utcome  
**B**ased  
**E**ducation



**GENERIC ATTRIBUTES**

An educational system approach that is based on

**Learning  
Outcomes**



**C**ognitive

**Knowledge + Thinking**



**P** psychomotor

**Skills**



**A**ffective

**Attitude + Behaviour**

**Learning  
Domains**

# OBE FLOWS

**OBE**  
(Education)

What should the student achieve?

**OBC**  
(Curriculum)

**OBQI**  
(Quality Improvement)

How can the student achieve the outcomes?

**OBLT**  
(Learning & Teaching)

Why the student cannot achieve the outcomes?



How do we measure what the student has achieved?

**OBA**  
(Assessment)

# Regular Assessment Methods



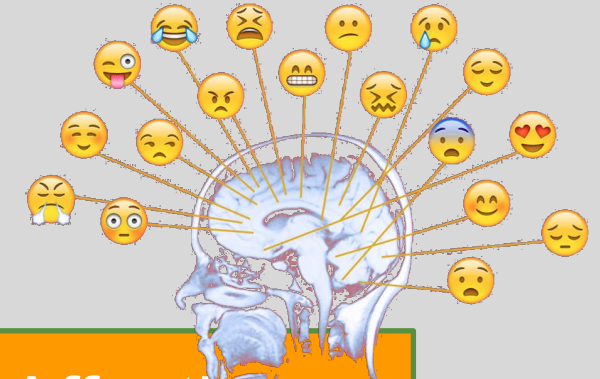
## Cognitive

- Final Exam
- Tests
- Quizzes
- Reports
- Etc...



## Psychomotor

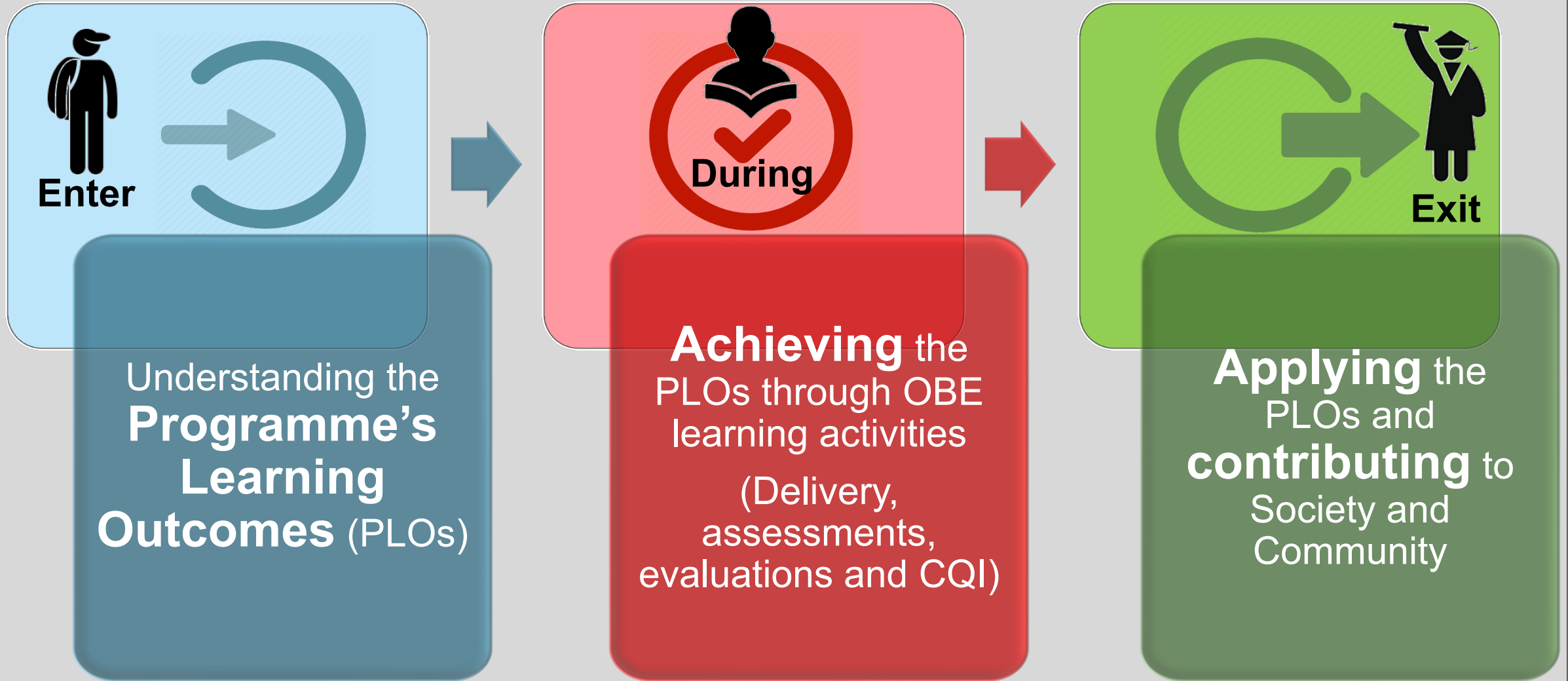
- Assignments
- Projects
- Presentations
- Laboratory Practices
- Simulations
- Etc...



## Affective

- Assignments
- Projects
- Observations
- Visits
- Seminars
- Etc...

# Things to know about the Academic Programme





# OBE Process in Course Engagement

## Understand CLOs

To ensure you are well-prepared for the course, kindly review the course plan (RPP04) and familiarise yourself with the Course Learning Outcomes (CLOs). This will help you stay focused on your learning goals and make the most out of this course.



## 2 Engage in Learning Activities

The lecturer will design suitable learning activities that enable students to achieve the desired CLOs. Please actively participate in these learning activities during the course duration.



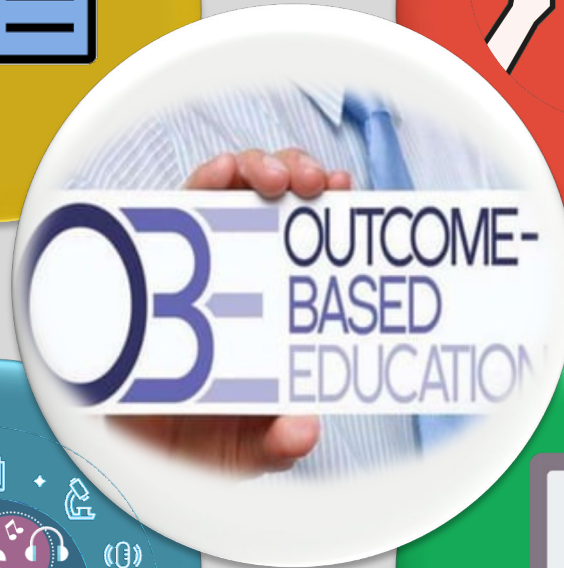
## Participate in Assessments

To ensure that you achieve the intended learning outcomes, the lecturer will design assessments to evaluate your progress. It is important that you actively participate in these assessments to gauge your understanding and identify areas that require improvement. So, make the most of these assessments by giving your best effort and seeking feedback to enhance your learning experience.

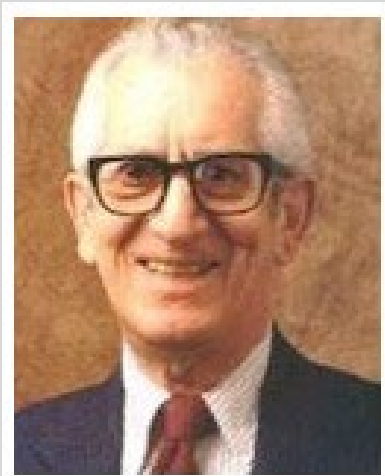


## Self-evaluation

Throughout the course, it is imperative to perform regular self-evaluations to determine the extent to which the CLOs have been met. To ensure continual quality improvement (CQI), it is advisable to seek feedback from the lecturer regarding areas that require improvement. It is recommended that this feedback is incorporated into future learning activities to facilitate the achievement of CLOs.

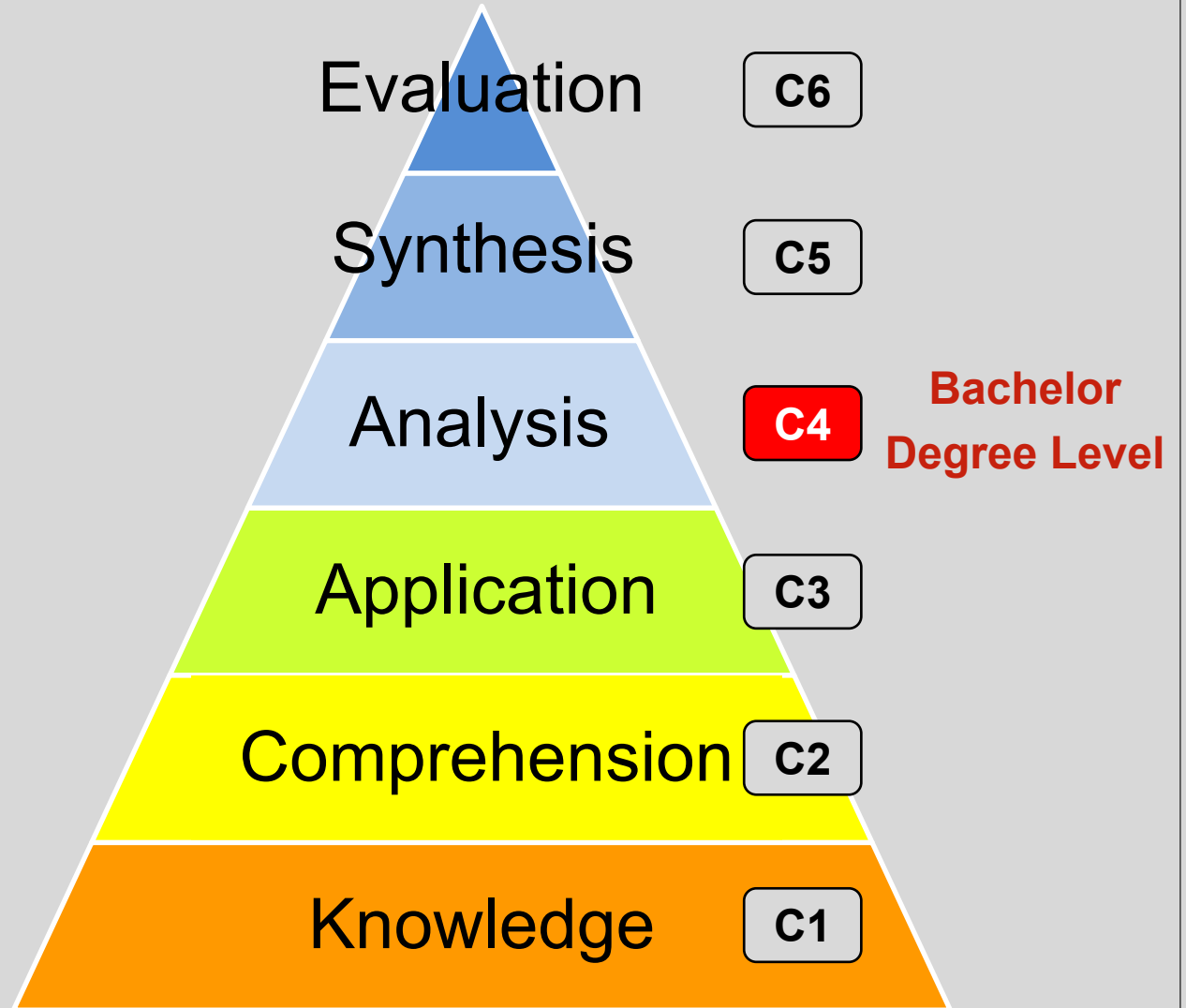


# Cognitive Outcomes: Bloom's Taxonomy (Original)



Benjamin S. Bloom

Cognitive domain involves **knowledge** and the development of **intellectual skills** (Bloom, et al, 1956).



