

# Implementation of OBE in Teaching and Learning within FKAAS



**Faculty of Civil and Environmental Engineering**

# *What is OBE?*

Outcome-Based Education is  
a **method** of  
**curriculum design and teaching** that **focuses on**  
**what students can actually do** after they are  
taught.

*The motivation for OBE is...*

There is a call for **QUALITY** and  
**ACCOUNTABILITY** in education!!

by who? **THE PEOPLE**

**KEY QUESTION IN OBE IS**

**“HOW TO MEASURE THE OUTCOMES?”**

# *Steps in OBE...*

1. First, think of expected outcomes.
2. Design curriculum.
3. Teach with well-defined learning outcomes.
4. Assess students by learning outcomes.

Focus on **how much and how well students have learnt.**

Not just on completing the syllabus.

# *OBE's 1-step ahead*

## **Ongoing student-lecturer feedback**

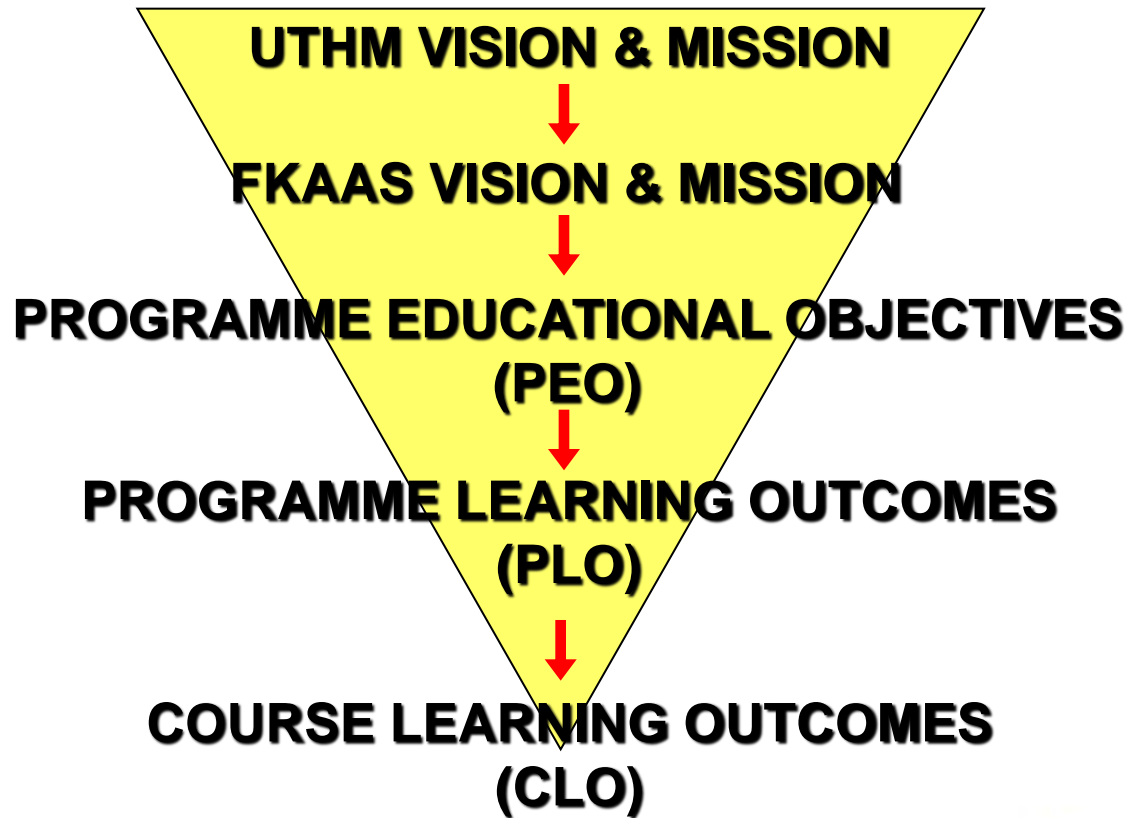
How to achieve the learning outcomes?

What is the progress of this student?

When and how to assess the students?

## **Continuous Quality Improvement (CQI)**

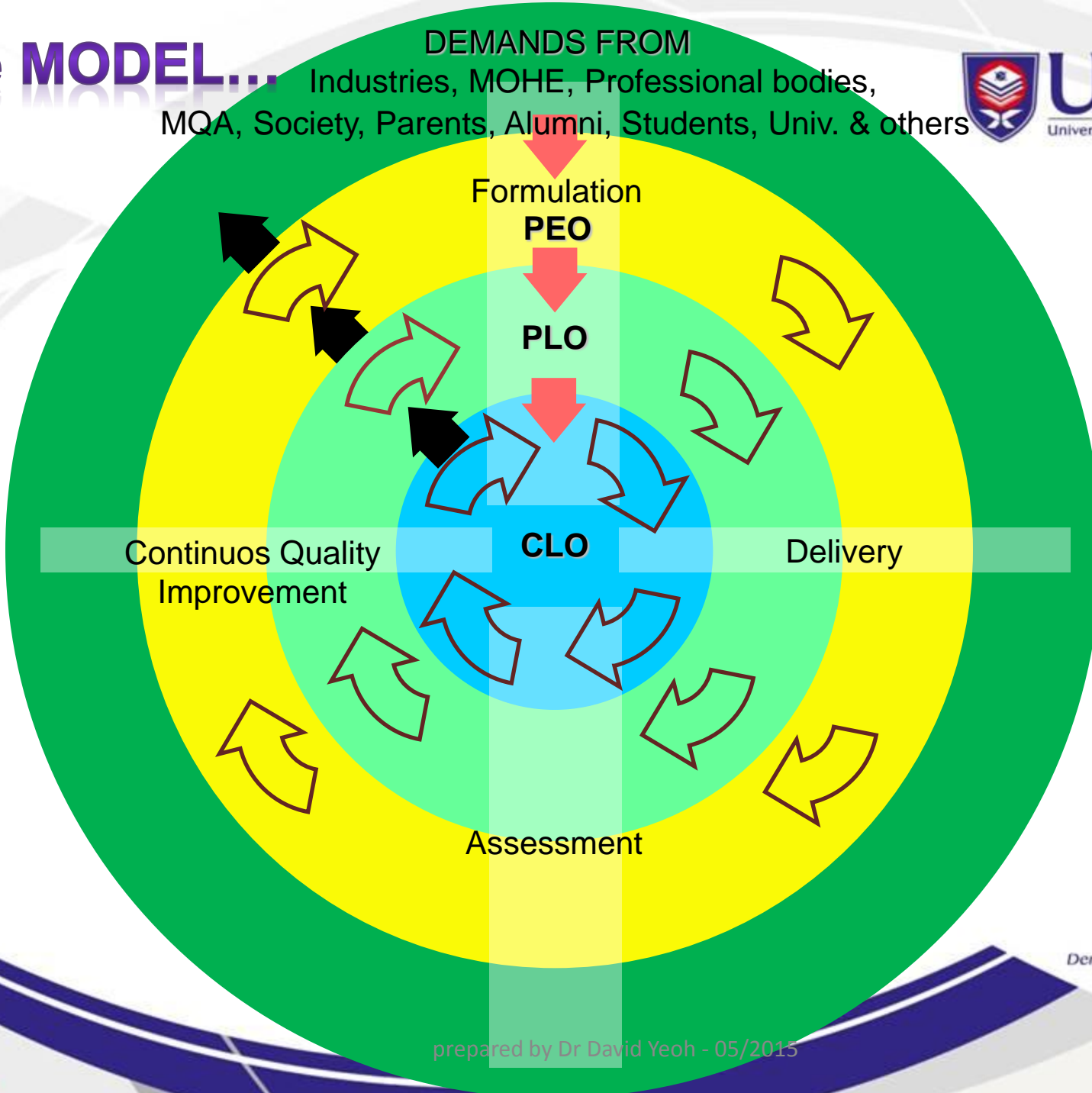
# the FLOW....





# the MODEL...

DEMANDS FROM Industries, MOHE, Professional bodies, MQA, Society, Parents, Alumni, Students, Univ. & others



Continuous Quality Improvement

Delivery

Assessment

# ASSESSMENT model

	<u>When / Who</u>	<u>How (examples)</u>
<b>Programme Educational Objectives (PEO)</b>	3 - 5 years after graduation	Tracer study/ Surveys on employer & alumni, Industrial advisor committee/ stakeholders, publications, consultancy, projects, business and achievements
<b>Programme Learning Outcomes (PLO)</b>	Upon graduation	Exit survey, External Examiner report, Fundamental exam, CLO-PLO assessment
<b>Course Learning Outcomes (CLO)</b>	Upon completion of a course	C - Assignment, quiz, test, final exam etc P - Lab/ field work, project etc A - Lab/ field work, project etc



