

SLT Calculation, Industrial Training Assessment and Continuous Quality Improvement

**Source : Ir Academician Emeritus Professor Tan Sri Dato' Dr. HT Chuah
Chairman**

**Standing Committee on Engineering Education
Federation of Engineering Institutions of Asia and the Pacific**

Presented By

**Prof. Dr. Mya Mya Oo,
Rector (Retired), Yangon Technological University
Executive Fellow, Myanmar Academy of Technology
Fellow, ASEAN Academy of Engineering and Technology**

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Federation of Myanmar Engineering Societies

Myanmar Engineering Council

SLT Credit calculation according to 2018 EEAC Manual

Formula

No. of week / Semester = 15 Weeks

Lecture:IL=1:1, Tutorial/Practical:IL=1:1

SLT Credit = SLT (hr) / 40 hr

Semester 1

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	M 11001	Myanmar I	30	0	0	30	30	60	1.5
2	E 11001	English I	30	15	0	45	45	90	2.3
3	EM 11001	Calculus	60	15	0	75	75	150	3.8
4	E.Ch 11001	Engineering Chemistry I	75	15	30	120	120	240	6.0
5	E.Ph 11001	Engineering Physics I	60	15	30	105	105	210	5.3
6	ME 11011	Basic Engineering Drawing I	15	0	45	60	60	120	3.0
Total			270.0	60.0	105.0	435.0	435.0	870.0	21.8
Student learning time (SLT) per wk			18	4	7	29	29	58	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 2

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical				
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	M 12001	Myanmar II	30	0	0	30.0	30.0	60.0	1.5
2	E 12001	English II	30	15	0	45.0	45.0	90.0	2.3
3	EM 12002	Calculus	60	15	0	75.0	75.0	150.0	3.8
4	E.Ch 12001	Engineering Chemistry II	75	15	30	120.0	120.0	240.0	6.0
5	E.Ph 12001	Engineering Physics II	60	15	30	105.0	105.0	210.0	5.3
6	ME 12011	Basic Engineering Drawing II	15	0	45	60.0	60.0	120.0	3.0
Total			270.0	60.0	105.0	435.0	435.0	870.0	21.8
Student learning time (SLT) per wk			18	4	7	29	29	58	

Notes: 1. * F2F = Face-to-Face 2. ** self-learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 3

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical				
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	E 21001	English III	30	0	0	30.0	30.0	60.0	1.5
2	EM 21003	Applied Mathematics III	30	15	0	45.0	45.0	90.0	2.3
3	EcE 21001	Circuit Theory I	30	15	15	60.0	60.0	120.0	3.0
4	EcE 21021	Digital Electronics I	30	15	15	60.0	60.0	120.0	3.0
5	EcE 21011	Microelectronic Devices and Circuits I	30	15	15	60.0	60.0	120.0	3.0
6	EcE 21014	Technical Programming I	30	15	15	60.0	60.0	120.0	3.0
7	Me 21015	Engineering Mechanics I	45	15	0	60.0	60.0	120.0	3.0
8	ME 21012	Workshop Technology	30	0	15	45.0	45.0	90.0	2.3
Total			255.0	90.0	75.0	420.0	420.0	840.0	21.0
Student learning time (SLT) per wk			17.0	6.0	5.0	28.0	28.0	56.0	

Notes: 1. * F2F = Face-to-Face 2. ** self-learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 4

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
2	E 22001	English IV	30	0	0	30.0	30.0	60.0	1.5
2	EM 22004	Engineering Mathematics IV	30	15	0	45.0	45.0	90.0	2.3
3	EcE 22001	Circuit Theory II	30	15	15	60.0	60.0	120.0	3.0
4	EcE 22021	Digital Electronics II	30	15	15	60.0	60.0	120.0	3.0
5	EcE 22011	Microelectronic Devices and Circuits II	30	15	15	60.0	60.0	120.0	3.0
6	EcE 22014	Technical Programming II	30	15	15	60.0	60.0	120.0	3.0
7	ME 22015	Engineering Mechanics II	30	0	15	45.0	45.0	90.0	2.3
Total			210.0	75.0	75.0	360.0	360.0	720.0	18.0
Student learning time (SLT) per wk			14.0	5.0	5.0	24.0	24.0	48.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 5

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	EM 31005	Applied Mathematics V	60	15	0	75.0	75.0	150.0	3.8
2	EcE 31001	Engineering Circuit Analysis I	30	15	15	60.0	60.0	120.0	3.0
3	EcE 31002	Analog & Digital Communication I	30	15	15	60.0	60.0	120.0	3.0
4	EcE 31011	Engineering Electromagnetic I	30	15	0	45.0	45.0	90.0	2.3
5	EcE 31021	Integrated Electronics I	30	15	15	60.0	60.0	120.0	3.0
6	EcE 31005	Signal and Systems I	30	15	0	45.0	45.0	90.0	2.3
7	Met 31043	Engineering Materials I	30	15	0	45.0	45.0	90.0	2.3
Total			240.0	105.0	45.0	390.0	390.0	780.0	19.5
Student learning time (SLT) per wk			16.0	7.0	3.0	26.0	26.0	52.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 6

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	EM 32006	Applied Mathematics VI	60	15	0	75.0	75.0	150.0	3.8
2	EcE 32001	Engineering Circuit Analysis II	30	15	15	60.0	60.0	120.0	3.0
3	EcE 32002	Analog & Digital Communication II	30	15	15	60.0	60.0	120.0	3.0
4	EcE 32011	Engineering Electromagnetic II	30	15	0	45.0	45.0	90.0	2.3
5	EcE 32021	Integrated Electronics II	30	15	15	60.0	60.0	120.0	3.0
6	EcE 32005	Signal and Systems II	30	15	0	45.0	45.0	90.0	2.3
7	Met 32043	Engineering Materials II	30	15	0	45.0	45.0	90.0	2.3
Total			240.0	105.0	45.0	390.0	390.0	780.0	19.5
Student learning time (SLT) per wk			16.0	7.0	3.0	26.0	26.0	52.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 7