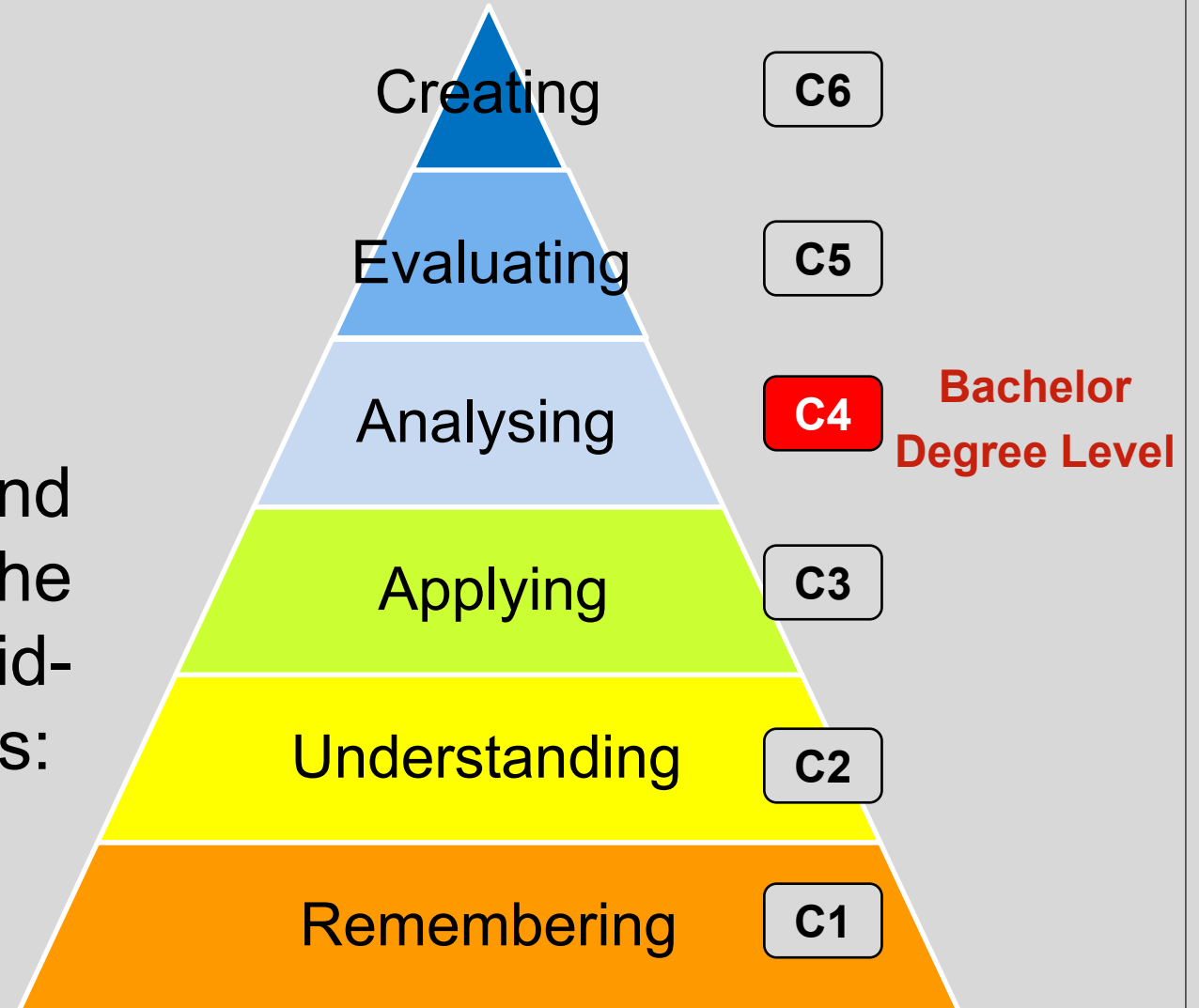
# Cognitive Outcomes: Bloom's Taxonomy (Revised)



Lorin Anderson

Former student of Bloom, and David Krathwohl revisited the cognitive domain in the mid-nineties and made some changes:

- changing the names in the six categories from **noun to verb** forms
- rearranging them as shown in the chart



# Psychomotor Outcomes

**P7** Origination

**P6** Adaptation

**P5** Complex Response

**P4** Mechanism Bachelor  
Degree Level

**P3** Guided Response

**P2** Set

**P1** Perception

The psychomotor domain includes **physical movement**, coordination, and use of the motor-skill areas.

# Affective Outcomes

Affective deals with things **emotionally**, such as feelings, values, appreciation, enthusiasm, motivations, and attitudes.

Characterising **A5**

Organising **A4**

**Bachelor  
Degree Level** Valuing **A3**

Responding **A2**

Receiving **A1**

# OBE Cycle

## PEO

Programme Educational Objectives

## PLO

Programme Learning Outcomes

## CLO

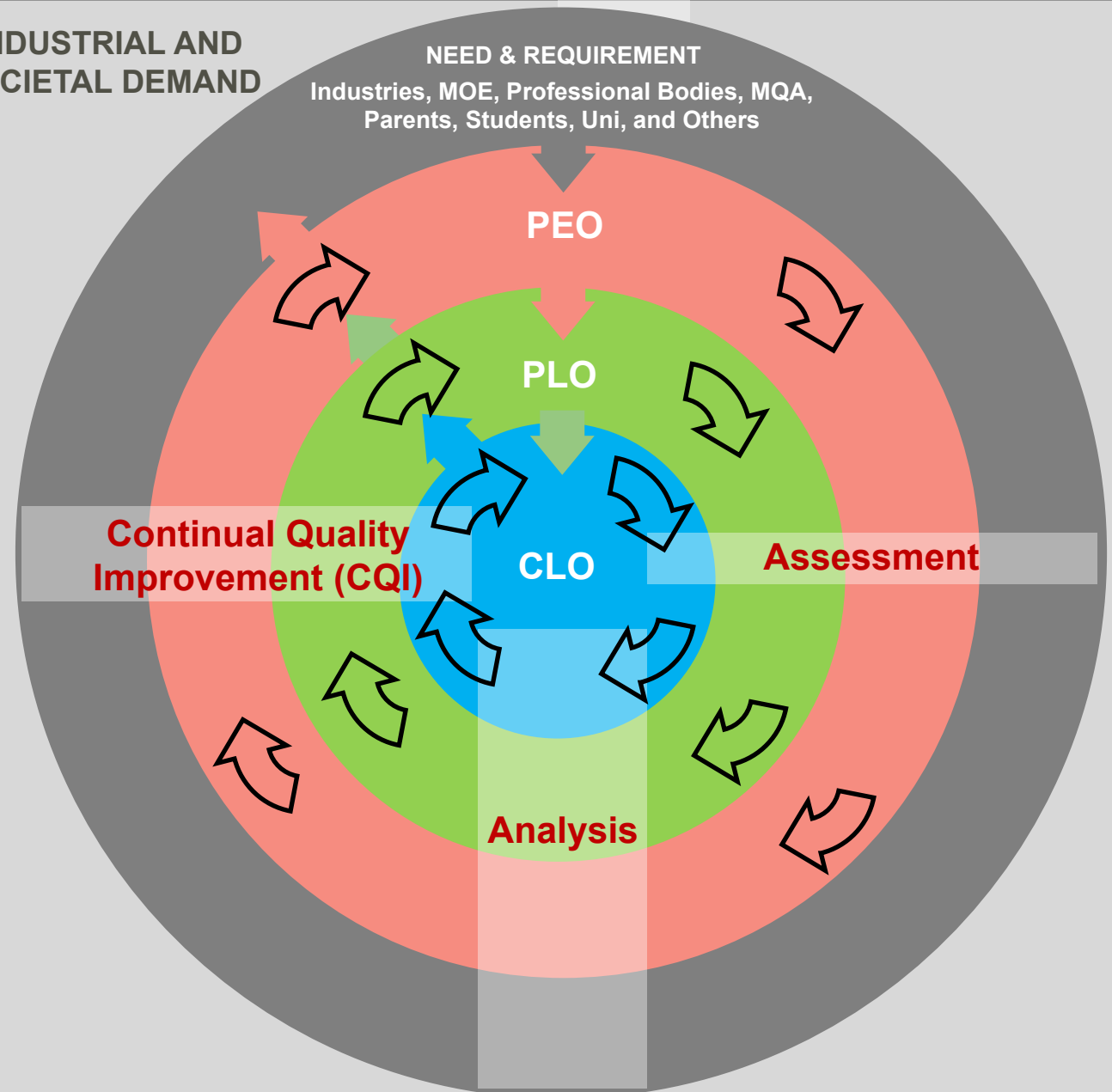
Course Learning Outcomes

## CQI

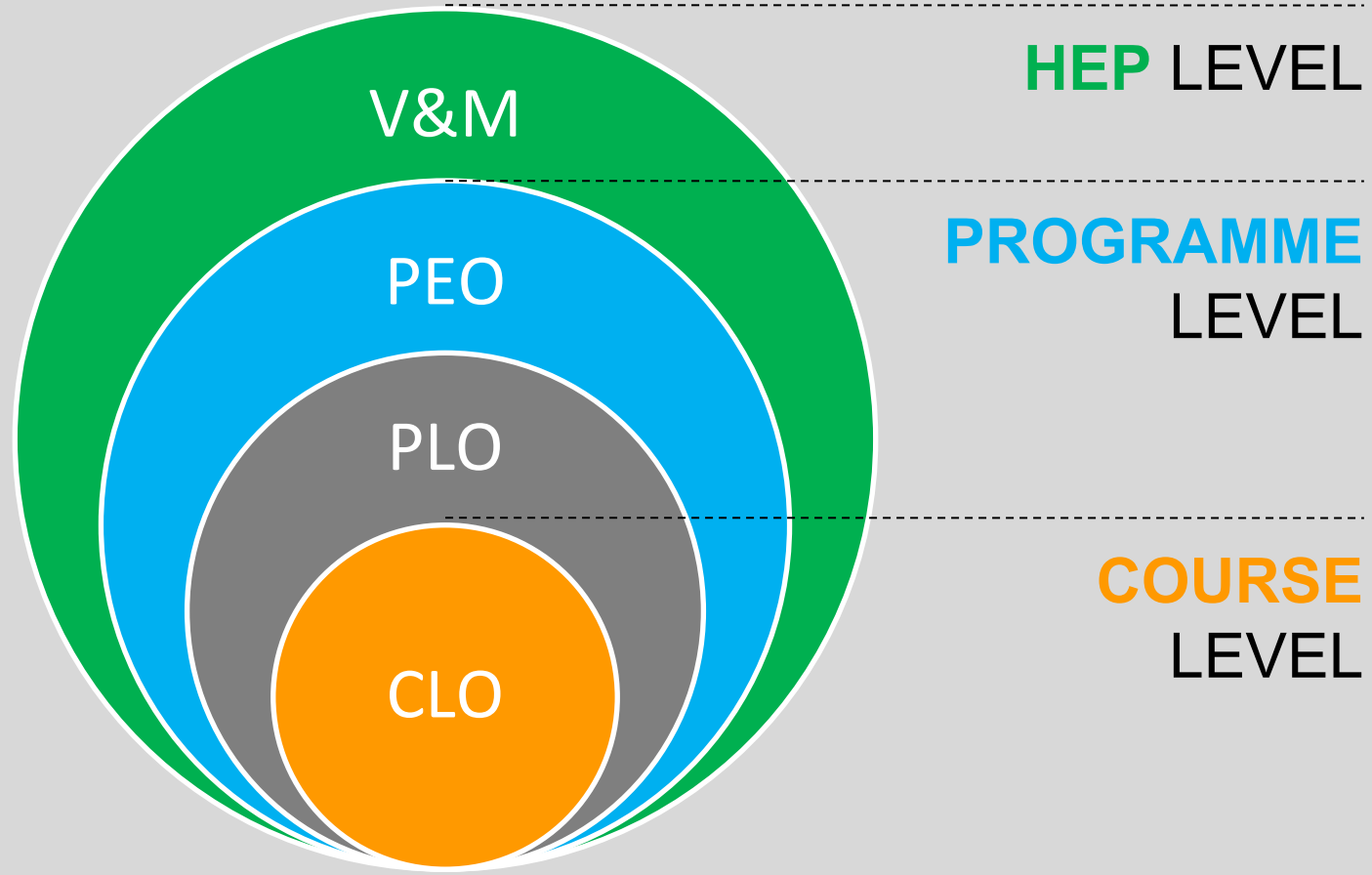
Continual Quality Improvement

INDUSTRIAL AND SOCIETAL DEMAND

NEED & REQUIREMENT  
Industries, MOE, Professional Bodies, MQA,  
Parents, Students, Uni, and Others