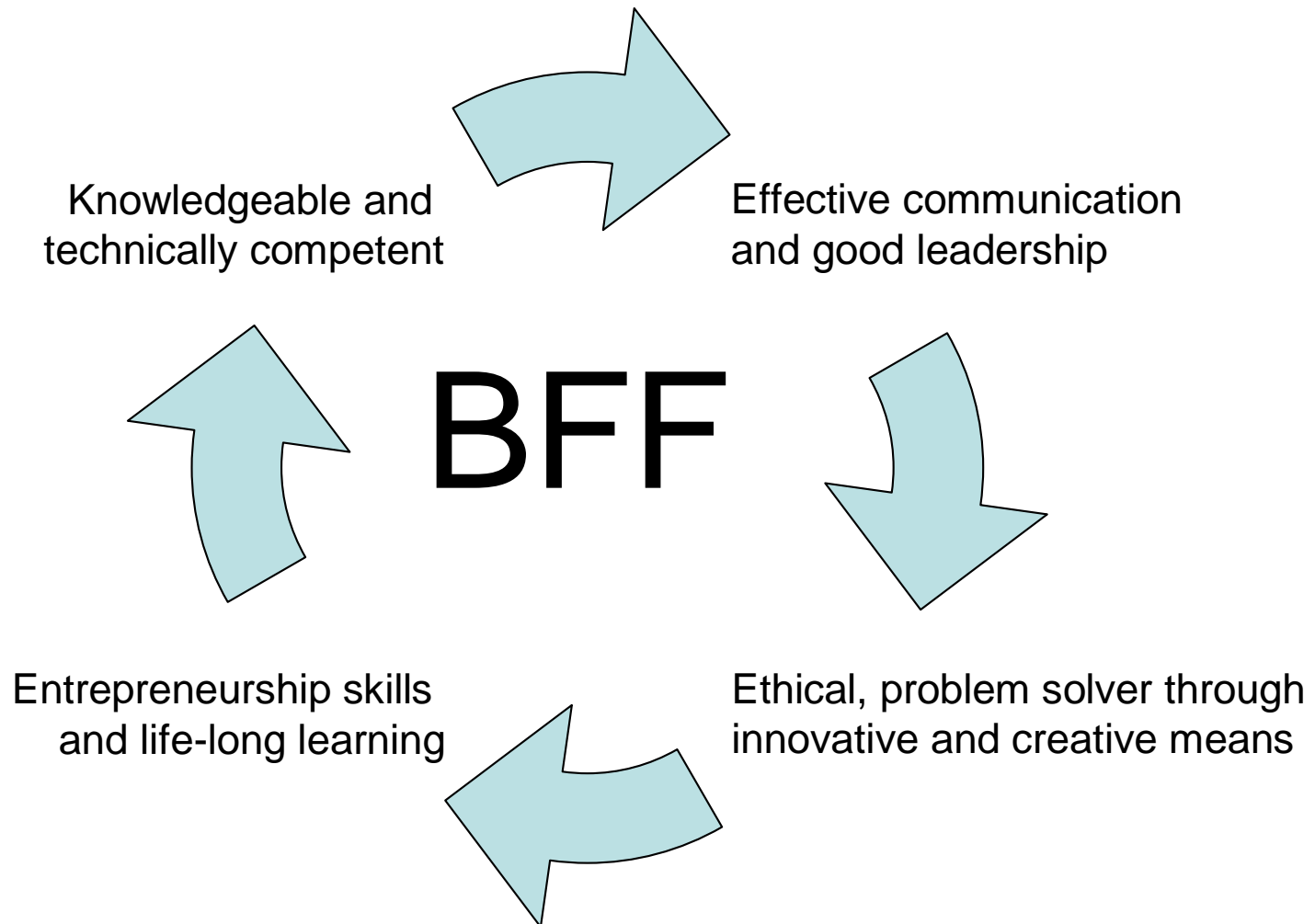
- FKAAS offers one Undergraduate degree programme – BFF (Bachelor of Civil Engineering with Honours)

**STRUKTUR KURIKULUM**  
**SARJANA MUDA KEJURUTERAAN AWAM DENGAN KEPUJIAN (BFF)**  
**FAKULTI KEJURUTERAAN AWAM DAN ALAM SEKITAR**

TAHUN	KOD KURSUS	SEMESTER I		KOD KURSUS	SEMESTER II		KOD KURSUS	SEMESTER III	
		KURSUS	KREDIT		KURSUS	KREDIT		KURSUS	KREDIT
1	UwB 10102	Academic English	2	UwS 10103/ UwS 10202	*Kenegaraan dan Pembangunan Mutakhir Malaysia/ Hubungan Etnik	3/2			
	UwS 10103/ UwS 10202	*Kenegaraan dan Pembangunan Mutakhir Malaysia/ Hubungan Etnik	3/2	UwA 10302 / UwA 10102 / UwA 10202 /	*Pengajian Islam / Pengajian Moral/ Tamadun Islam dan Tamadun Asia	2			
	UwA 10102 / UwA 10202 / UwA 10302	*Pengajian Islam / Pengajian Moral/ Tamadun Islam dan Tamadun Asia	2	UwB 10202	Effective Communication	2			
	BFC 10502 / UQ* 1xxx2	*Bahan Kejuruteraan Awam/ Bahasa Asing	2	BFC 14003	Matematik Kejuruteraan Awam II	3			
	UQ* 1xxx1	Ko-Kurikulum I	1	BFC 10303	Lukisan Kejuruteraan dan CAD	3			
	BFC 13903	Matematik Kejuruteraan Awam I	3	BFC 10403	Mekanik Bendalir	3			
	BFC 10103	Statik dan Dinamik	3	BFC 10502 / UQ* 1xxx2	*Bahan Kejuruteraan Awam/ Bahasa Asing	2			
	BFC 10202	Pemuliharaan Alam Semulajadi	2						
		<b>17/18</b>			<b>17/18</b>				
2	UwB 20302	Technical Writing	2	BFC 24203	Matematik Kejuruteraan Awam IV	3	BFC 21502	Amalan Geomatik	2
	BFC 20601	Makmal Bahan dan Bendalir	1	BFC 21002	Kejuruteraan Pembinaan	2			
	UQ*1xxx1	Ko-Kurikulum II	1	BFC 21103	Hidraulik	3			
	BFC 23702	Creativity and Innovation	2	BFC 21201	Makmal Hidraulik dan Mekanik Bahan	1			
	BFC 24103	Matematik Kejuruteraan Awam III	3	BFC 21303	Geologi Kejuruteraan	3			
	BFC 20703	Geomatik Kejuruteraan	3	BFC 21403	Analisis Struktur	3			
	BFC 20802	Pengaturcaraan Komputer	2	BFC 21702	Geoteknik I	2			
BFC 20903	Mekanik Bahan	3							
		<b>17</b>			<b>17</b>				<b>2</b>
3	BFC 34303	Statistik Kejuruteraan Awam	3	BFC 32302	Kejuruteraan Trafik dan Keselamatan	2	BFC 32904	Latihan Industri	4
	BFC 31602	Kontrak dan Taksiran	2	BFC 32403	Kejuruteraan Alam Sekitar	3			
	BFC 33802	Geoteknik II	2	BFC 32501	Makmal Kej. Alam Sekitar dan Pengangkutan	1			
	BFC 31802	Kejuruteraan Jalan Raya	2	BFC 32602	Sistem Mekanikal dan Elektrikal	2			
	BFC 31901	Makmal Geoteknik dan Struktur	1	BFC 32703	Pengurusan Pembinaan Lestari	3			
	BFC 32002	Hidrologi	2	BFC 32803	Rekabentuk Struktur Konkrit II	3			
	BFC 32102	Rekabentuk Struktur Konkrit I	2						
BPK 20802	Keusahawanan	2							
		<b>16</b>			<b>14</b>				<b>4</b>
4	BFC 43003	Rekabentuk Struktur Keluli dan Kayu	3	BFC 43604	Projek Sarjana Muda II	4			
	BFC 43103	Kejuruteraan Asas	3	BFC 43303	Projek Rekabentuk Bersepadu	3			
	BFC 43201	Perisian Kejuruteraan Awam	1	BF* 4XY03	Elektif I	3			
	BFC 32202	Jurutera dan Masyarakat	2	BF* 4XY03	Elektif II	3			
	BFC 43502	Keselamatan dan Kesihatan Pekerja	2	BF* 4XY03	Elektif III	3			
	BFC 43402	Projek Sarjana Muda I	2						
BPK 30902	Ekonomi Kejuruteraan	2							
		<b>15</b>			<b>16</b>				

# PEO

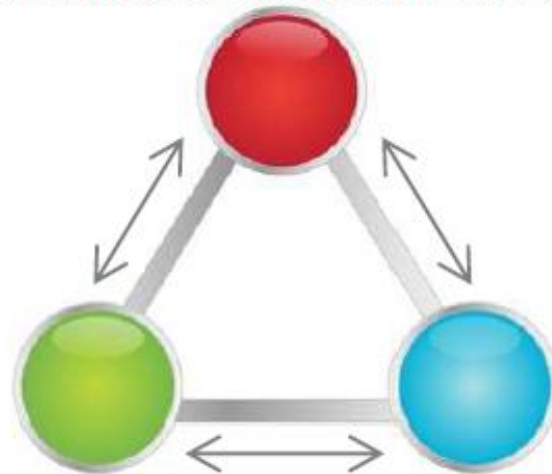
# Programme Educational Objectives



# Assessment of PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

## 1. Employer Survey on Graduates (indirect measurement)

**KPI: 50% employers feedbacks are on the scale of  $\geq 4$  (good and excellent)**



**2. Graduate Survey  
(indirect measurement)**  
**KPI: 50% graduates are on the scale of  $\geq 4$  (good and excellent)**

**3. Graduate Survey  
(direct measurement)**  
**KPI: Please refer to Appendix G for details**

# PEO Assessment – Graduate Survey

## UNIVERSITI TUN HUSSIEEN ONN MALAYSIA (UTHM)

\*Required

### Programme Educational Objectives (PEO) Survey for UTHM ALUMNI

#### Personal Detail

NAME \*

EMAIL \*

CONTACT NUMBER \*

YEAR GRADUATE DEGREE PROGRAMME \*



**Using GOOGLE!**

<https://docs.google.com/forms/d/1Z-ck4b9v16LgDubcsjO6Y82xqtBhsHFEXEHZSsJIQ/viewform>