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	HSS 41011	Humanities and Social Sciences I	45	0	0	45.0	45.0	90.0	2.3
2	EM 41007	Applied Mathematics VII	60	15	0	75.0	75.0	150.0	3.8
3	EcE 41003	Linear System 1	30	15	15	60.0	60.0	120.0	3.0
4	EcE 41012	Telecommunication	30	15	15	60.0	60.0	120.0	3.0
5	EcE 41021	Digital Design with HDL	30	15	15	60.0	60.0	120.0	3.0
6	EcE 41022	Wireless Communication Engineering I	30	15	15	60.0	60.0	120.0	3.0
7	EcE 41031	Power Electronics I	30	15	15	60.0	60.0	120.0	3.0
Total			255.0	90.0	75.0	420.0	420.0	840.0	21.0
Student learning time (SLT) per wk			17.0	6.0	5.0	28.0	28.0	56.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 8

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	HSS 42008	Humanities and Social Sciences II	45	0	0	45.0	45.0	90.0	2.3
2	EM 42015	Applied Mathematics VIII	60	15	0	75.0	75.0	150.0	3.8
3	EcE 42002	Computer Communication	30	15	15	60.0	60.0	120.0	3.0
4	EcE 42003	Linear System II	30	15	15	60.0	60.0	120.0	3.0
5	EcE 42004	Microprocessor System	30	15	15	60.0	60.0	120.0	3.0
6	EcE 42022	Wireless Communication Engineering II	30	15	15	60.0	60.0	120.0	3.0
7	EcE 42031	Power Electronics II	30	15	15	60.0	60.0	120.0	3.0
Total			255.0	90.0	75.0	420.0	420.0	840.0	21.0
Student learning time (SLT) per wk			17.0	6.0	5.0	28.0	28.0	56.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 9

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1	E 51001	English V	30	15	0	45.0	45.0	90.0	2.3
2	EcE 51001	Advanced Electronics I	30	15	15	60.0	60.0	120.0	3.0
3	EcE 51004	Computer Architecture and Engineering I	30	15	15	60.0	60.0	120.0	3.0
4	EcE 51002	Modern Communication System I	30	15	15	60.0	60.0	120.0	3.0
5	EcE 51003	Automatic Control System I	30	15	15	60.0	60.0	120.0	3.0
6	EcE 51005	Digital Signal Processing I	30	15	15	60.0	60.0	120.0	3.0
7	EcE 51016	Engineering Management I	30	15	0	45.0	45.0	90.0	2.3
Total			210.0	105.0	75.0	390.0	390.0	780.0	19.5
Student learning time (SLT) per wk			14.0	7.0	5.0	26.0	26.0	52.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 10

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F				
F2F									
1	E 52001	English VI	30	15	0	45.0	45.0	90.0	2.3
2	EcE 52001	Advanced Electronics II	30	15	15	60.0	60.0	120.0	3.0
3	EcE 52004	Computer Architecture and Engineering II	30	15	15	60.0	60.0	120.0	3.0
4	EcE 52002	Modern Communication Systems II	30	15	15	60.0	60.0	120.0	3.0
5	EcE 52003	Automatic Control System II	30	15	15	60.0	60.0	120.0	3.0
6	EcE 52005	Digital Signal Processing II	30	15	15	60.0	60.0	120.0	3.0
7	EcE 52016	Engineering Management II	30	15	0	45.0	45.0	90.0	2.3
Total			210.0	105.0	75.0	390.0	390.0	780.0	19.5
Student learning time (SLT) per wk			14.0	7.0	5.0	26.0	26.0	52.0	

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 11

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical	F2F	Non F2F	SLT	
			*F2F	F2F	F2F				
F2F									
1		GRADUATION PROJECT/ RESEARCH REPORT							
Total									9.0
Student learning time (SLT) per wk									

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Semester 12

Learning time (in hours) and Estimating SLT credit for a course: _____

No	Course Title	Modules / Topics / units of study	Traditional (Guided) in class learning activities			Total			SLT Credit
			Lecture	Tutorial	Practical				
			*F2F	F2F	F2F	F2F	Non F2F	SLT	
F2F									
1		ATTACHMENT PROGRAMME at suitable Design Office/ Construction Site / Industrial. etc.The student must submit diary, report and recommendation of the supervisor of the Attachment Program (at training Place), and take Viva voce exam.If not satisfactory, the student must supplement the program until his/her work is satisfactory. Otherwise, the student will not be conferred the degree. No credit point will be assigned to this program.							
Total									6.0
Student learning time (SLT) per wk									

Notes: 1. * F2F = Face-to-Face 2. ** self- learning will include learning from self-learning modules and any additional non F2F hours self-learning and preparation for lecture/ lab, / tutorial and test and evaluation

Year	Semester	SLT / Week (hrs)	SLT Credit
B.E Year I	Semester 1		21.8
	Semester 2		21.8
B.E Year II	Semester 3		21.0
	Semester 4		18.0
B.E Year III	Semester 5		19.5
	Semester 6		19.5
B.E Year IV	Semester 7		21.0
	Semester 8		21.0
B.E Year V	Semester 9		19.5
	Semester 10		19.5
B.E Year VI	Semester 11		
	Semester 12		
	Sub Total		202.5
	Final Year Project		9.0
	Industrial Training		6.0
	Grand Total		217.5