# TERMINOLOGIES



# 5 Stages of OBE Curriculum Design

Understand the big picture (Vision & Mission of HEP)



Setting PEO, PLO and CLO, Identifying domains & Taxonomies



Map Vision → Mission → PEO → PLO, Courses → PLO, CLO → PLO



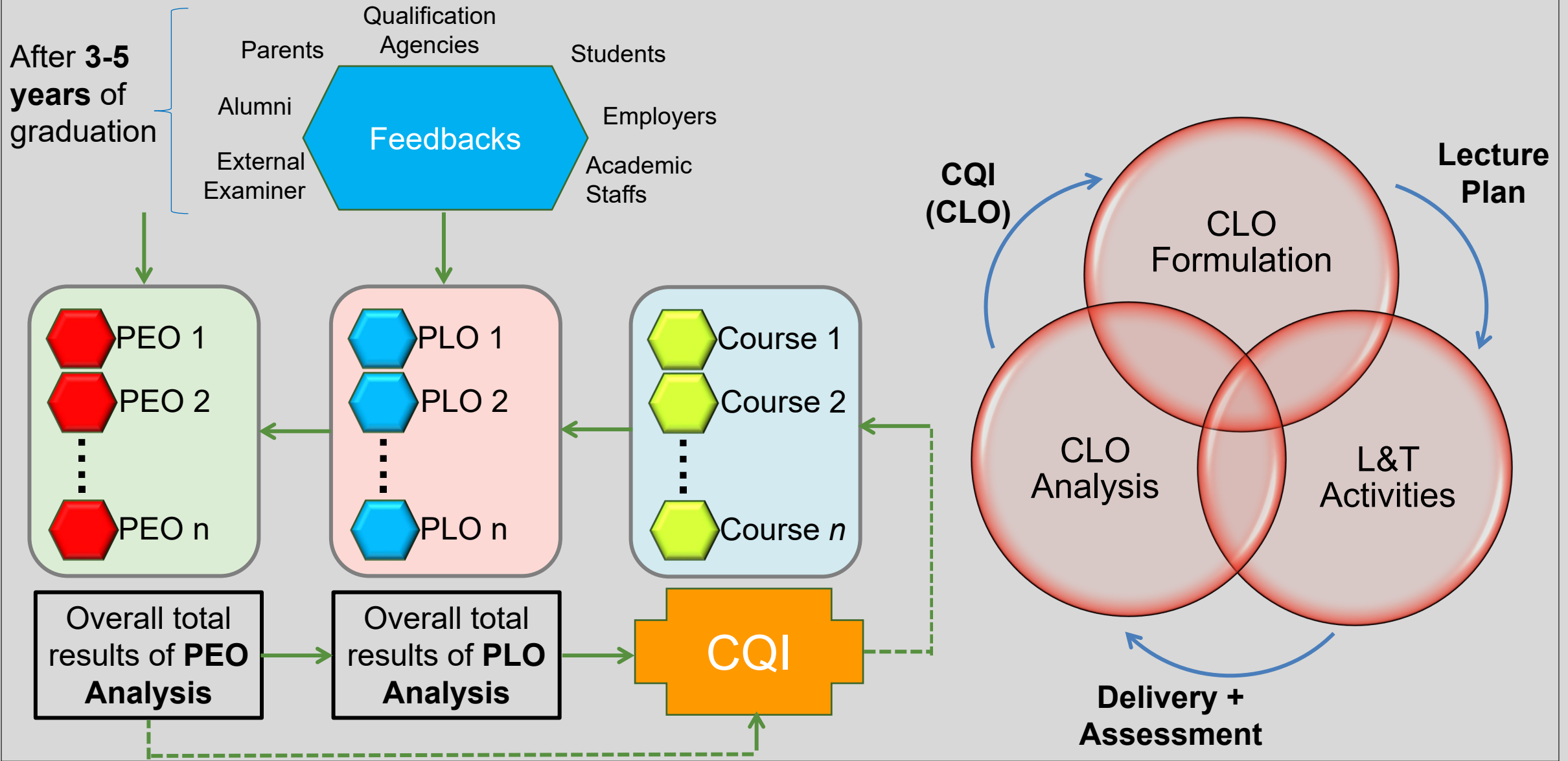
Delivery of OBE Courses, Assessment of OBE courses



Closing the Loops → CQI → Action after CQI



# Flow Chart for **Continual Quality Improvement (CQI)**



# Programme **Monitoring and Analysis**

Periodical basis (1 – 3 years)

External  
examiner/  
Adjunct/  
Visiting  
Prof. report

Industrial  
advisory  
panel report

Yearly basis

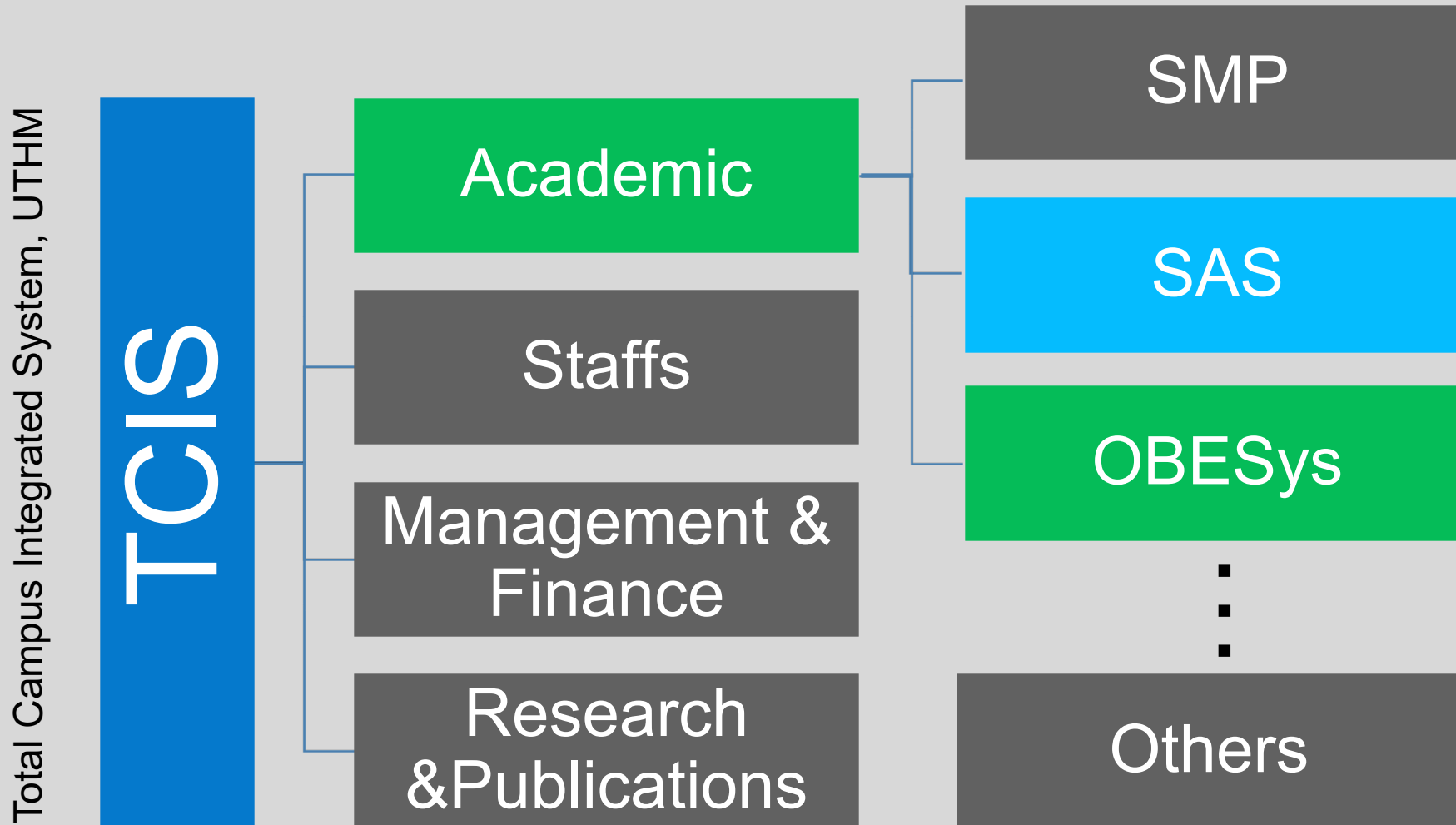
Surveys  
(PEO & PLO)

CQI  
(CLO & PLO)

Semester basis

PLO achievement report

# OBESys - An overview



# Process Flow

## OBE ASSESSMENT

- Define PEO, PLO and CLO
- Measure and analyse CLO and PLO achievement based on KPI
- Report the LO achievements
- CQI