5/19/2015

UNIVERSITI TUN HUSSIEEN ONN MALAYSIA (UTHM)

POSITION \*

#### Tracer Study for Alumni

Programme Educational Objectives (PEO) FKAAS

Have been promoted or offered to a better position \*

- YES  
 NO

Have been involved in research/ construction project proposal either as member or leader. \*

- YES  
 NO

Are you a Professional Engineer (PE)? \*

- YES  
 NO

Have published papers in conference/ journal \*

- YES  
 NO

Have held leadership positions for a taskforce or project within an organization. \*

- YES  
 NO

Have been involved in civil engineering design/ construction projects \*

- YES  
 NO

Have been involved in research and/ or development projects related to civil engineering \*

- YES  
 NO

THANK YOU

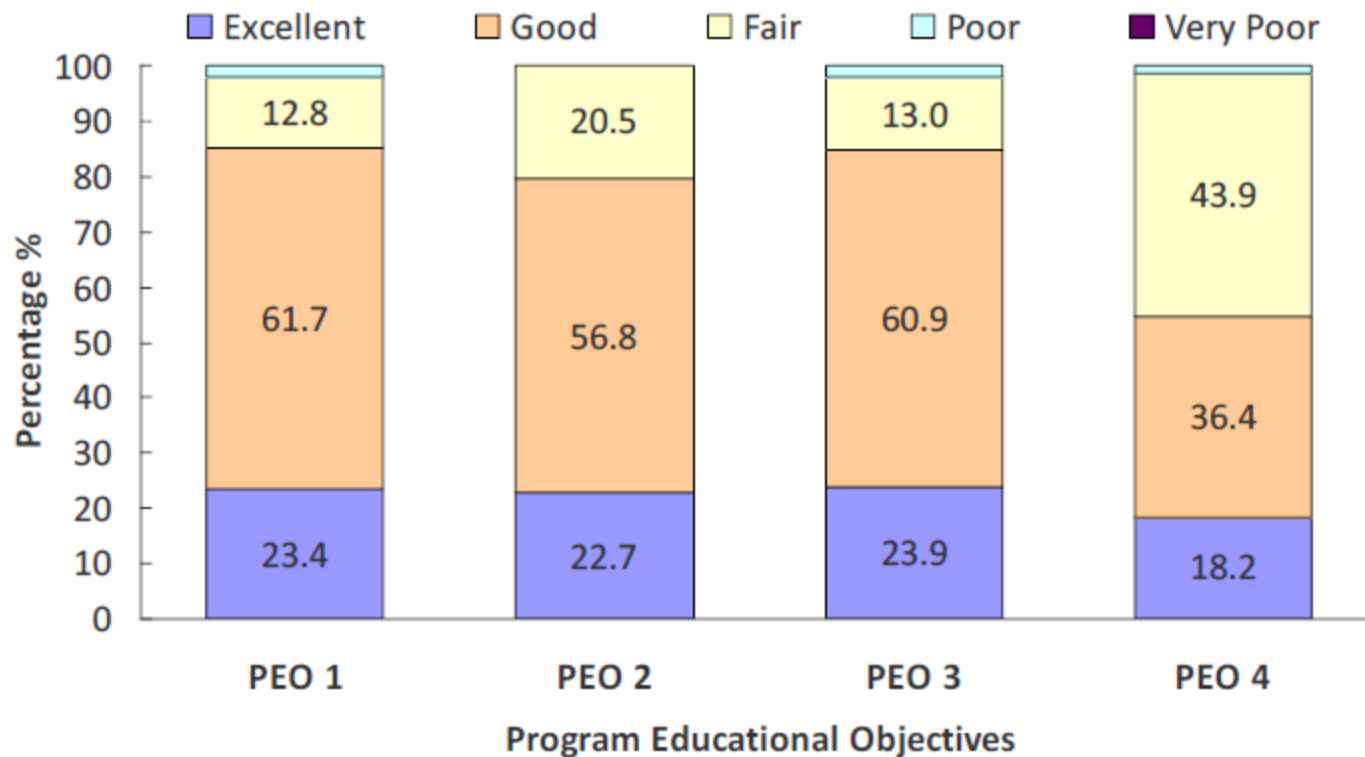
Submit

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<https://docs.google.com/forms/d/1Z-ck4b9v16LgDubcsjO6Y82xqtBhsHFEXEHZSsJIQ/viewform>