Remarks

According to the EEAC Manual 2018

Final Year Project = minimum of 6 SLT credits and maximum of 12 SLT credits

Industrial Training = maximum of 6 SLT credits



Example on Industrial Training Assessment

Course Outcomes:

- CO1: apply knowledge of science/engineering fundamentals
- CO2: apply technical skills and modern tools in work place/engineering practice
- CO3: comply with the rules and guidelines relevant to professional/professional engineering practice
- CO4: follow code of ethics and standards of professional conduct
- CO5: demonstrate written and oral communication skills
- CO6: demonstrate the ability to work independently and as part of a team
- CO7: demonstrate life-long learning and self-improvement



Example on Industrial Training Assessment (Cont'd)

A. Report & Log Book:

Category	Max Mark	Criterion	CO
Details of Industrial training experience	10	1. Apply knowledge of science/engineering fundamentals	CO1
	10	2. Apply technical skills and modern tools in work place/engineering practice	CO2
Presentation of Report	10	1. Logical and coherent report layout and content follow the format of IT guideline and template. Legible report with proper grammar and terms.	CO5
Log Book	10	1. Demonstrate life-long learning and self-improvement	CO7
	5	2. Quality and Usage of Logbook in recording works and events	CO5



Example on Industrial Training Assessment (Cont'd)

B. Oral Presentation:

Category	Max Mark	Criterion	
Oral Presentation	5	1. Presentation skill and style such as clarity and logical flow, eye contact and effectively use of visual aid.	CO5
	5	2. Presentation content on background introduction, working experience, discussions and conclusions.	CO5
	5	3. Q & A on the ability to answer questions.	CO5

Final Scale of 10 Marks



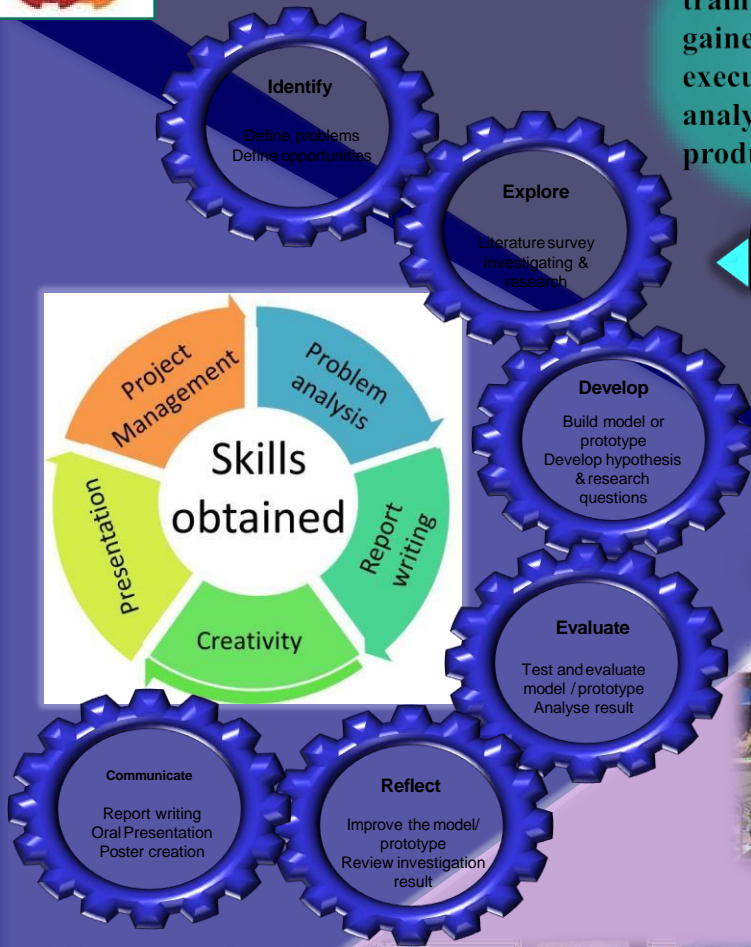
Example on Industrial Training Assessment (Cont'd)

C. Industrial Supervisor Appraisal:

Category	Max Mark	Criterion	
Appraisal by Industrial Supervisor	5	1. Apply knowledge of science/engineering fundamentals.	CO1
	5	2. Apply technical skills and modern tools in work place/engineering practice	CO2
	5	3. Comply with the rules and guidelines that are relevant to professional/professional engineering practice.	CO3
	5	4. Follow code of ethics and standards of professional conduct.	CO4
	5	5. Demonstrate written and oral communication skills.	CO5
	10	6. Demonstrate the ability to work independently and as part of a team.	CO6
	10	7. Demonstrate life-long learning and self-improvement	CO7
Total Max Mark	45		



Final year project is undertaken by all undergraduate students. This course is to train the students in solving real problems by applying the knowledge they have gained during their undergraduate program, through literature survey, planning, executing the plan, recording and writing up the tasks involved and finally analysing systematically the findings arising from the investigations. The final product is in the form of a formal thesis/project report/prototype.