## COURSE ASSESSMENT

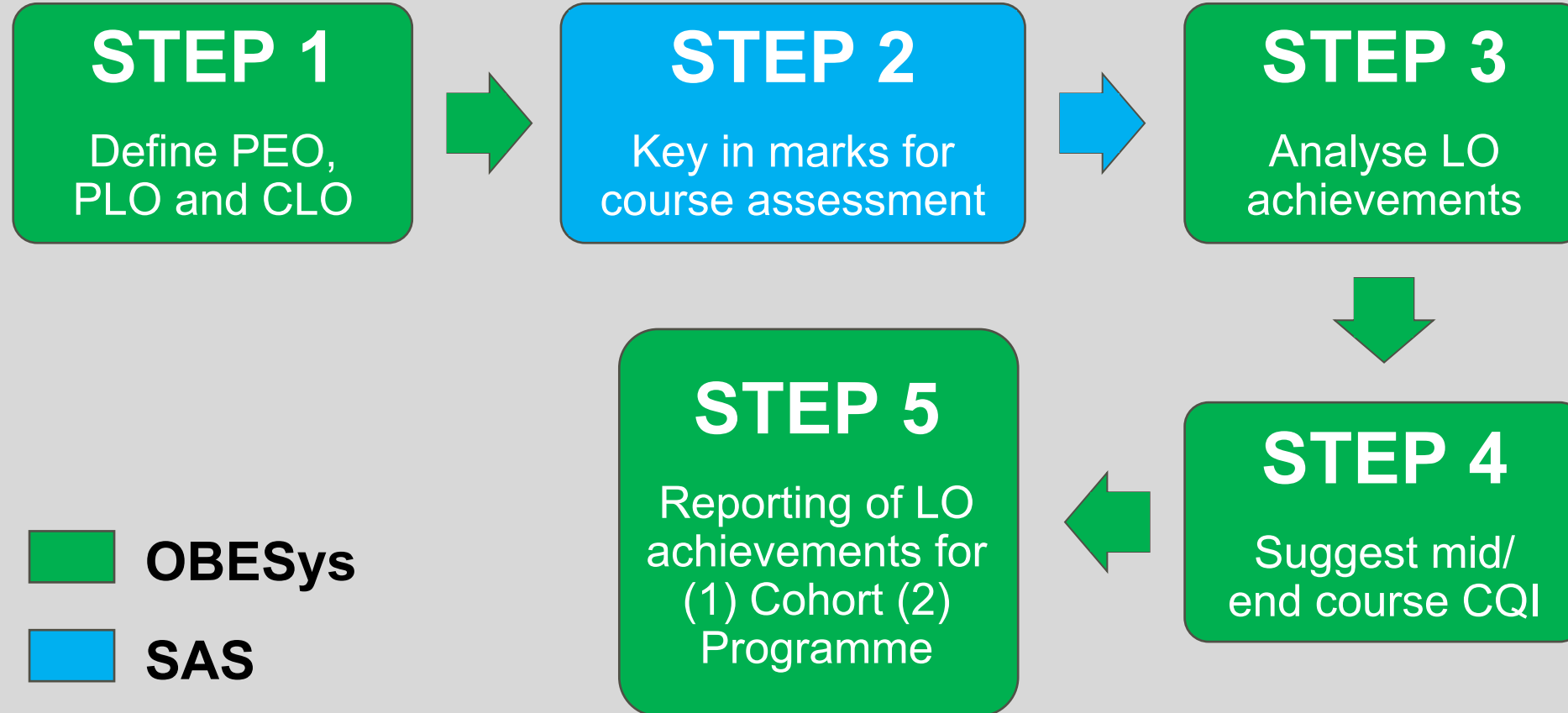
Key in marks for all assessments such as quizzes, tests, assignment, project, final exam, etc.



**OBESys**

**SAS**

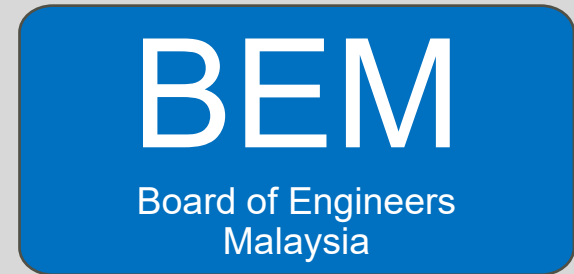
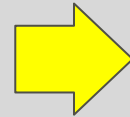
# Process Flow



# EAC Qualifying Requirements

# EAC

ENGINEERING ACCREDITATION COUNCIL MALAYSIA



Engineering students



Graduate engineers

# 8 Qualifying Requirements (EAC Manual 2020)

<p><b>Outcome Based Education (OBE)</b> implementation</p>	<p>A minimum of <b>135 SLT</b> credits of which <b>90 SLT</b> credits must be core engineering courses offered over a period of <b>4 years</b></p>	<p><b>Integrated design project</b> (IDP/ EDP)</p>	<p><b>Final year project</b> (minimum 6 credits)</p>
<p><b>Industrial training</b> (minimum of 8 weeks)</p>	<p><b>Full-time academic staff</b> (minimum of 8) with at least <b>3 with Professional Engineers</b> registered with the BEM of equivalent</p>	<p>Staff : student ratio <b>1:20</b> or better</p>	<p><b>External examiner's report</b> (One in every two academic years)</p>



# Implementation of OBE in FKEE

# Vision and Mission

PEOs are designed to address the requirements and expectations of various stakeholders

**FKEE** Vision & Mission

## VISION

Leading centre of excellence in the generation and application of electrical and electronic engineering knowledge

## MISSION

Produce dynamic, creative and ethical graduates who will lead in the application of electrical and electronic engineering for the prosperity of humankind



**Programme's  
Objectives**

**Stakeholders'**  
Requirements

Graduates have good personality

Graduates have good communication skills

Graduates have positive attitude

Graduates have good knowledge and/or soft skills

Graduates capable in producing quality work

# PEO and PLO

# PEOs of BEV (for Intake before 2019/2020 – Revised in 2012)



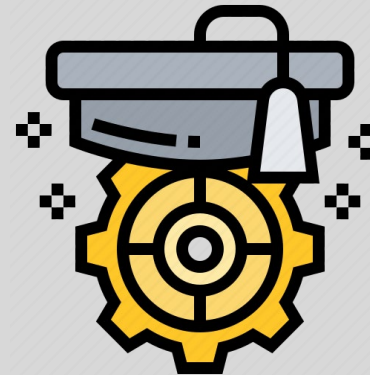
**1**  
**Competent** in  
electrical engineering  
discipline and meet the  
needs of organisation and  
industry



**2**  
**Practise** electrical  
engineering profession responsibly  
in organisation and  
community



**3**  
**Communicate effectively**  
and exhibit **good leadership** in organisation  
and community



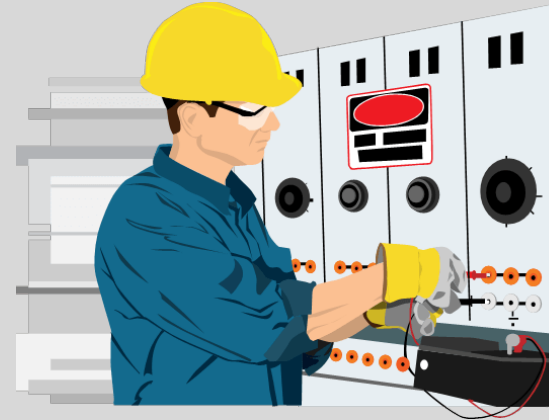
**4**  
Pursue **continuous  
learning** to upgrade  
knowledge and competencies  
to be competitive in the global  
arena

# PEOs of BEV (for Intake of 2019/2020 to 2021/2022 – Revised in 2020)



1

Able to build a **career** and become a **leader** in relevant **electrical engineering fields**



2

Recognised as **professional electrical engineers**



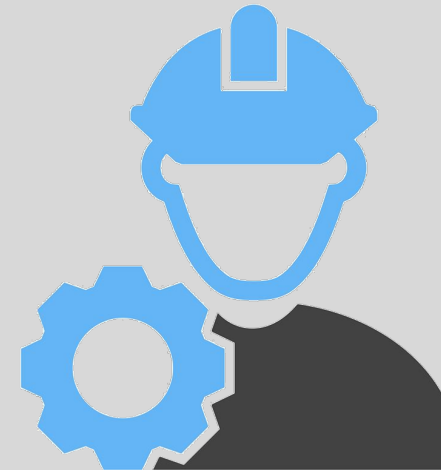
3

**Actively participate** in relevant activities for the betterment of themselves and **society** by exhibiting highest **ethical** and **professional standard**

# PEOs of BEJ (for Intake before 2019/2020 – Revised in 2012)



**1**  
**Competent** in the field of **electronic engineering** to fulfil the needs of industry at the national and international level



**2**  
Able to adapt **generic skills** holistically as **professional engineer** practices



**3**  
Perform the work **ethically** and **faithfully** to **global society** continuously

# PEOs of BEJ (for Intake before 2021/2022 – Revised in 2020)



**1** Able to build a career and become a **leader** in relevant **electronic engineering** fields



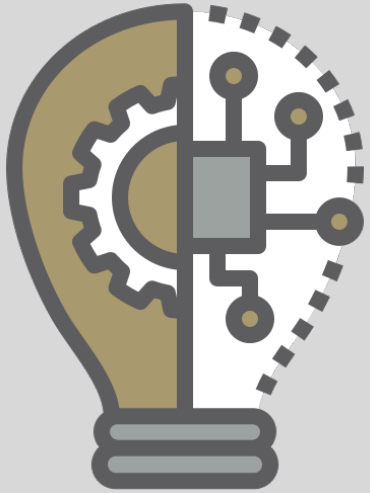
**2** Recognised as **professional electronic engineers**



**3** **Actively participate** in relevant activities for the betterment of themselves and society by exhibiting highest **ethical** and **professional standard**



# PEOs of BEV and BEJ (for Intake of 2022/2023 and onwards – Revised in 2022)



1

Able to build a **career** and become a **leader** in **multidisciplinary engineering** fields



2

Recognised as **competent engineering professionals** in providing technical solutions locally or globally



3

Contribute to society with consideration for **environment and sustainable technology**

# **METHOD** for **PEO** Assessments

**Indirect  
Assessment**



**TRACER STUDY**

via

**GOOGLE FORM**

after 3 – 5 years of  
graduation  
(yearly)

# EAC Programme Outcomes

**FKEE** PLOs are based on  
**Washington Accord**  
Graduate Attributes



# FKEE Programme Learning Outcomes (PLOs)

**1**

Engineering Knowledge

**3**

Design/  
Development of  
Solutions

**7**

Environment  
and  
Sustainability

**11**

Project  
Management  
and Finance

**5**

Modern Tool  
Usage

**9**

Individual and  
Teamwork

**4**

Investigation

**8**

Ethics

**12**

Lifelong  
Learning

**2**

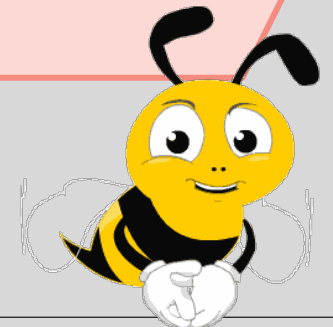
Problem  
Analysis

**6**

The Engineer  
and Society

**10**

Communication



# PLO Statements for BEV and BEJ

PLO	Description
1.	<b>Engineering Knowledge</b> - Apply knowledge of mathematics, natural science, engineering fundamentals and an engineering specialisation respectively to the solution of complex engineering problems
2.	<b>Problem Analysis</b> - Identify, formulate, conduct research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences
3.	<b>Design/ Development of Solutions</b> - Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
4.	<b>Investigation</b> – Conduct investigation of complex engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions
5.	<b>Modern Tool Usage</b> - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations
6.	<b>The Engineer and Society</b> - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems
7.	<b>Environment and Sustainability</b> - Understand and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts
8.	<b>Ethics</b> - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice
9.	<b>Individual and Teamwork</b> - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings
10.	<b>Communication</b> - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
11.	<b>Project Management and Finance</b> - Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments
12.	<b>Lifelong Learning</b> - Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

# METHOD for PLO Assessments

## Indirect Assessment



**Graduates**

Exit Survey  
(Yearly)



**Employer**

Survey  
(Yearly)

## Direct Assessment



**CLO-PLO** Analysis  
on all FACULTY'S COURSES using the  
**AVERAGE** approach  
(Every Semester)

# PEO-PLO Mapping for BEV and BEJ (for Intake before 2021/2022)

**PEO 1**  
Able to build a career and become a leader in relevant electrical/ electronic engineering fields

**PEO 2**  
Recognised as professional electrical/ electronic engineers

**PEO 3**  
Actively participate in relevant activities for the betterment of themselves and society by exhibiting highest ethical and professional standard