# Assessment of PEO

Data extracted from OBE Annual Report 2012

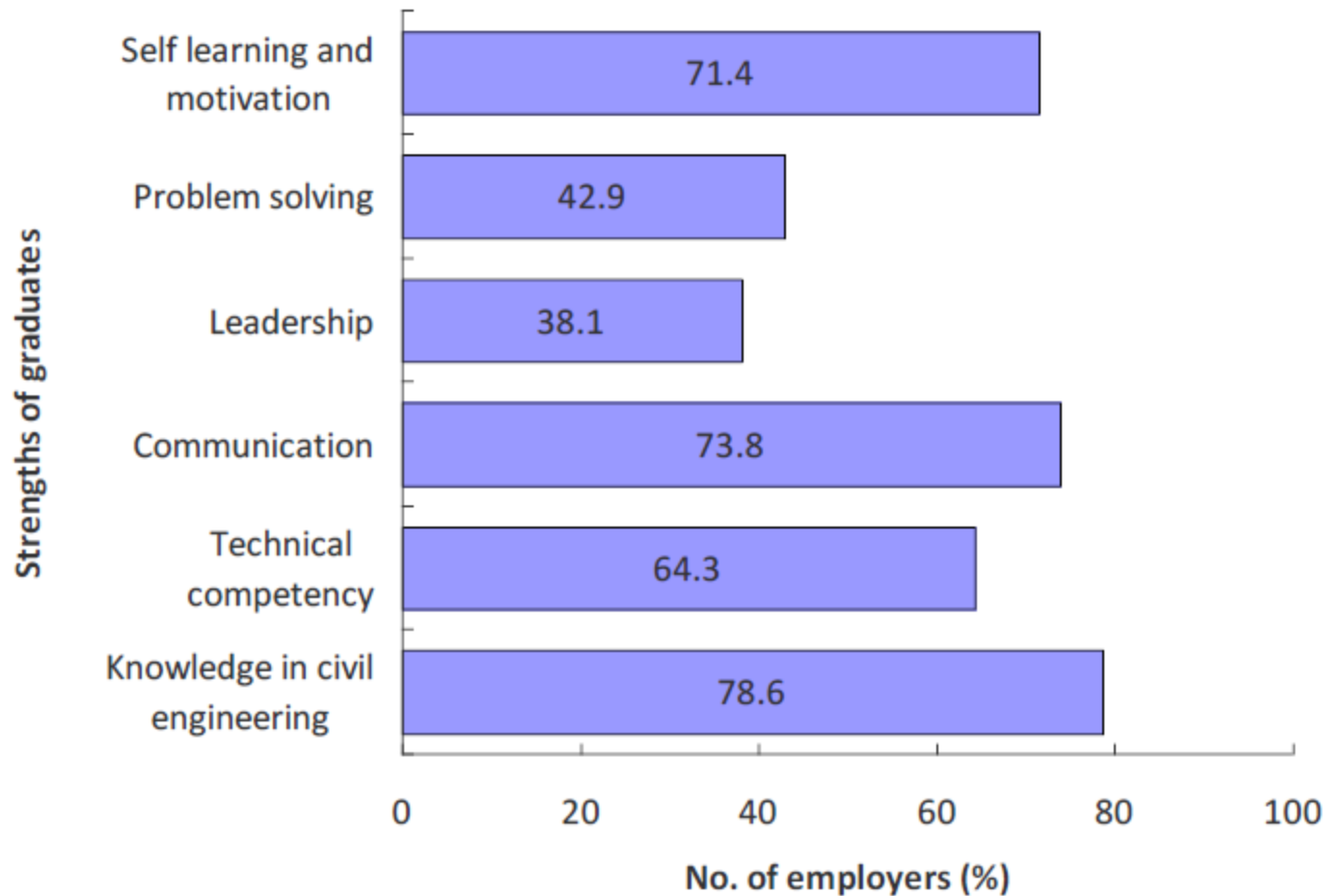


**Figure 21.** Graduates attainment of PEO based on employers survey



# Assessment of PEO

Data extracted from OBE Annual Report 2012



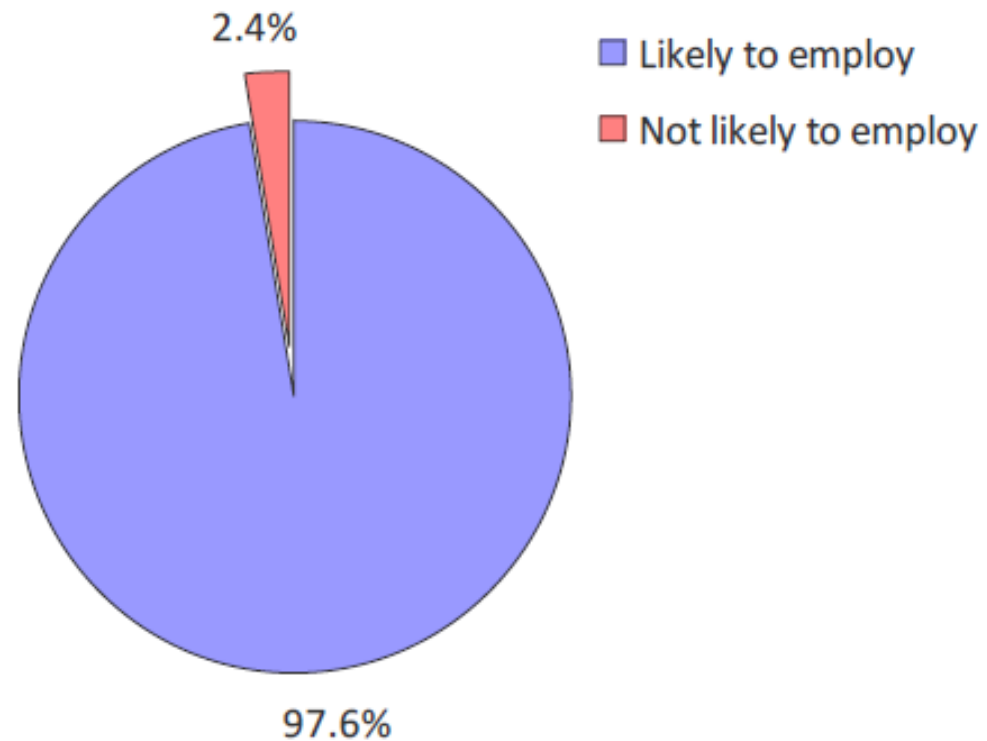
**Figure 22.** Strong graduates attributes as identified through employer survey

prepared by Dr David Yeoh - 05/2015

# Assessment of PEO

Data extracted from OBE Annual Report 2012

**Employability of UTHM graduates – what employers say?**



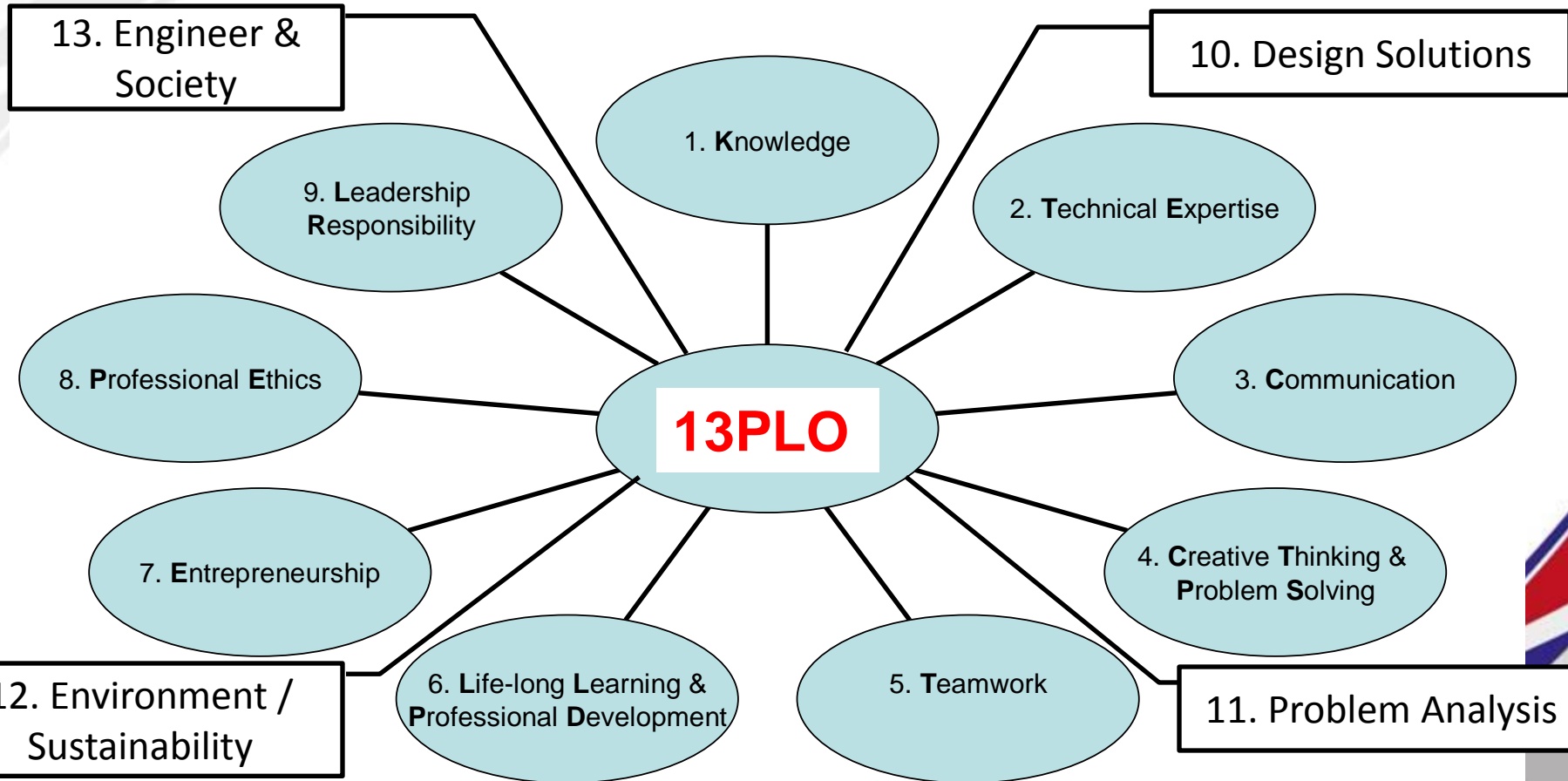
**Figure 24.** Marketability of civil engineering graduates based on employer survey

# Assessment of PEO

## Summary PEO achievement for year 2012 extracted from OBE Annual Report 2012

**Table 17:** Summary of PEO attainment based on Employer Survey and indirect measure of Graduate Survey

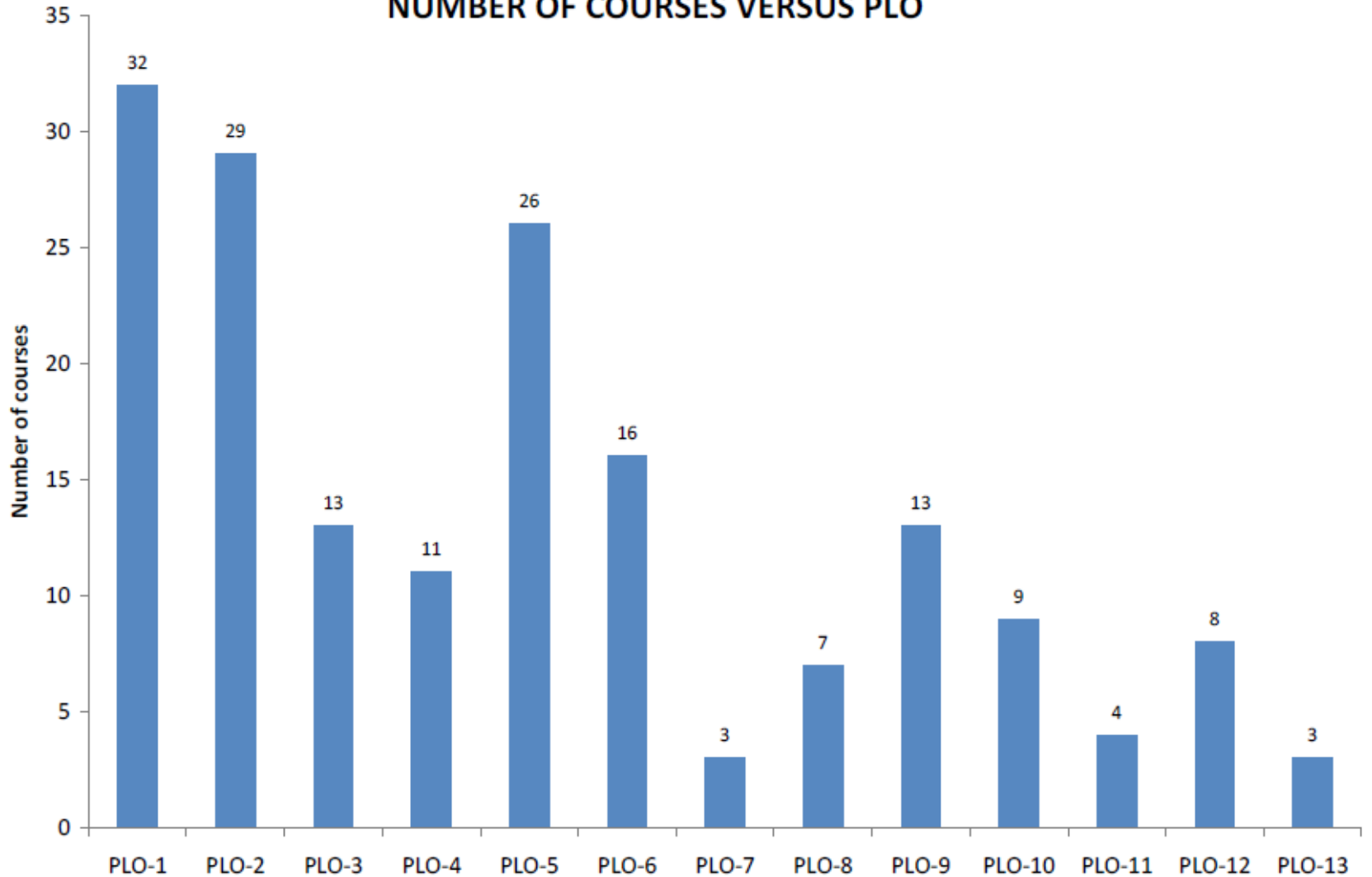
PEO	1. Employer Survey		2. Graduate Survey (Indirect)		Attainment
	Score $\geq 4$ (%)	KPI = 50%	Score $\geq 4$ (%)	KPI = 50%	
1	85.1	Pass	94.2	Pass	Attained
2	79.5	Pass	90.4	Pass	Attained
3	84.8	Pass	80.7	Pass	Attained
4	54.6	Pass	94.2	Pass	Attained