Activities & skills

Overview

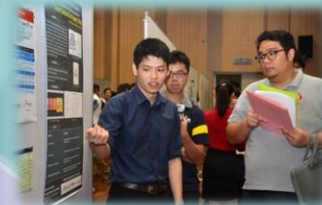
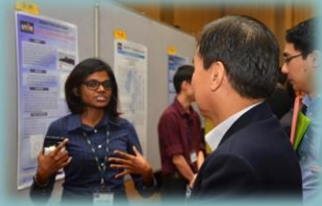
Final Year Project

Students' works

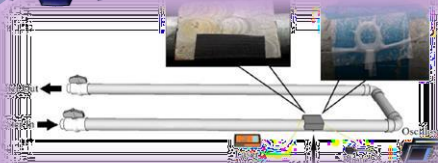
Poster competition event



Site test at Institut Kanser Negara, Putrajaya



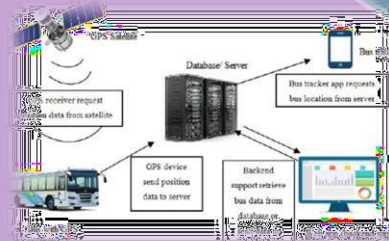
Data collection of high-heeled shoes



Experiment set up for field test



Power consumption data flow (from the wall socket to the user's smart phone /CPU)



Bus tracking system



Final Year Project (FYP)

- Pre-requisite: at least 90 credit hours, completed at least 6 long trimesters
- 8 credit hours, 2 long trimesters (Part 1 and Part 2)
- Stakeholders involved:
 - Student
 - Supervisor & Co-supervisor : to supervise and assess student's performance
 - 3rd Academic Staff: as moderator to assess student's performance through report and presentation
 - FYP Coordinator : to monitor and assist student
 - Industry: to provide co-supervision, poster judging



Expected Outcomes of FYP

CO1: Apply knowledge of engineering fundamentals in complex problem solving

PO1: Engineering Knowledge

CO2: Analyze complex engineering problems with suitable problem identification

PO2: Problem Analysis

CO3: Propose solution for complex engineering problems

PO3: Design/Development of Solutions

CO4: Investigate complex engineering problems with appropriate conclusions

PO4: Investigation

CO5: Comply with ethical guidelines

PO8: Ethics

CO6: Demonstrate oral and written communication skills

PO9: Communication

CO7: Involve in activities stimulating life-long learning

PO11: Life-long Learning

CO8: Demonstrate competence in managing engineering projects

PO12: Project Management and Finance

MARKS DISTRIBUTION

Supervisor/Moderator Allocation

Assessments	Supervisor*		Moderator 1		TOTAL		
Progress Report	15	100%			15%	Trimester 1	25%
Oral Presentation 1	1.05	21%	3.95	79%	5%		
General Effort 1*	5	100%			5%		
Final Report	10.8	24%	34.2	76%	45%	Trimester 2	75%
Oral Presentation 2 / Demonstration	3.15	21%	11.85	79%	15%		
General Effort 2*	10	100%			10%		
Poster Submission*	5	100%			5%		
% Contribution	50*		50		100%		

50

Project Reports	60%
Presentations	25%
General Effort	15%
	<u>100%</u>

*Co-Supervisor Assessment - Poster Submission and 50% of General Effort 1 and 2 are marked by the co-supervisor (if applicable)

Course Outcome Distribution

Assessments	CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8	TOTAL		
Progress Report	3.0%	2.4%	1.2%		1.2%	3.6%	1.8%	1.8%	15%	Trimester 1	25%
Oral Presentation 1						5.0%			5%		
General Effort 1		1.2%			0.8%		1.6%	1.4%	5%		
Final Report	1.8%	1.8%	7.2%	12.6%	5.4%	10.8%	3.6%	1.8%	45%	Trimester 2	75%
Oral Presentation 2 / Demonstration			4.8%			10.2%			15%		
General Effort 2		2.0%	2.8%		1.2%		2.4%	1.6%	10%		
Poster Submission							5.0%		5%		
% Contribution	4.8%	7.4%	16.0%	12.6%	8.6%	29.6%	14.4%	6.6%	100%		



FYP Assessment: Progress report

Progress Report					
	Maximum Marks*	Criteria	Supervisor Assessment (0 to 5)	Supervisor Marks*	
17	16	4 Identification of the problem		0	
18		8 Definition of aims and objectives		0	
19		4 Overview of project		0	
20	48	12 Review of research topic		0	
21		12 Analytical and Critical thinking		0	
22		12 Structure and coherence of literature review		0	
23		12 References		0	
24	20	8 Methodology of the project**		0	
25		12 Planning and managing of project activities		0	
26	16	8 Language: grammar and style		0	
27		8 Citation of various sources		0	
28				0	

- 11 criteria mapped to 7 different COs (1, 2, 3, 5, 6, 7, & 8)
- Assessed by the Supervisor



FYP Assessment: Oral Presentation Part 1

32								
33	Oral Presentation Part 1							
34		Maximum Marks*	Criteria	Supervisor Assessment (0 to 5)	Supervisor Marks*	Moderator Assessment (0 to 5)	Moderator Marks*	
35	Presentation Skill & Style	52	20	Structure and attractiveness of presentation		0		0
36			16	Preparedness and confidence		0		0
37			16	Use of presentation tools and visual aids		0		0
38	Q&A	48	24	Quality of provided answers		0		0
39			24	Attitude and composure		0		0
40						0		0
41								
42								

- 5 criteria mapped to CO6
- Assessed by the Supervisor and Moderator



FYP Assessment: General Effort Part 1

General Effort Part 1					
Maximum Marks*	Criteria	Supervisor Assessment (0 to 5)	Co-Supervisor Assessment (0 to 5)**	Combined Marks*	
24	Problem identification and analysis			0	
28	Selection and implementation of research methodology and management			0	
16	Compliance with FYP policies/guidelines and ethical norms			0	
16	Discipline and regular reporting			0	
16	Personal development/life long learning activities			0	
				0	

- 5 criteria mapped to CO2, 5, 7, 8
- Assessed by the Supervisor and Co-Supervisor (if any)