## PLO Domain

1. Engineering Knowledge
2. Problem Analysis
3. Design/ Development of Solutions
4. Investigation
5. Modern Tool Usage
6. The Engineer and Society
7. Environment and Sustainability
8. Ethics
9. Individual and Teamwork
10. Communication
11. Project Management and Finance
12. Lifelong Learning

# PEO-PLO Mapping for BEV and BEJ (for Intake of 2022/2023 and onwards)

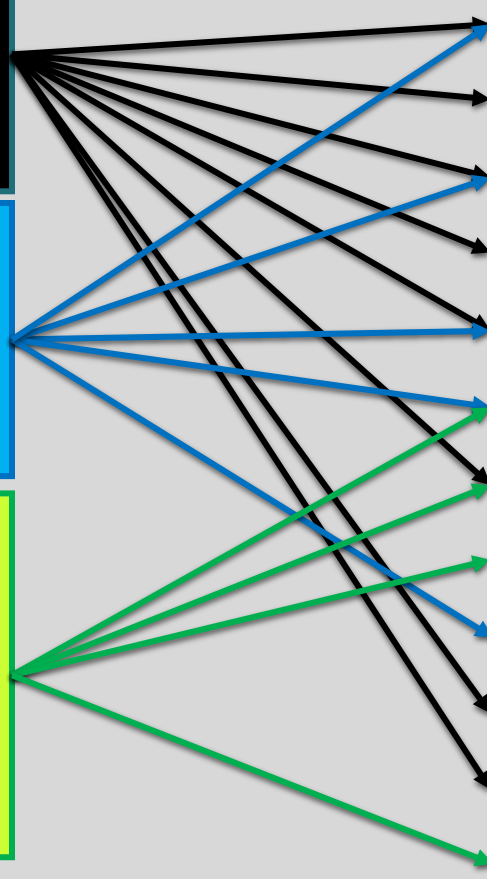
**PEO 1**  
Able to build a career and become a leader in multidisciplinary engineering fields

**PEO 2**  
Recognised as competent engineering professionals in providing technical solutions locally or globally

**PEO 3**  
Contribute to society with consideration for environment and sustainable technology

## PLO Domain

1. Engineering Knowledge
2. Problem Analysis
3. Design/ Development of Solutions
4. Investigation
5. Modern Tool Usage
6. The Engineer and Society
7. Environment and Sustainability
8. Ethics
9. Individual and Teamwork
10. Communication
11. Project Management and Finance
12. Lifelong Learning





# Mapping of PLO to UTHM LOD

PLO No.	PLO Statement	Abbrev.	Mapping to UTHM LOD	LOD1	LOD2	LOD3	LOD4	LOD5	LOD6	LOD7	LOD8	LOD9	LOD10
				KN	PA	DS	INV	PS	SS	TWS	CS	DS	NS
1	Engineering Knowledge - Apply knowledge of mathematics, natural science, engineering fundamentals (natural sciences, mathematics, engineering fundamentals) and an engineering specialisation to the solution of complex engineering problems	KN	LOD1, LOD10	X									X
2	Problem Analysis - Identify, formulate, conduct research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences	PA	LOD2		X								
3	Design/Development of Solutions - Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	DS	LOD3			X							
4	Investigation - Conduct investigation of complex engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;	INV	LOD4				X						
5	Modern Tool Usage - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations	MTU	LOD5, LOD9					X				X	
6	The Engineer and Society - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems	ESOC	LOD16, LOD19										
7	Environment and Sustainability - Understand and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts	ENVS	LOD18										
8	Ethics - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice	ET	LOD15, LOD17										
9	Individual and Team Work - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings	ITW	LOD6, LOD7, LOD11						X	X			
10	Communication - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	CS	LOD8								X		
11	Project Management and Finance - Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments	PMF	LOD12, LOD14										
12	Life Long Learning - Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change	LLL	LOD13										

# Mapping of PLO to UTHM LOD

PLO No.	PLO Statement	Abbrev.	Mapping to UTHM LOD	LOD11	LOD12	LOD13	LOD14	LOD15	LOD16	LOD17	LOD18	LOD19
				LS	AR	LLL	ES	ET	PROF	VAL	ENVS	SR
1	Engineering Knowledge - Apply knowledge of mathematics, natural science, engineering fundamentals (natural sciences, mathematics, engineering fundamentals) and an engineering specialisation to the solution of complex engineering problems	KN	LOD1, LOD10									
2	Problem Analysis - Identify, formulate, conduct research literature and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences	PA	LOD2									
3	Design/Development of Solutions - Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	DS	LOD3									
4	Investigation - Conduct investigation of complex engineering problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions;	INV	LOD4									
5	Modern Tool Usage - Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations	MTU	LOD5, LOD9									
6	The Engineer and Society - Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems	ESOC	LOD16, LOD19						X			X
7	Environment and Sustainability - Understand and evaluate the sustainability and impact of professional engineering work in the solutions of complex engineering problems in societal and environmental contexts	ENVS	LOD18								X	
8	Ethics - Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice	ET	LOD15, LOD17					X		X		
9	Individual and Team Work - Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings	ITW	LOD6, LOD7, LOD11	X								
10	Communication - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	CS	LOD8									
11	Project Management and Finance - Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments	PMF	LOD12, LOD14		X		X					
12	Life Long Learning - Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change	LLL	LOD13			X						

# Targeted KPI

# Targeted KPI for CLO and PLO

## CLO

At least **50%** of students achieve **55 marks** in all CLO

## PLO

Each PLO achieve at least **60%** in average attainment

# Targeted KPI for PEO (BEV, Intake before 2019/2020)

PEO #	Performance Indicators (PI)	Performance Target (PT)
<b>PEO 1</b>	<ol style="list-style-type: none"> <li>1. Involvement in electrical engineering field</li> <li>2. Register with professional bodies</li> <li>3. Obtainment of professional qualifications</li> <li>4. Attend competent courses</li> </ol>	<ol style="list-style-type: none"> <li>1. 70% worked in electrical engineering field</li> <li>2. 90% registered with professional bodies</li> <li>3. 3% obtained professional qualifications</li> <li>4. 30% attended competent courses</li> </ol>
<b>PEO 2</b>	<ol style="list-style-type: none"> <li>1. Practise the engineering work/ task according to code of ethics</li> <li>2. Contribution to organisation and community</li> </ol>	<ol style="list-style-type: none"> <li>1. 90% practising the engineering work/ task according to code of ethics.</li> <li>2. 90% of the work is contributing to organisation and community</li> </ol>
<b>PEO 3</b>	<ol style="list-style-type: none"> <li>1. Attend leadership, communication and other soft skills training</li> <li>2. Lead the project/ task</li> </ol>	<ol style="list-style-type: none"> <li>1. 60% attended leadership, communication and other soft skills training</li> <li>2. 60% have experience to lead a project/ task</li> </ol>
<b>PEO 4</b>	<ol style="list-style-type: none"> <li>1. Intention to upgrade knowledge/ competencies</li> <li>2. Application of knowledge/ engineering experience to global practises</li> </ol>	<ol style="list-style-type: none"> <li>1. 60% have planning to upgrade the knowledge/ competencies</li> <li>2. 80% apply the knowledge/ engineering experience to global practises</li> </ol>

## Targeted KPI for PEO (BEJ, Intake before 2019/2020)

PEO #	Performance Indicators (PI)	Performance Target (PT)
<b>PEO 1</b>	<ol style="list-style-type: none"> <li>1. Percentage of electronic engineers</li> <li>2. Attend competency courses in electronic engineering</li> </ol>	<ol style="list-style-type: none"> <li>1. 70% of total graduates</li> <li>2. 10% have attended competency courses</li> </ol>
<b>PEO 2</b>	<ol style="list-style-type: none"> <li>1. Attend soft skills based trainings</li> <li>2. In constant pursuit of professional engineer status</li> </ol>	<ol style="list-style-type: none"> <li>1. 50% have attended soft skills trainings</li> <li>2. 20% are actively working in obtaining professional engineer status</li> </ol>
<b>PEO 3</b>	<ol style="list-style-type: none"> <li>1. Engaging in engineering work in accordance with the code of ethics</li> <li>2. Involvement in community service</li> </ol>	<ol style="list-style-type: none"> <li>1. 100% are practising engineering work in accordance with the code of ethics</li> <li>2. 80% have contributed to society</li> </ol>

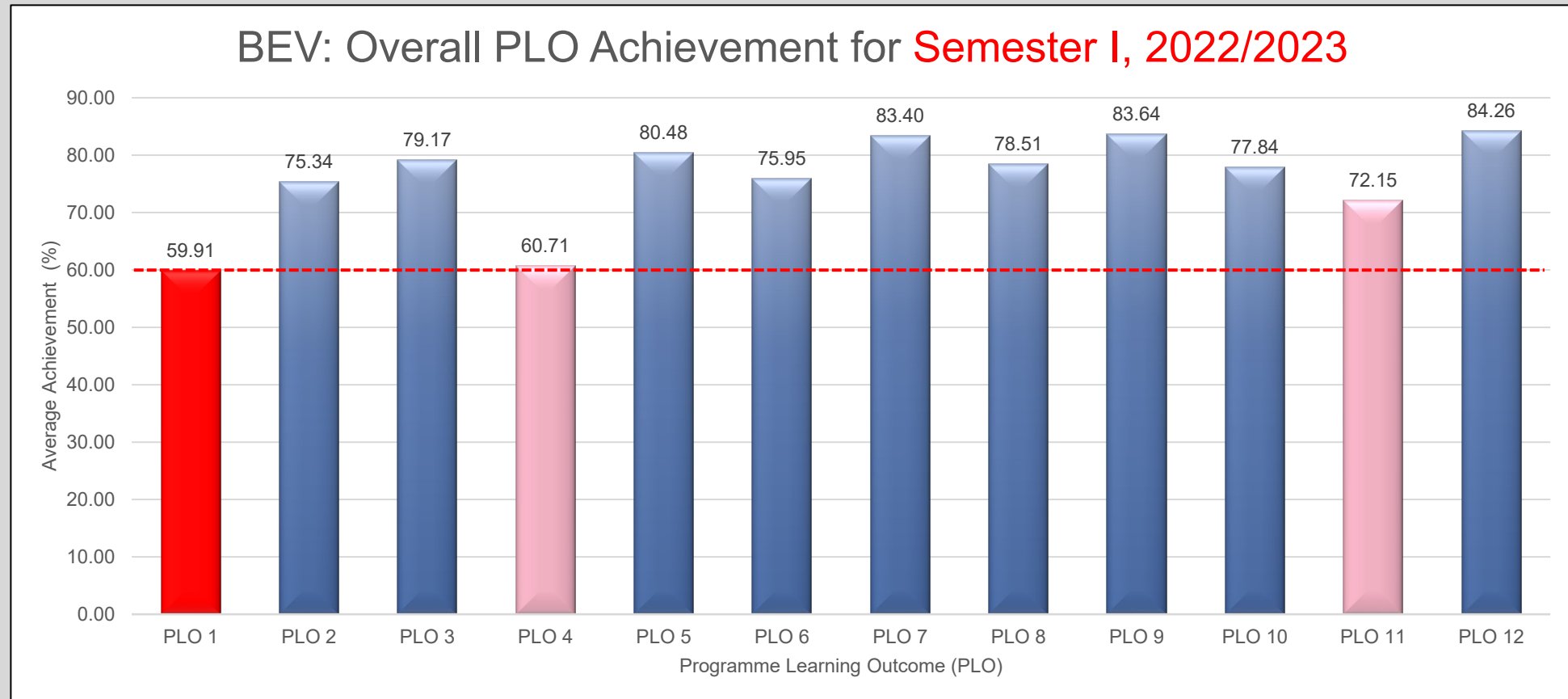
# Targeted KPI for PEO (BEV and BEJ, Intake of 2022/2023 onwards)