# Mapping PEO to PLO

No	PEO	PLO
1	Knowledgeable and technically competent in civil engineering discipline in-line with the industry requirement.	1,2, 10
2	Effective in communication and demonstrate good leadership quality in an organization.	3,5,9, 13
3	Capable to solve civil engineering problems innovatively, creatively and ethically through sustainable approach.	4,8, 11, 12
4	Able to demonstrate entrepreneurship skills and recognize the need of lifelong learning for successful career advancement.	6,7

## NUMBER OF COURSES VERSUS PLO





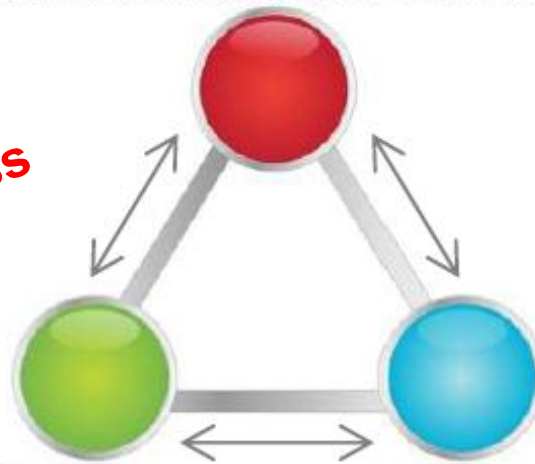
# Mapping of PLO to Taxonomy Domain (example)

	Key Idea	Description	Primary domain type	PLO in EAC
1.	<b>Engineering Knowledge (K)</b>	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialisation to the solution of complex civil engineering problems.	Cognitive	1
2.	<b>Practical / Technical Skills/ Modern Tool Usage (PS)</b>	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex civil engineering activities, with an understanding of the limitations.	Psychomotor	5
5.	<b>Individual and Team Work (TW)</b>	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings	Affective	10

# Assessment of PROGRAMME LEARNING OUTCOMES (PLO)

1. **CLO-PLO Assessment** (compulsory pass)  
(continuous direct measurement in every semester)  
KPI: Achievement in each course  $\geq 50\%$

**2 out of 3 to pass  
CLO-PLO must pass**

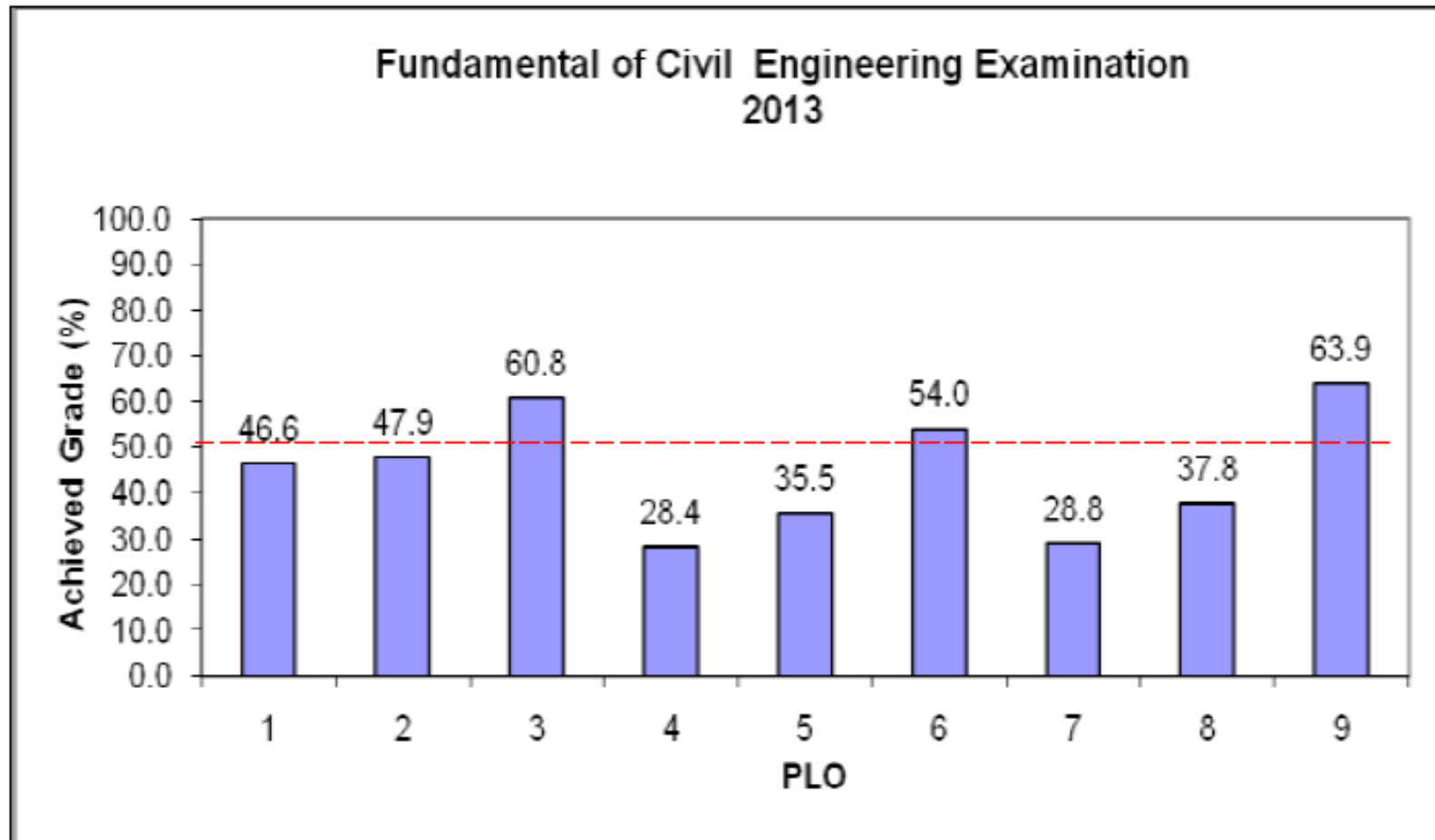


2. **Fundamental Civil Engineering Examination (FCEE)**  
(one-off direct measurement)  
KPI: Achievement in each PLO  $\geq 50\%$

3. **Exit Survey**  
(indirect measurement on self perception)  
KPI: 80% of the respondents feedbacks are on the scale of  $\geq 4$  (good and excellent)

**Figure 27.** Assessments used to triangulate the attainment of PLO

# Assessment PLO - FCEE



**Figure 2: PLO attainment in the FCEE for year 2013**

prepared by Dr. David Teoh - 05/2015

# Assessment of

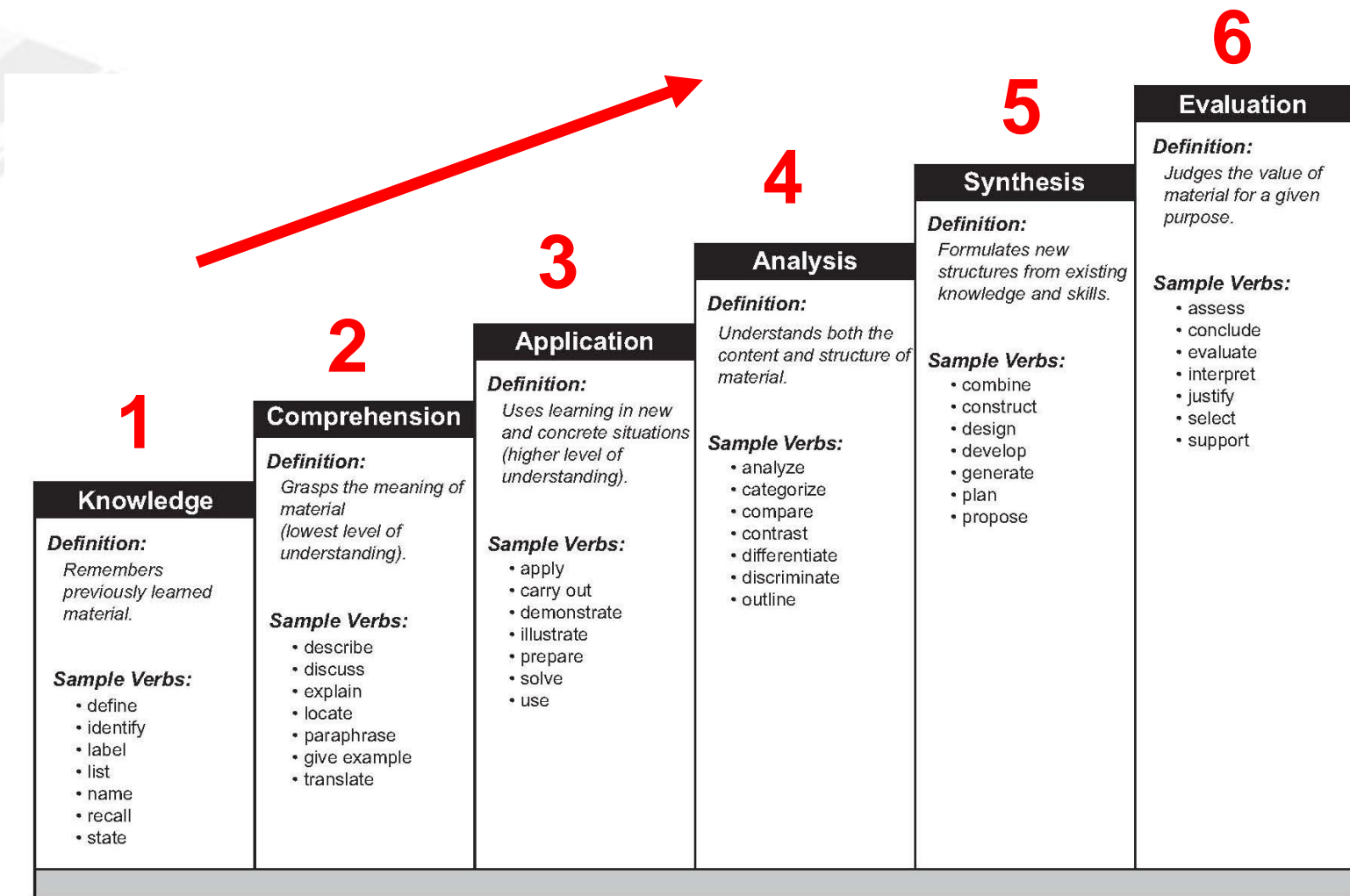
# PROGRAMME LEARNING OUTCOMES (PLO)