FYP Assessment: Final report

Final Report								
		Maximum Marks*		Criteria	Supervisor Assessment (0 to 5)	Supervisor Marks*	Moderator Assessment (0 to 5)	Moderator Marks*
15								
16								
17	Abstract	4	4	Overview of the project		0		0
18	Introduction	4	4	Problem identification and formulation of project aims and objectives		0		0
19	Literature Review	16	4	Review of research topic		0		0
20			4	Critical Investigation		0		0
21			4	Structure and coherence of literature review		0		0
22			4	References		0		0
23	Methodology & Project Management	16	4	Methodology of the project**		0		0
24			4	Planning and managing of project activities		0		0
25			8	Problem solving		0		0
26	Results & Discussions	44	12	Analysis and interpretation of results		0		0
27			12	Solution to a complex problem		0		0
28			12	Presentation and explanation of results		0		0
29			8	Reproducibility/reliability of results		0		0
30	Conclusion & Recommendations	8	4	Address research question and achievement of aims and objectives		0		0
31			4	Analysis of limitations and recommendations for future development		0		0
32	Report Quality	8	4	Language: grammar and style		0		0
33			4	Citation of various sources		0		0
34						0		0

- 17 criteria mapped to 8 CO's; Assessed by the Supervisor and Moderator



FYP Assessment: Oral Presentation Part 2

Oral Presentation Part 2							
		Maximum Marks*	Criteria	Supervisor Assessment (0 to 5)	Supervisor Marks*	Moderator Assessment (0 to 5)	Moderator Marks*
39							
40							
41	Presentation Skill & Style	36	12	Structure and attractiveness of presentation		0	0
42			12	Preparedness and confidence		0	0
43			12	Use of presentation tools and visual aids		0	0
44	Technical Content / Demonstration	32	16	Problem solution(s)***		0	0
45			16	Demonstration of problem solution(s)***		0	0
46	Q&A	32	16	Quality of provided answers		0	0
47			16	Attitude and composure		0	0
48					0		0

- 7 criteria mapped to CO3, and CO6
- Assessed by the Supervisor and Moderator



FYP Assessment: General Effort Part 2

26	General Effort Part 2				
27	General Effort Part 2				
28	Maximum Marks*	Criteria	Supervisor Assessment (0 to 5)	Co-Supervisor Assessment (0 to 5)**	Combined Marks*
29	28	Proposal of solution to a complex problem			0
30	16	Selection and implementation of research methodology and management			0
31	20	Problem identification and analysis			0
32	12	Compliance with FYP policies/guidelines and ethical norms			0
33	12	Discipline and regular reporting			0
34	12	Personal development/life long learning activities			0
35					0
36					

- 6 criteria mapped to CO2, 5, 3, 7, & 8
- Assessed by the Supervisor and Co-supervisor



FYP Assessment: Poster Submission



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Criteria						Excellent	Good	Moderate	Weak	Poor	Weight	Marks	Review Panel Adjustment
30														
31	Overall Poster Design/Appearance													
32	1. The poster is attractive in terms of design, layout, and neatness.											10	0	
33	2. Graphics (e.g. tables, figures, etc.) are engaging and enhance the text.											4	0	
34	3. Uses font sizes/variations which facilitate the organization, presentation, and readability of the research.											6	0	
35	4. Overall visually appealing, not cluttered; colours and patterns enhance readability.											10	0	
36	Overall Poster Technical Content													
37	5. Title highlights the poster's subject matter.											6	0	
38	6. Abstract provides a clear overview.											8	0	
39	7. Objective(s) explained clearly.											6	0	
40	8. Method clearly stated.											10	0	
41	9. The intended information is conveyed through the appropriate use of equations, tables, graphics, and visuals.											8	0	
42	10. Content is clearly arranged so that the viewer can understand order without narration.											6	0	
43	Mistakes and Language Usage													
44	11. There are no mistakes on the poster.											10	0	
45	12. The grammar is fine.											8	0	
46	13. No obvious spelling mistakes.											8	0	
47											Total (100%)		0	0