PEO #	Performance Indicators (PI)	Performance Target (PT)
<b>PEO 1</b>	<ol style="list-style-type: none"> <li>1. % of graduates working in multidisciplinary engineering fields</li> <li>2. % of graduates become a leader in any engineering project/task</li> </ol>	<ol style="list-style-type: none"> <li>1. 70%</li> <li>2. 50%</li> </ol>
<b>PEO 2</b>	<ol style="list-style-type: none"> <li>1. % of graduates participate in relevant professional qualifications, competency courses, seminars, training (lr., training certificate, competency certificate, consultancy works, etc.)</li> <li>2. % of graduates involve in providing technical solutions locally or globally</li> </ol>	<ol style="list-style-type: none"> <li>1. 50%</li> <li>2. 20%</li> </ol>
<b>PEO 3</b>	<ol style="list-style-type: none"> <li>1. % of graduates contribute to society through relevant activities for environment and sustainable technology</li> </ol>	<ol style="list-style-type: none"> <li>1. 20%</li> </ol>

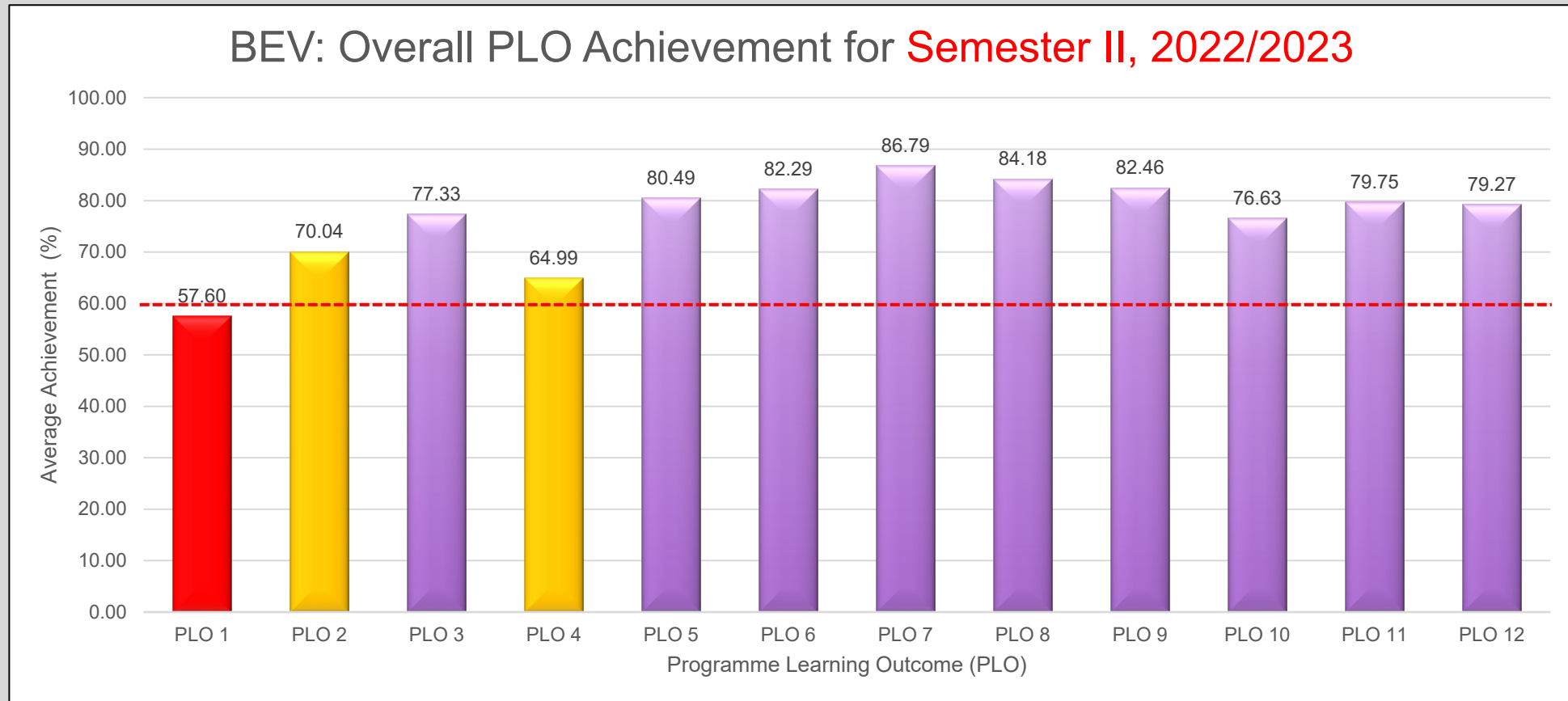
# Results of Recent PLO and PEO Attainments