**Summary PLO achievement for year 2014 extracted from OBE Annual Report 2014**

Table 7: Achievement of PLO based on three (3) assessments

PLO	CLO ≥ 60%	Exit Survey ≥ 80%	FCEE ≥ 50%	Achievement of PLO
1	70.25%	85.1%	47.9%	Achieve
2	71.75%	90.3%	48.1%	Achieve
3	77.5%	82.0%	59.5%	Achieve
4	69.65%	86.2%	27.1%	Achieve
5	78.15%	86.3%	42.8%	Achieve
6	75.25%	88.0%	53.2%	Achieve
7	80.75%	89.1%	31.5%	Achieve
8	71.35%	90.3%	30.9%	Achieve
9	74.5%	89.9%	62.2%	Achieve

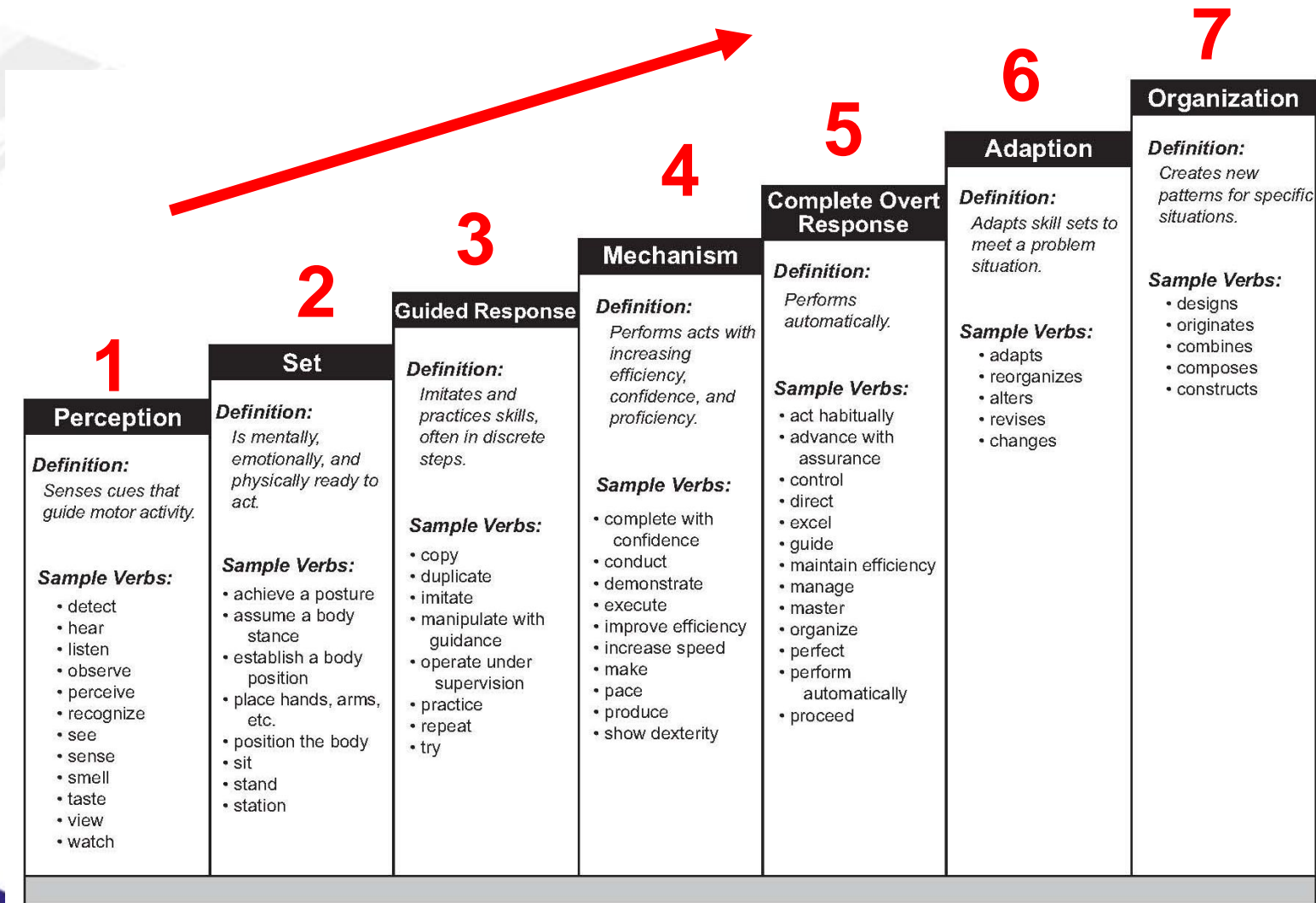
# COGNITIVE DOMAIN (THINKING, KNOWLEDGE)



Based on "Taxonomy of Educational Objectives", B.S. Bloom Editor. 1956



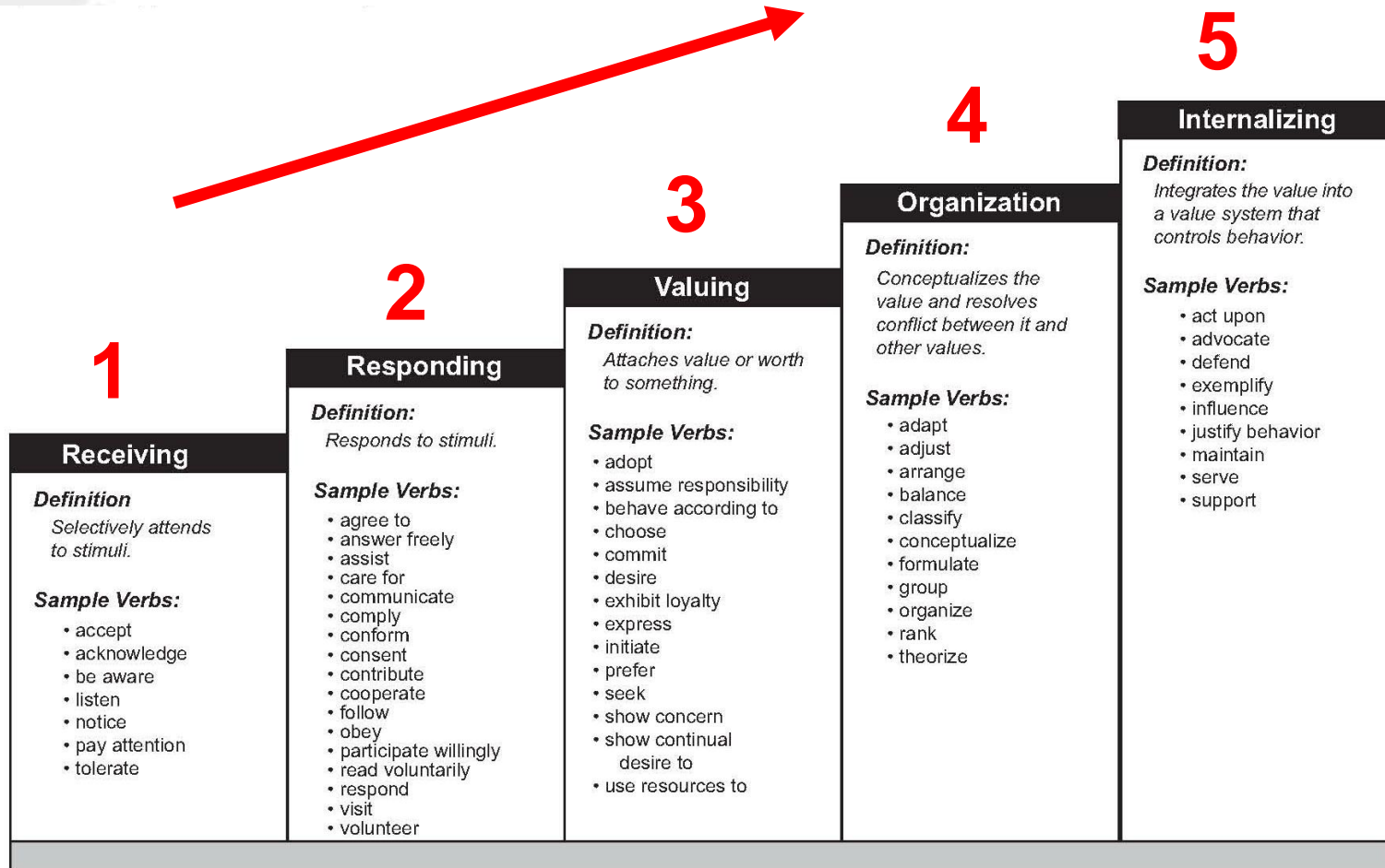
# PSYCHOMOTOR DOMAIN (DOING, SKILLS)