- 13 criteria mapped to CO7; Assessed by Supervisor and Co-Supervisor

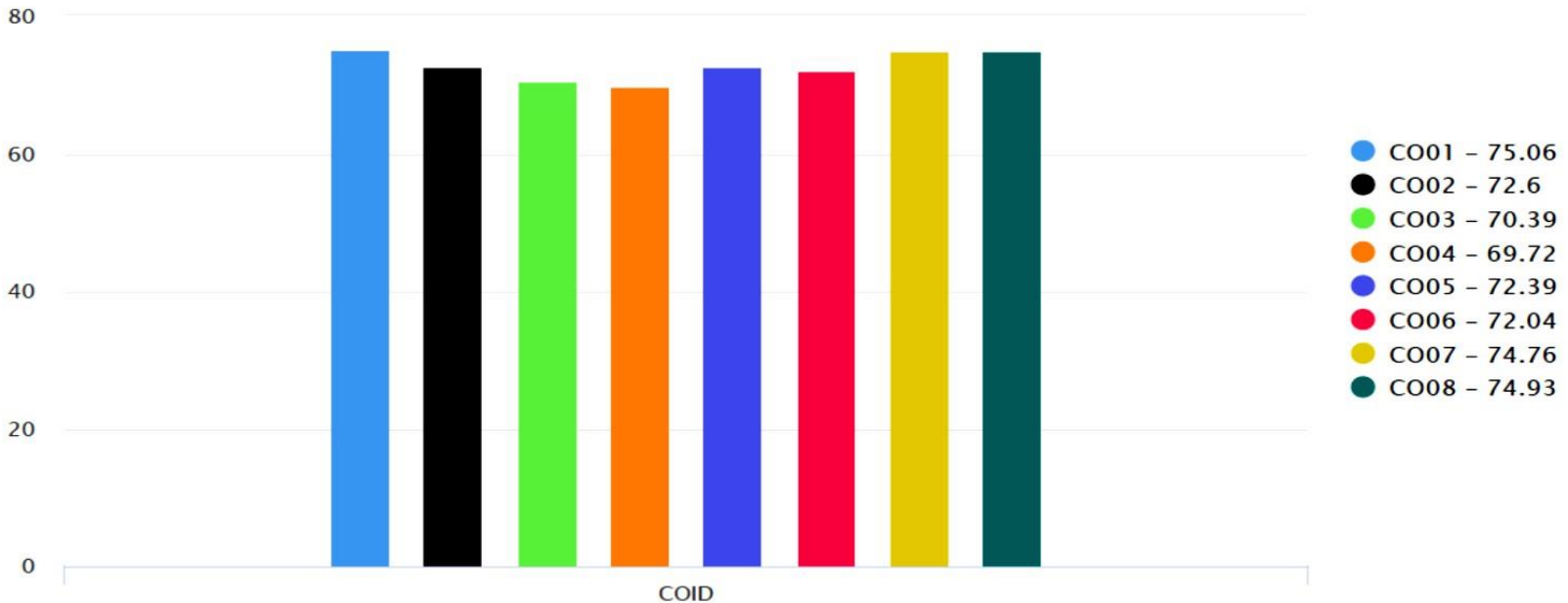


CO Attainment Report

Reports

Campus : Sungai Long
Faculty : LEE KONG CHIAN FACULTY OF ENGINEERING AND SCIENCE
Level : Bachelor
Trimester : 202005
Programme : All
Course : UEGE4116 - PROJECT

AVERAGE OF CO/CLO ACHIEVEMENT



- COs Achievement by a particular student is shown
- Overall Performance of All Students taking FYP is also provided



Continual Quality Improvement (CQI)

Source:

Ir. Professor Academician Dato' Dr. HT Chuah

Chairman

Standing Committee on Engineering Education

FEIAP



Some Current Issues for Educators

- ❑ OBE concept is quite new to most universities
- ❑ The main focus – to impart, assess, and evaluate only technical outcomes – therefore less well-rounded graduates.
- ❑ Some non-technical outcomes - assessed and evaluated formally only in design subjects and industrial training and non-engineering subjects.
- ❑ Curriculum not designed to prepare students and graduates towards achieving the **outcomes (POs)** and **education objectives (PEOs)** of programme.



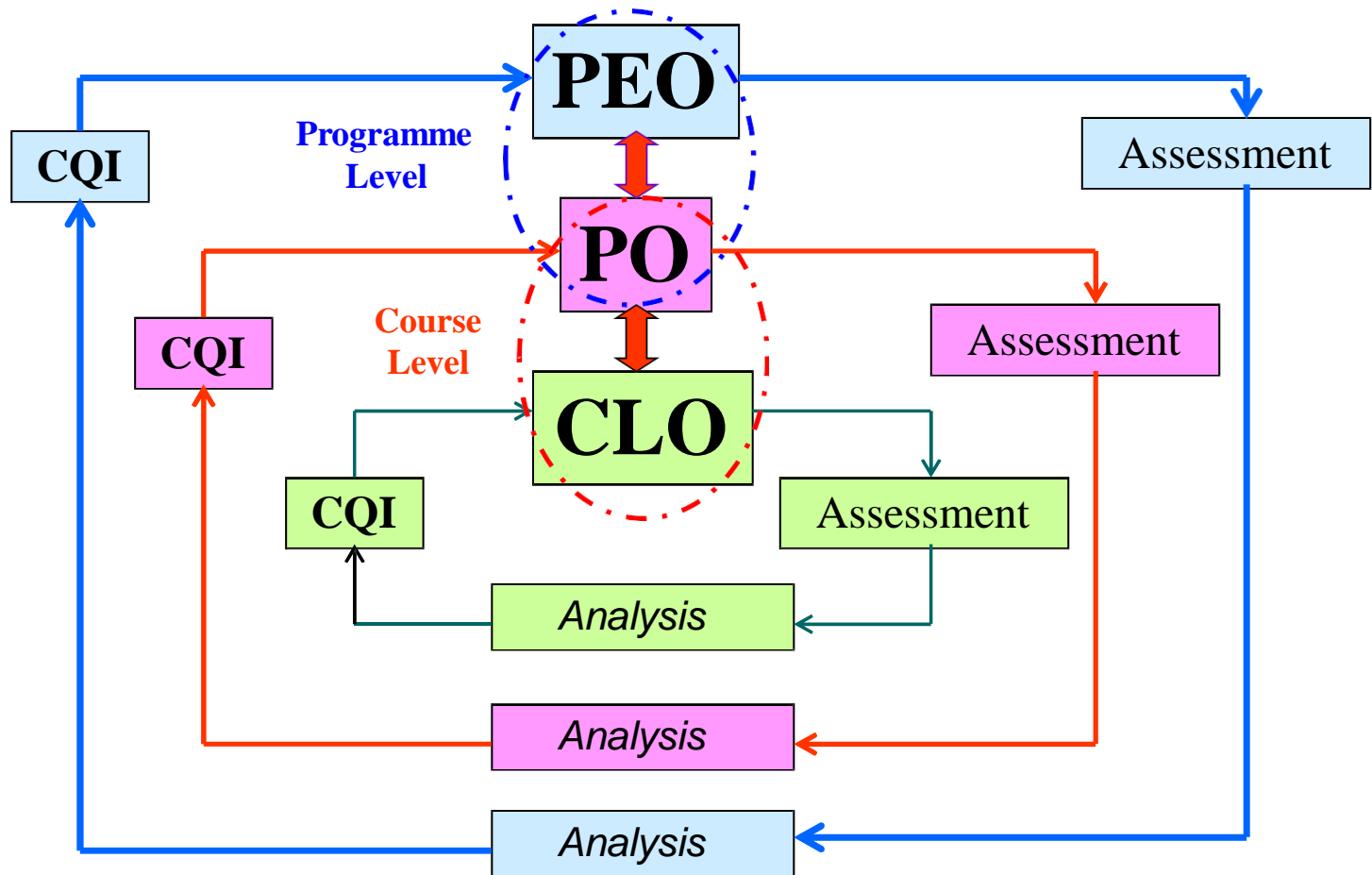
Some Current Issues for Educators (cont'd)