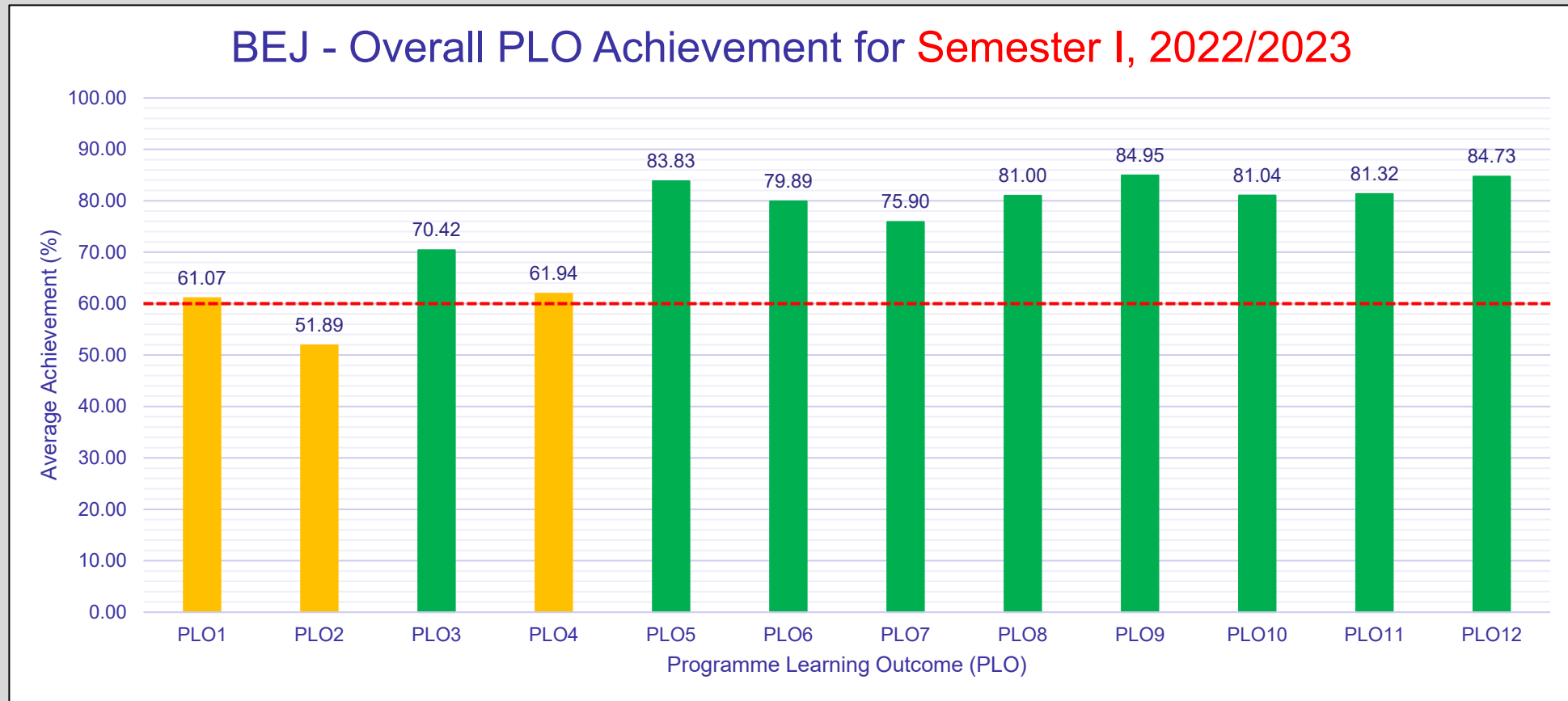
# PLO Attainment for BEV



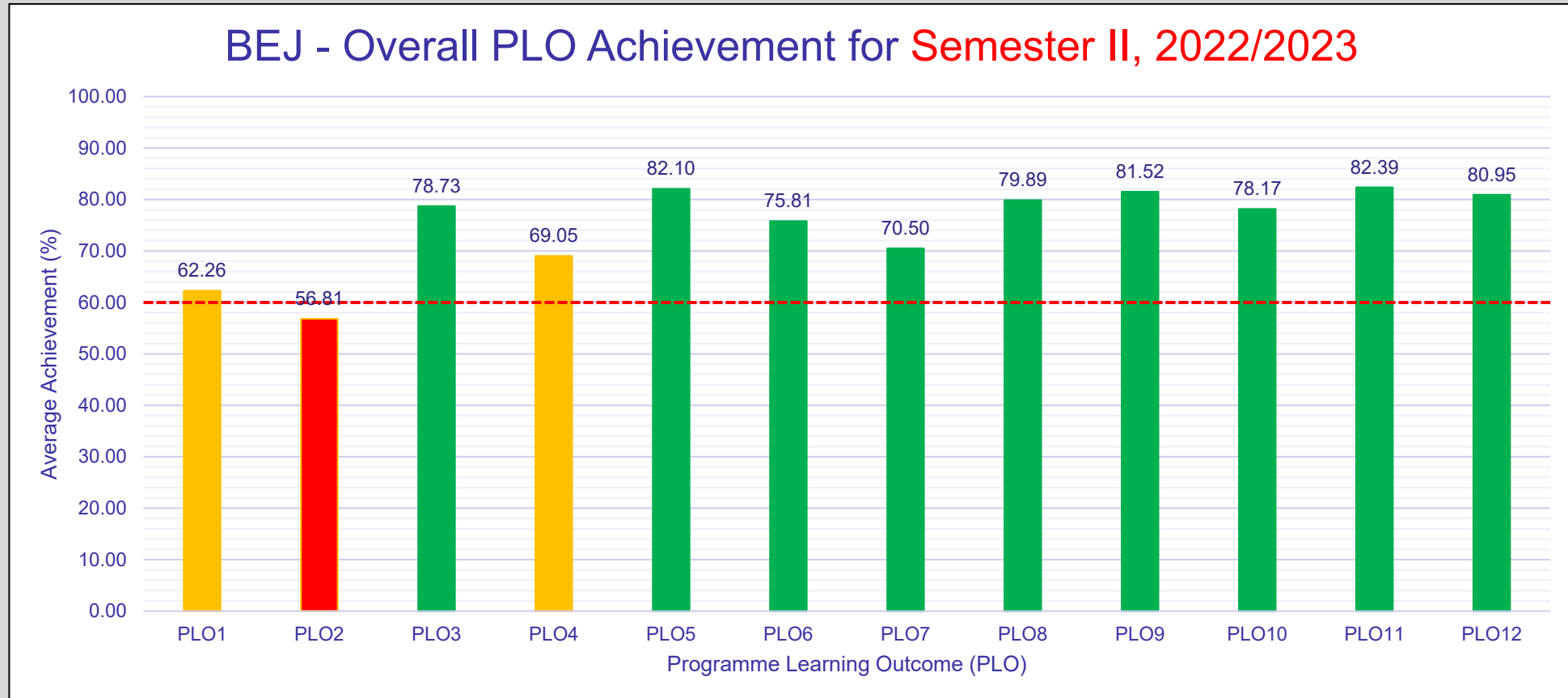
# PLO Attainment for BEV



# PLO Attainment for BEJ

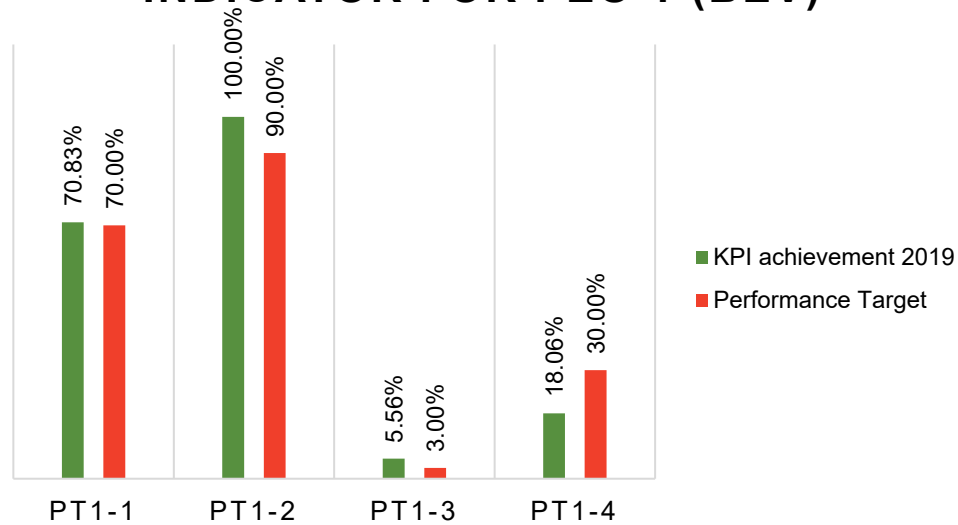


# PLO Attainment for BEJ

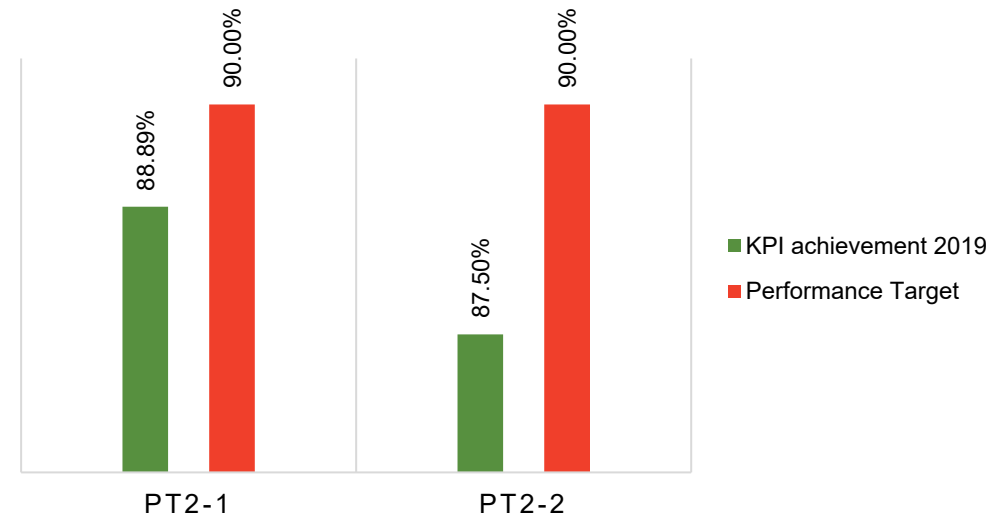


# PEO Attainment for BEV (Graduated in 2019)

## ATTAINMENT OF PERFORMANCE INDICATOR FOR PEO 1 (BEV)

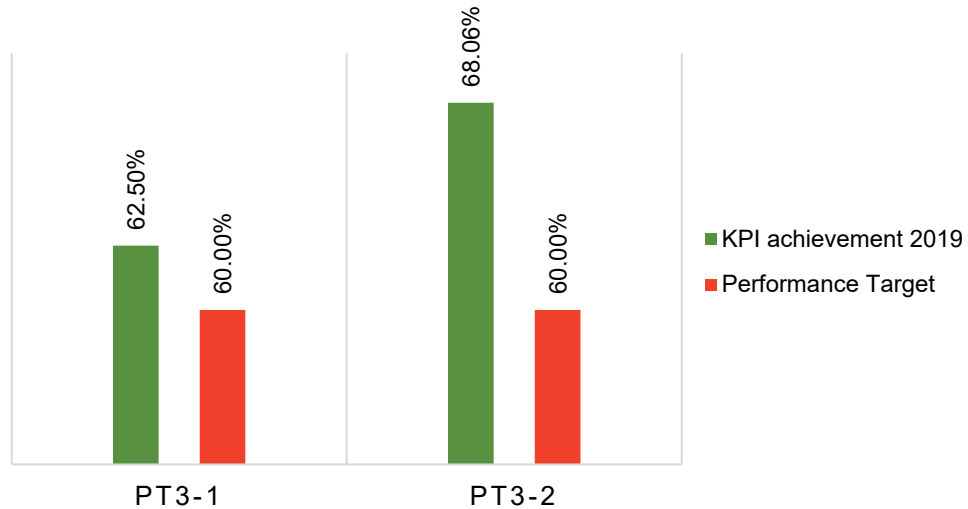


## ATTAINMENT OF PERFORMANCE INDICATOR FOR PEO 2 (BEV)

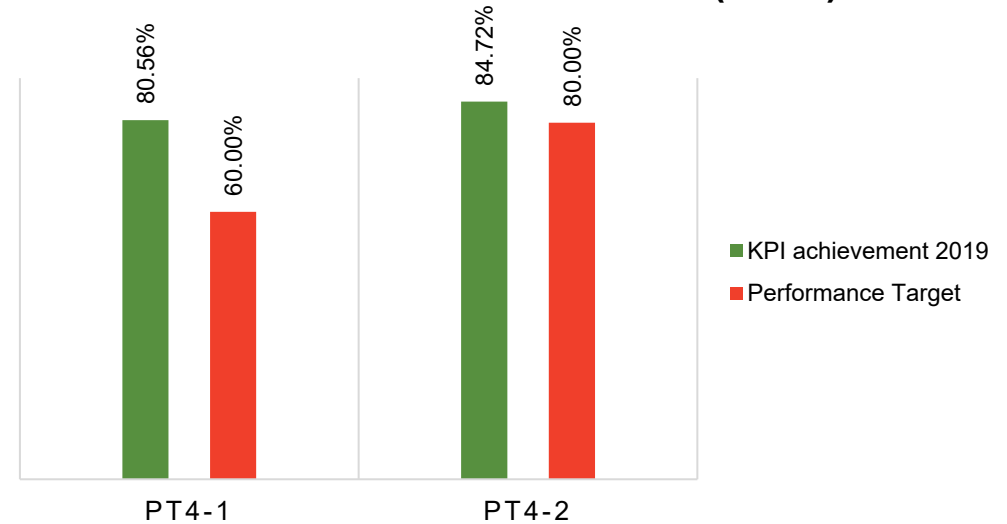


# PEO Attainment for BEV (Graduated in 2019)

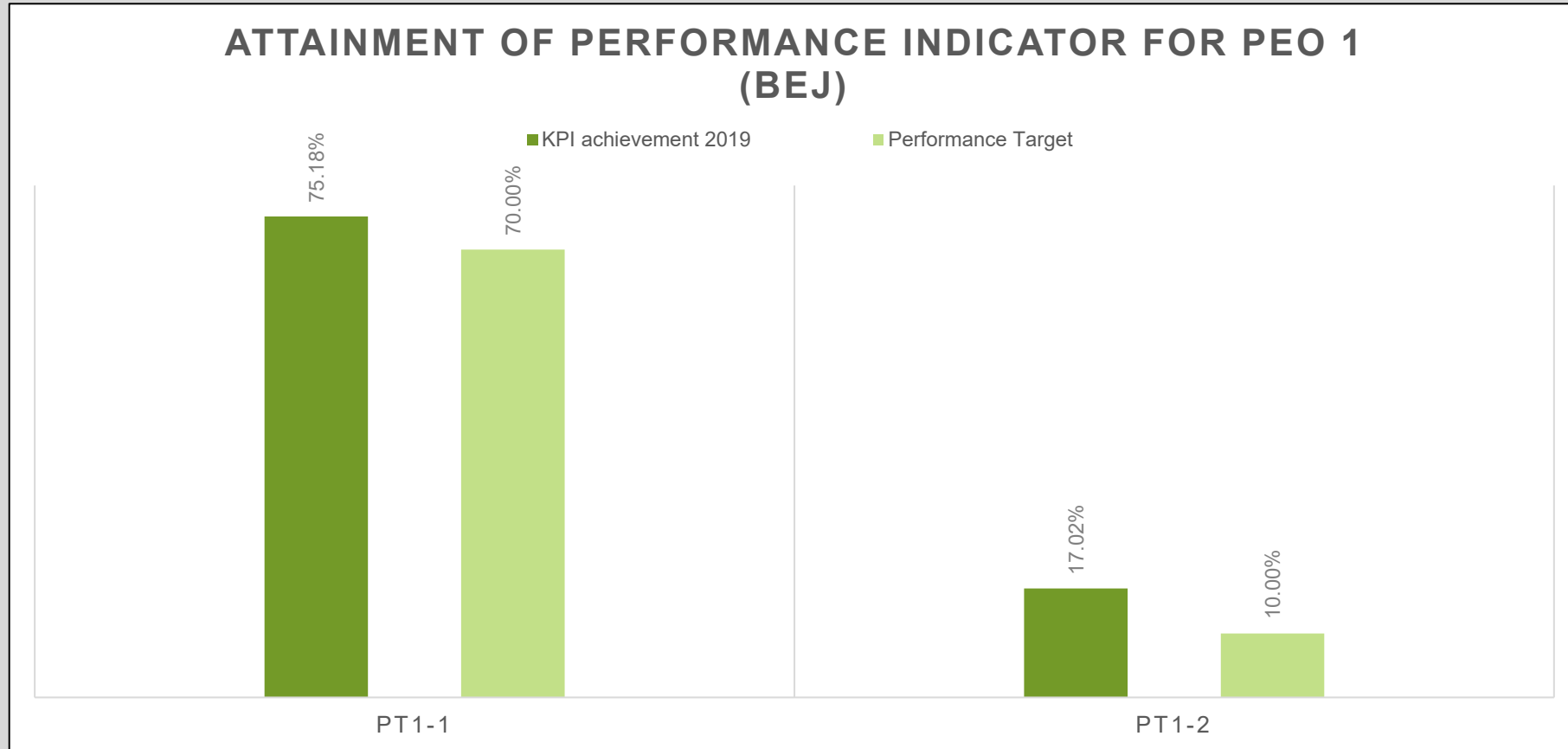
### ATTAINMENT OF PERFORMANCE INDICATOR FOR PEO 3 (BEV)