Based on "Taxonomy of Educational Objectives", B.S. Bloom Editor. 1956



# AFFECTIVE DOMAIN (FEELING, ATTITUDE)



Based on "Taxonomy of Educational Objectives", B.S. Bloom Editor. 1956

# Syllabus example

<b>Fakulti/Pusat Pengajian (Faculty/Centre) :</b> FACULTY OF CIVIL AND ENVIRONMENTAL ENGINEERING			<b>Mukasurat (Page):</b> 1 / 4	
<b>Kod Kursus (Course Code):</b> BFC 4033 / BFC 43003		<b>Nama Kursus (Course Name) :</b> STRUCTURAL STEEL AND TIMBER DESIGN		
<b>Kursus Pra Syarat (Course Prerequisite) :</b> BFC 3023 / BFC 21403 STRUCTURE ANALYSIS	<b>Kredit (Credit) :</b> 3	<b>Kuliah (Lecture) :</b> 2	<b>Tutorial :</b> 0	<b>Amali (Practical):</b> 2
<b>Edisi (Edition) : 6</b>		<b>Tarikh Keluaran (Date of Issue) : OCT 2014</b>		

## **MATLAMAT (GOALS):**

To provide the knowledge and understanding of steel and timber structures designs according to the recognized code of practices.

## **HASIL PEMBELAJARAN (LEARNING OUTCOMES):**

Upon completion of the course, students will be able to:

1. Design the steel and timber structure elements according to BS EN 1993 and BS EN 1995. [PLO10 C5]
2. Manipulate structural design processes to complete the assigned project. [PLO9 P4]
3. Organize the design works report in group affectively which comprise of ideas and problem solving. [PLO5 A4]

## **SINOPSIS (SYNOPSIS):**

The application of steel and timber structures in Civil engineering is widely used especially for the purposes of rapid construction, higher strength to weight ratio, ease modification, aesthetic value, etc.

# Syllabus example

<b>BFC 4033 / BFC 43003</b>	<b>STRUCTURAL STEEL AND TIMBER DESIGN</b>			
<b>Kursus Pra Syarat (Course Prerequisite) :</b> <b>BFC 3023 / BFC 21403 STRUCTURE ANALYSIS</b>	<b><u>Kredit</u></b> <i>(Credit) :</i> <b>3</b>	<b><u>Kuliah</u></b> <i>(Lecture) :</i> <b>2</b>	<b>Tutorial :</b> <b>0</b>	<b><u>Amali</u></b> <i>(Practical):</i> <b>2</b>
<b><u>Edisi</u> (Edition) : 6</b>	<b><u>Tarikh Keluaran</u> (Date of Issue) : OCT 2014</b>			

## **JAM BELAJAR PELAJAR (STUDENT LEARNING TIME-SLT):**

<b>Category of Activities</b>	<b>Activities</b>	<b>Total Hours/ Sem</b>
Guided learning	Lecture	24
	Tutorial / Practical	28
	Student centered learning activities	4
Self learning activities	Preparation for assignments / projects	24
	Independent study / revisions	28
	Preparation for assessment	6
Formal assessments	Continuous assessments	3
	Take final examination	3
<b>Total SLT Hours</b>		<b>120</b>

# Syllabus example – CLO matrix

**Programme:** BACHELOR IN CIVIL ENGINEERING WITH HONOURS  
**Course:** CIVIL ENGINEERING MATERIALS  
**Code:** BFC 10502

1. Programme Educational Objective (PEO)  
 2. Programme Learning Outcome (PLO)

No	Course Learning Outcomes	Compliance to PLO													Delivery	Assessment	KPI		
		LO-1	LO-2	LO-3	LO-4	LO-5	LO-6	LO-7	LO-8	LO-9	LO-10	LO-11	LO-12	LO-13					
1	Describe the knowledge of civil engineering materials for sustainable construction	/															Lecture	Quiz, Test, Assignment, Project, Final Examination	50% obtained grade C and above
2	State concrete mix in accordance with DOE and ACI methods	C2								/							Exercise and Discussion	Project Report	
3	Practice in a team to complete the assigned project within the allocated time												/	A2			Group discussion and presentation	Project Report / Presentation	
<b>Total</b>		<b>1</b>								<b>1</b>				<b>1</b>					

each Course mapped to 3 PLOs

each PLO mapped to a Taxonomy level

# Managing the Assessment

CLO	DOMAIN	Assessment name	Assessment method	Marks (%)
CLO 1	COGNITIVE	Quiz + Assignment + Test	Quiz + Assignment + Test	5+5+20
		Final exam	Final exam	50
		Project (C)	Project	5
CLO 2	PSYCHOMOTOR	Project (P)	Project	7.5
CLO 3	AFFECTIVE	Project (A)	Project	7.5
				100



# Managing assessment in TCIS

## COURSE CO-ORDINATOR MODULE

-Input- -User Manual-  
 Session:  Programme:  [Manual Penyelaras](#)

### Course List

Id	Session	Sem	Course Code	Course Name	Submitted / No. Of Section	No. Of Student	Course Coordinator
1	20142015	1	BFC43003	REKABENTUK STRUKTUR KELULU DAN KAYU / STRUCTURAL STEEL AND TIMBER DESIGN	0 / 7	413	H000266 - PROF. MADYA DR DAVID YEOH ENG CHUAN

[CBE Matrix](#) | [Assessment Management](#) | [Assessment Report By Section](#)

### Assessment List

NO.	ASSESSMENT NAME	METHOD	CLO	MD CBI	TOTAL CBI	FULL MARK	PERCENTAGE
1.	QUIZ 1	QUIZ	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	2.50
2.	QUIZ 2	QUIZ	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	2.50
3.	ASSIGNMENT 1	ASSIGNMENT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	2.50
4.	ASSIGNMENT 2	ASSIGNMENT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	2.50
5.	TEST 1	TEST	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	10.00
6.	TEST 2	TEST	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	10.00
7.	PROJECT (AFFECTIVE-PEER)	PROJECT	CLO 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	2.50
8.	PROJECT (AFFECTIVE-PRESENTATION)	PROJECT	CLO 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	5.00
9.	PROJECT (COGNITIVE)	PROJECT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	5.00
10.	PROJECT (PSYCHOMOTOR)	PROJECT	CLO 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	7.50
11.	FINAL EXAMINATION	FINAL EXAMINATION	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100.00	50.00
						<b>TOTAL :</b>	<b>100.00</b>

prepared by Dr David Yeoh - 05/2015



# Key in assessment in SAS

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DEGREE

- ▶ Semester/Session : 2 / 20142015
- ▶ Submission : 14/06/2015 - 07/07/2015

DIPLOMA

- ▶ Semester/Session : 2 / 20142015
- ▶ Submission : 14/06/2015 - 07/07/2015

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No. Tel : +607-4537252 (Shahril) / +607-4537254 (Azamudin)

## COURSE ASSESSMENT

[« Back](#)

### COURSE DETAILS

Course Code / Section	: BFC43003 / 2
Course Name	: REKABENTUK STRUKTUR KELULI DAN KAYU / STRUCTURAL STEEL AND TIMBER DESIGN
Semester / Session	: 2 / 20142015
Course Level	: NORMAL
Passing Grade	: D
No. Of Students	: 65
Course Co-ordinator	: [00892] DR NURAZUWA BINTI MD NOOR

### ASSESSMENT LIST

No.	Name	Method	CLO	Mid CQI	Total CQI	Full Mark	Percentage (%)	KEYIN
1.	QUIZ 1	QUIZ	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	2.5	63/65
2.	QUIZ 2	QUIZ	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	2.5	0/65
3.	ASSIGNMENT 1	ASSIGNMENT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	2.5	65/65
4.	ASSIGNMENT 2	ASSIGNMENT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	2.5	0/65
5.	TEST 1	TEST	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	10	0/65
6.	TEST 2	TEST	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	10	0/65
7.	PROJECT (AFFECTIVE-PEER)	PROJECT	CLO 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	2.5	0/65
8.	PROJECT (AFFECTIVE-PRESENTATION)	PROJECT	CLO 3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	5	0/65
9.	PROJECT (COGNITIVE)	PROJECT	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	5	0/65
10.	PROJECT (PSYCHOMOTOR)	PROJECT	CLO 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	7.5	0/65
11.	FINAL EXAMINATION	FINAL EXAMINATION	CLO 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	100	50	0/65

### Assessment

[Course List](#)
[Grade Submission](#)