- ❑ **Students not informed** of the levels of achievement of **non-technical** outcomes

- ❑ **Programme** normally **reviewed** based on a five-year cycle
 - **CQI not implemented**

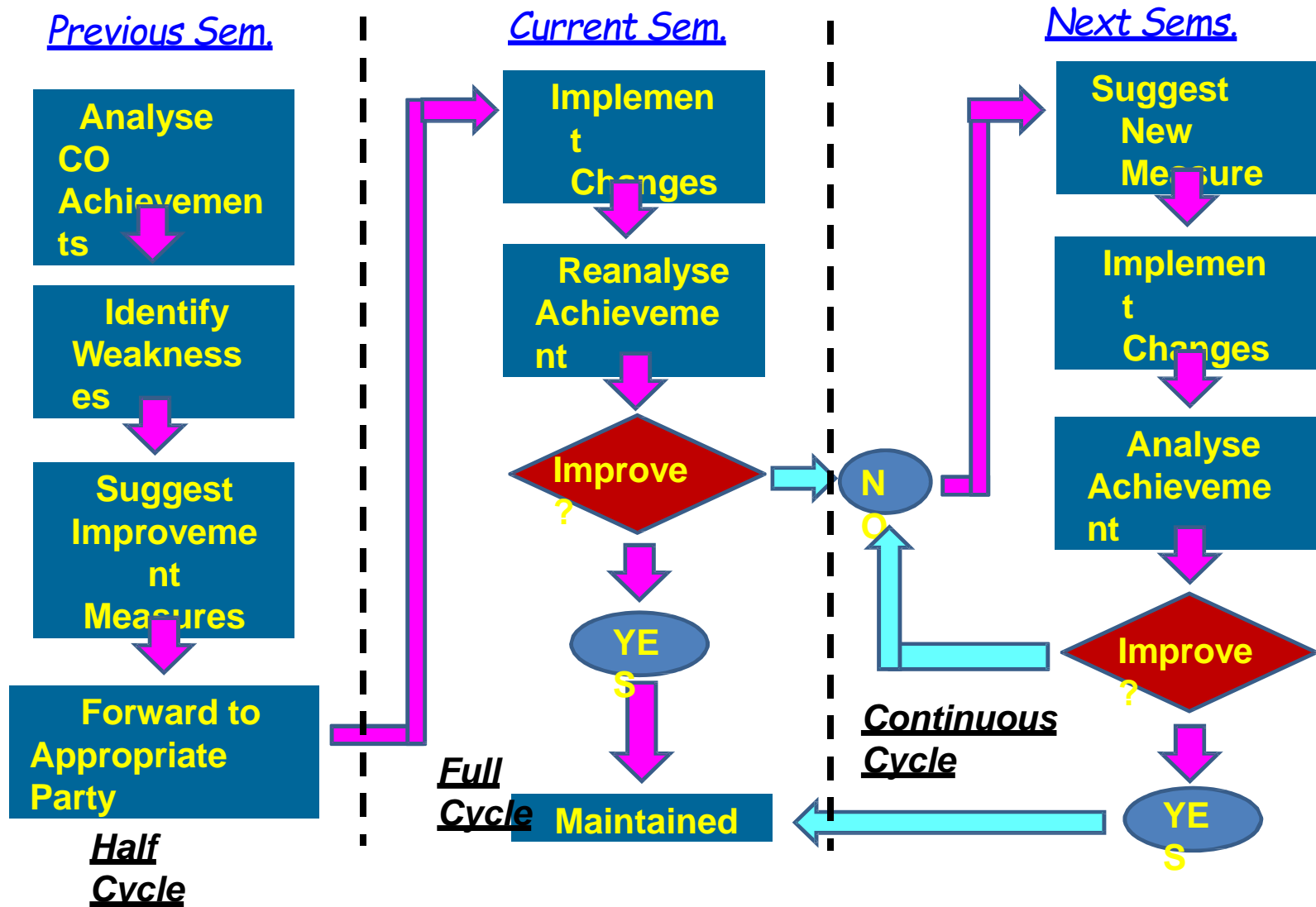
- ❑ No **documented evidence** on the processes of measuring, assessing and evaluating the **degree of achievement** of the **graduate outcomes**

OBE – The CQI (Model)



Source : FKM, UTM CQI -SAR Report 2008

CQI CYCLES



CQI REPORTING TEMPLATE

**PREVIOUS SEMESTER /
SESSION**

SEM / SESSION :				
COURSE CODE :		COURSE NAME:		COURSE OWNER:
ISSUE / COMMENTS ON STUDENT ACHIEVEMENT	SUGGESTION FOR CQI	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
		NAME: (Course Owner)	NAME: (Course Owner)	NAME: (HoD / TDA)
		SIGNATURE	SIGNATURE	SIGNATURE
		DATE	DATE	DATE

**CURRENT SEMESTER /
SESSION**

SEM / SESSION :					
COURSE CODE :		COURSE NAME :		COURSE OWNER :	
CQI ACTION TAKEN	STUDENT ACHIEVEMENT / IMPROVEMENT RESULT	SUGGESTION FOR FURTHER CQI MEASURE	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
			NAME: (Course Owner)	NAME: (Course Owner)	NAME: (HoD / TDA)
			SIGNATURE	SIGNATURE	SIGNATURE
			DATE	DATE	DATE