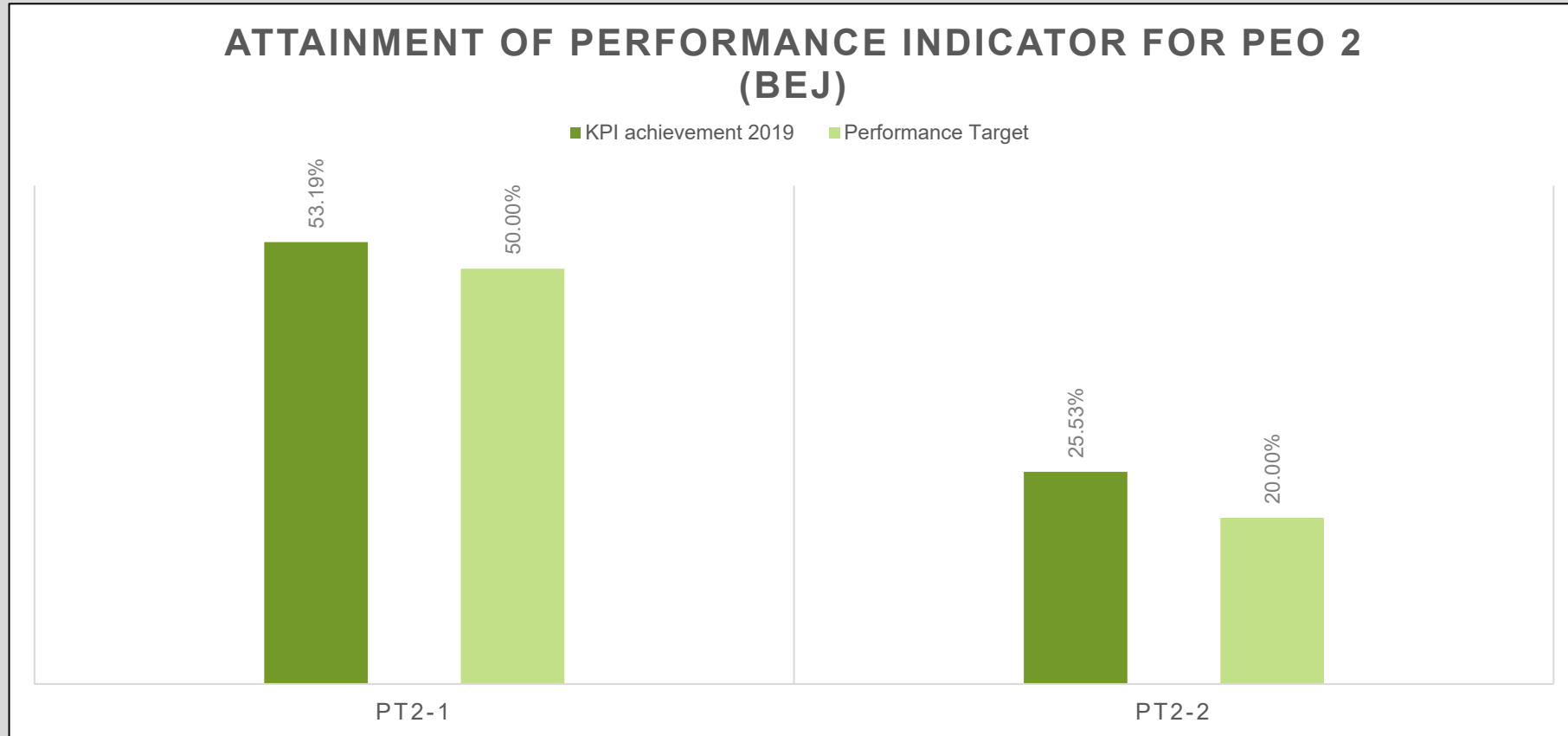
### ATTAINMENT OF PERFORMANCE INDICATOR FOR PEO 4 (BEV)



# PEO Attainment for BEJ (Graduated in 2019)

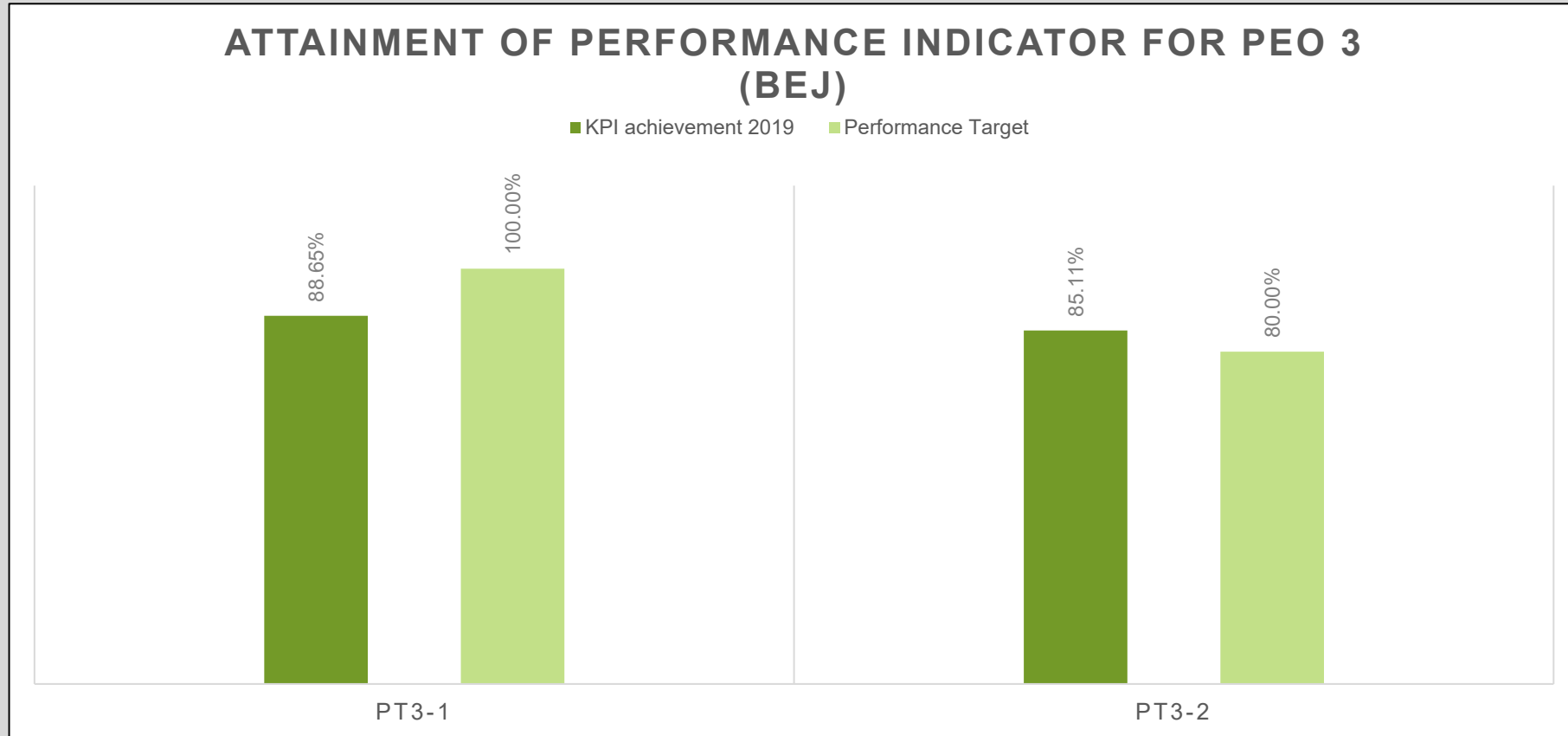


# PEO Attainment for BEJ (Graduated in 2019)





# PEO Attainment for BEJ (Graduated in 2019)



# Results of Graduate Exit Survey PLO Attainments

# Graduate Exit Survey (BEV 2023)

Mean Score showing attainment of PLOs on a 5-point Likert scale along with standard deviation (Total respondents, n = 178)

		Mean	Mode	SD
PLO1	Question 1	4.37	4	0.57
	Question 2	4.25	4	0.63
	Average	4.31	4	0.60
PLO2	Question 3	4.38	4	0.63
	Question 4	4.29	4	0.58
	Average	4.34	4	0.61
PLO3	Question 5	4.22	4	0.64
	Question 6	4.17	4	0.64
	Average	4.20	4	0.64
PLO4	Question 7	4.28	4	0.65
	Question 8	4.26	4	0.61
	Average	4.27	4	0.63
PLO5	Question 9	4.28	4	0.64
	Question 10	4.20	4	0.62
	Average	4.24	4	0.63
PLO6	Question 11	4.29	4	0.61
	Question 12	4.33	4	0.59
	Average	4.31	4	0.60
PLO7	Question 13	4.35	4	0.58
	Question 14	4.29	4	0.61
	Average	4.32	4	0.60
PLO8	Question 15	4.36	4	0.59
	Question 16	4.36	4	0.59
	Average	4.36	4	0.59
PLO9	Question 17	4.34	4	0.63
	Question 18	4.46	5	0.56
	Average	4.40	4.5	0.60
PLO10	Question 19	4.29	4	0.68
	Question 20	4.28	4	0.63
	Average	4.29	4	0.66
PLO11	Question 21	4.25	4	0.63
	Question 22	4.25	4	0.67
	Average	4.25	4	0.65
PLO12	Question 23	4.28	4	0.62
	Question 24	4.32	4	0.58

# Graduate Exit Survey (BEJ 2023)

Mean Score showing attainment of PLOs on a 5-point Likert scale along with standard deviation (Total respondents, n = 287)

		Mean	Mode	SD
PLO1	Question 1	4.37	4	0.55
	Question 2	4.31	4	0.61
	Average	4.34	4	0.58
PLO2	Question 3	4.38	4	0.59
	Question 4	4.33	4	0.58
	Average	4.36	4	0.59
PLO3	Question 5	4.29	4	0.60
	Question 6	4.28	4	0.64
	Average	4.29	4	0.62
PLO4	Question 7	4.32	4	0.62
	Question 8	4.33	4	0.62
	Average	4.33	4	0.62
PLO5	Question 9	4.34	4	0.63
	Question 10	4.24	4	0.61
	Average	4.30	4	0.62
PLO6	Question 11	4.28	4	0.61
	Question 12	4.35	4	0.59
	Average	4.32	4	0.60
PLO7	Question 13	4.35	4	0.59
	Question 14	4.33	4	0.63
	Average	4.34	4	0.61
PLO8	Question 15	4.44	4	0.56
	Question 16	4.44	4	0.56
	Average	4.44	4	0.56
PLO9	Question 17	4.40	4	0.59
	Question 18	4.45	5	0.59
	Average	4.43	4.5	0.59
PLO10	Question 19	4.36	4	0.62
	Question 20	4.39	4	0.62
	Average	4.38	4	0.62
PLO11	Question 21	4.29	4	0.65
	Question 22	4.37	4	0.63
	Average	4.33	4	0.64
PLO12	Question 23	4.35	4	0.61
	Question 24	4.36	4	0.57

- The reports generated from **direct** and **indirect** assessments are utilised to enhance the overall PLO and PEO achievements by taking necessary **CQI** measures to improve the learning activities holistically.
- The faculty's top management and programme heads will analyse and take **corrective actions** based on the CQI.



# Terima Kasih

# Thank you

By:



**OBE Committee (2024)**