### System Status

#### DEGREE

[» Semester/Session : 2 / 20142015](#)  
[» Submission : 14/06/2015 - 07/07/2015](#)

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# At the end...grade analysis



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 LAPORAN KESELURUHAN MARKAH PENILAIAN KURSUS

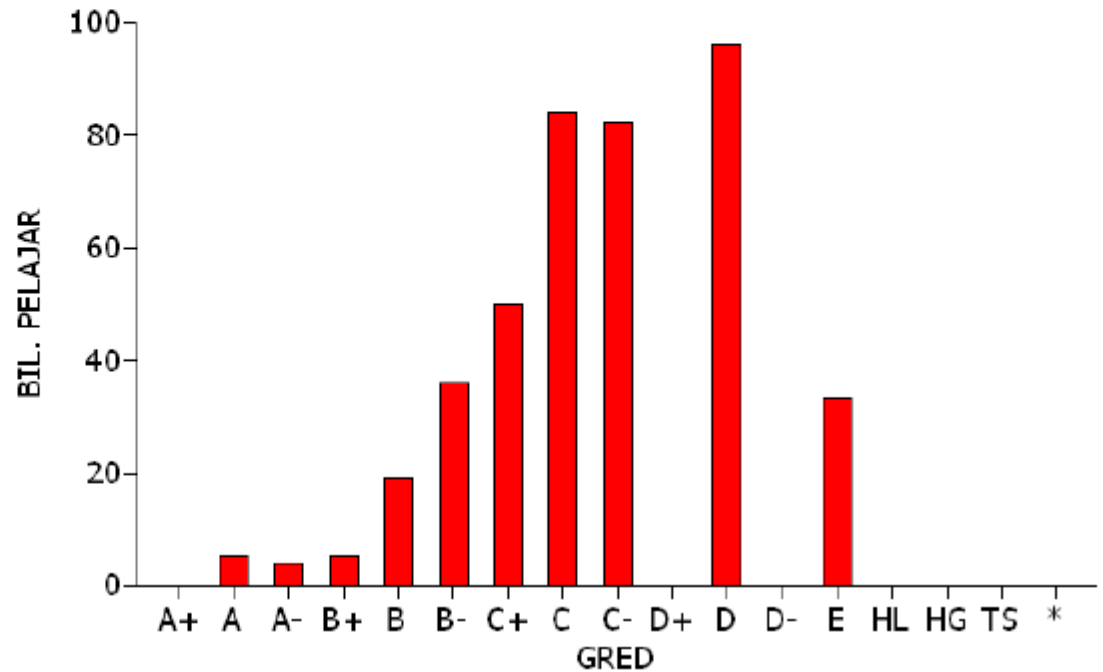
KOD KURSUS : BFC43003 REKABENTUK STRUKTUR KELULU DAIH KAYU / STRUCTURAL STEEL AND TIMBER DESIGN  
 SEKSYEN : SEMUA  
 PENYELARAS : 00266 - PROF. MADYA DR. DAVID YEOH ENG CHUAN

SESI / SEMESTER : 20142015 / 1

ANALISA GRED (DATA SMP)

GRED	BIL. PELAJAR
A+	0
A	5
A-	4
B+	5
B	19
B-	36
C+	50
C	64
C-	82
D+	0
D	96
D-	0
E	33
HL	0
HG	0
TS	0
*	0
<b>JUMLAH</b>	<b>414</b>

GRAF ANALISA GRED (DATA SMP)



Dengan Hikmah Kita Meneroka  
[www.uthm.edu.my](http://www.uthm.edu.my)

# At the end...CLO-PLO analysis



UNIVERSITI TUN HUSSEIN ONN MALAYSIA (UTHM)  
 LAPORAN KESELURUHAN OUTCOME BASED EDUCATION (OBE)

KOD KURSUS : BFC43003 REKABENTUK STRUKTUR KELULI DAN KAYU / STRUCTURAL STEEL AND TIMBER DESIGN

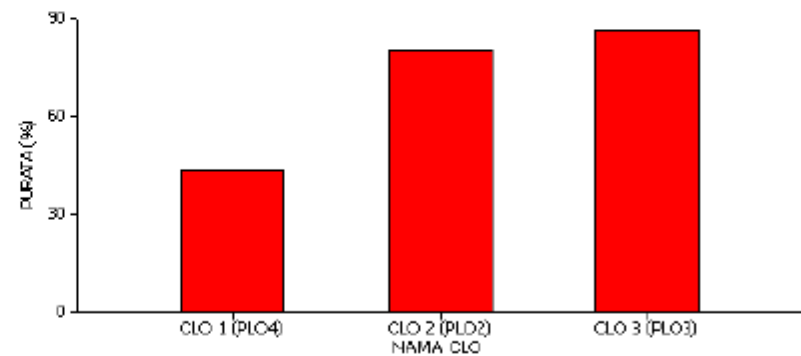
SESI / SEMESTER : 20142015 / 1

SEKSYEN : SEMUA

PENYELARAS : 00266 - PROF. MADYA DR.DAVID YEOH EING CHUAN

STATISTIK PURATA PENCAPAIAN CLO DAN PLO				CLO 1	CLO 2	CLO 3
Sesi/Semester	Kursus	Seksyen	Pilihan OBE	PLO 04 (CTPS)	PLO 02 (P)	PLO 03 (CS)
20142015/1	BFC43003	1	1	41.29	84.44	84.26
		2	1	46.02	83.47	75.75
		3	1	41.48	76.63	86.67
		4	1	38.59	76.78	84.63
		5	1	46.62	83.08	93.60
		6	1	44.65	75.45	85.33
		7	1	43.97	82.15	89.78
<b>20142015/1 Total</b>				<b>43.23</b>	<b>80.29</b>	<b>85.72</b>
<b>Grand Total</b>				<b>43.23</b>	<b>80.29</b>	<b>85.72</b>

GRAF PURATA PENCAPAIAN CLO



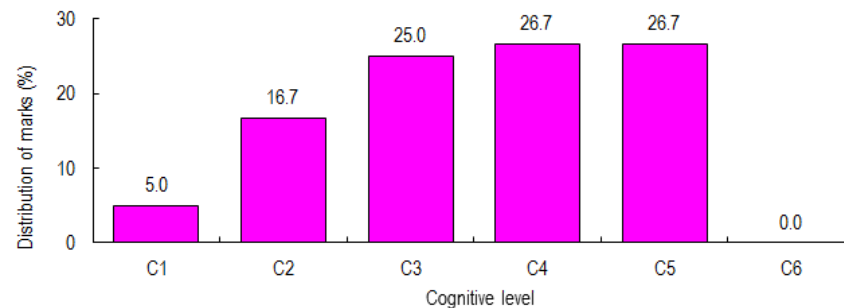
**TABLE OF SPECIFICATION (TOS) FOR  
FINAL EXAM**

COURSE CODE: BFC 4033/43003		NAME OF COURSE: STEEL AND TIMBER STRUCTURE DESIGN					
SEMESTER: 1		SESSION: 2014 / 2015					
CLO (Cognitive):							
Question Numbers	COURSE CONTENT / TOPICS	COGNITIVE LEVEL BASED ON BLOOM'S TAXONOMY					
		Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Q1	(a) Design of restrained beam	1	2	3	3	6	
	(b)						
	(c)						
	(d)						
Q2	(a) Design of tensile plate		1	2	2		
	(b) Design of tensile member and gusset connection		2	2	3	3	
	(c)						
	(d)						
Q3	(a) Identify truss tension members	1	2				
	(b) Estimate size			1	1	2	
	(c) Design welding connection			1	2	2	
	(d)						

**Final exam – preparing a TOS**

TOTAL MARKS	3.0	10.0	15.0	16.0	16.0	0.0
PERCENTAGE (%)	5.0	16.7	25.0	26.7	26.7	0.0

Note: This form can be modified by your own requirement



Name of Course Coordinator: norwati.jamaluddin

Signature:

Date:

prepared by Dr David Yeoh - 05/2015



# Student Learning Time (SLT)

**According to MQF, 1 credit = 40 notional hours**

**Notional hours is simply defined as total hours (lectures, tutorial, practical, student-centred learning activities, self-study, and assessment both formal and informal) required by an average level student to master the stipulated learning outcomes.**



## Implementation in UTHM

Credit hour	Types of delivery	Meeting hours/week
1	Lecture	1
1	Tutorial	2
1	Practical	2

**For courses pre-dominantly based on skill, co-curriculum, final year project and integrated design**

Credit hour	Types of delivery	Meeting hours/week
1	Lecture	1
1	Tutorial	2
1	Practical	3

**Jadual 1.2:** Contoh pengiraan jam pembelajaran pelajar

Bil.	Kursus	Kredit	Pembelajaran Bersemuka		Pembelajaran Kendiri			Penaksiran Formal		Jumlah Jam Belajar Pelajar (SLT)
			Syarah	Amali/ Tutorial/ Aktiviti SCL	Pembelajaran Tak Bersemuka (contoh tugas, manual, projek, modul)	Ulangkaji	Persediaan Penaksiran	Penaksiran Berterusan	Peperiksaan Akhir	
1	BFC1021	1	0	20	20	0	0	0	0	40
2	BFC1032	2	14	24	18	14	5	3	2	80
3	BFC1042	2	14	36	6	14	5	3	2	80
4	BFC1053	3	28	24	26	28	7	4	3	120
5	BFC1063	3	28	36	14	28	7	4	3	120

↑  
 Equivalent to lecture hours

↑  
 Equivalent to total hours for formal assessment

# The end