CQI REPORTING TEMPLATE

**CURRENT SEMESTER /
SESSION**

SEM / SESSION :		COURSE NAME :		COURSE OWNER :	
COURSE CODE :		COURSE NAME :		COURSE OWNER :	
CQI ACTION TAKEN	STUDENT ACHIEVEMENT / IMPROVEMENT RESULT	SUGGESTION FOR FURTHER CQI MEASURE	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
			NAME: (Course Owner)	NAME: (Course Owner)	NAME: (HoD / TDA)
			SIGNATURE	SIGNATURE	SIGNATURE
			DATE	DATE	DATE

**NEXT SEMESTER /
SESSION**

SEM / SESSION :		COURSE NAME :		COURSE OWNER :	
COURSE CODE :		COURSE NAME :		COURSE OWNER :	
CQI ACTION TAKEN	STUDENT ACHIEVEMENT / IMPROVEMENT RESULT	SUGGESTION FOR FURTHER CQI MEASURE	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
			NAME: (Course Owner)	NAME: (Course Owner)	NAME: (HoD / TDA)
			SIGNATURE	SIGNATURE	SIGNATURE
			DATE	DATE	DATE

CQI REPORTING SAMPLE

PREVIOUS SEMESTER / SESSION

(Half Cycle)

SEM / SESSION : II 2011-2012				
COURSE CODE : SMK 4542		COURSE NAME: SHIP DESIGN III		COURSE OWNER: YAHYA SAMIAN
ISSUE / COMMENTS / REFLECTION ON STUDENT ACHIEVEMENT	SUGGESTION FOR CQI	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
<p>The students, in general are quite good in performing and delivering the design job if they are coached properly. They can work in team effectively if you give the opportunity. The only worrying me is their <i>lack of ability in Critical thinking (PO 4) and life long learning (PO 10)</i> . These two skills are essential to make them a better employee / person in future. I need to create ways of enhancing these abilities in future.</p>	<p>(1)For <i>Critical Thinking</i> : Need to use PBL approach in class and coach them to think critically giving small critical thinking exercises in class.</p> <p>(2)For <i>Life Long Learning</i> : Coach the students to refer to various literature resources to solve their design tasks and acknowledge the sources appropriately</p>	NAME: YAHYA SAMIAN	NAME: YAHYA SAMIAN	NAME: KJAAS
		SIGNATURE	SIGNATURE	SIGNATURE
		DATE	DATE	DATE

CQI REPORTING SAMPLE

CURRENT SEMESTER / SESSION

(Full Cycle)

SEM / SESSION :					
COURSE CODE :		COURSE NAME :		COURSE OWNER :	
CQI ACTION TAKEN	STUDENT ACHIEVEMENT / IMPROVEMENT RESULT	SUGGESTION FOR FURTHER CQI MEASURE	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
(1) Using PBL approach in Design Project to Improve Critical Thinking - Only for the third Design Task	Some improvement on critical thinking (based on selection of design methods and analysis discussed in report)	Need more exposure on critical thinking project / assignments. Need variety of Assessment method	NAME: Yahya Samian	NAME: Yahya Samian	NAME: KJAAS
(2) Using various literature resources to solve design problems (Not merely from class note) to enhance Life Long Learning Ability	Great improvement, Student were able to outsource beyond my expectation on materials that directly assist their design task.	To be maintained in future	SIGNATURE	SIGNATURE	SIGNATURE
			DATE	DATE	DATE

CQI REPORTING SAMPLE

NEXT SEMESTER / SESSION

(Continuous Cycle)

SEM / SESSION :					
COURSE CODE :		COURSE NAME :		COURSE OWNER :	
CQI ACTION TAKEN	STUDENT ACHIEVEMENT / IMPROVEMENT RESULT	SUGGESTION FOR FURTHER CQI MEASURE	SUGGESTED BY	ACTION TO BE TAKEN BY	ENDORSED BY
Need more exposure on critical thinking project / assignments. Need variety of Assessment method - Using Poster Presentation Approach	Majority of students show good improvement	To be maintained wherever possible in future (Poster Presentation need rigorous planning)	NAME:	NAME:	NAME: KJAAS
			Yahya Samian	Yahya Samian	
			SIGNATURE	SIGNATURE	SIGNATURE
			DATE	DATE	DATE

CQI ACTIONS

CASE	CAUSE OF POOR PERFORMANCE	SUGGESTION FOR IMPROVEMENTS	PERSON RESPONSIBLE	POSSIBLE CQI ACTION TO BE CARRIED OUT	MONITORING
1	Inappropriate or misalignment of T&L delivery or Assessment	Improve T & L or Assessment Methods	Same Lecturer	Self Reflection and Improvement	Self Monitoring
2	Students Poor Achievements (on certain learning outcomes / skills)	Students need to improve	Lecturers Teaching the same Bath at the following semester	Suggest improvement (Via HoD) action to be taken by the incomming lecturers	TD(A), HoD, Head of Panel, PA
3	Lack of understanding of previous (or Pre-requisite) Courses	Improvement of T&L Delivery or Assessment Methods	Lecturers teaching the pre-requisite courses	Forward suggestion (Via HoD) to the lecturer teaching pre-requisites courses	TD(A), HoD, Head of Panel, PA
4	Poor Students Intake	Improve intake / Additional Measures	Faculty, University	Inform Faculty Management	Faculty
5	Poor Infrastructures (Facilities, Time Table, etc)	Improvements by Faculty ? University	Faculty, University	Inform Faculty Management	Faculty



THANK YOU
FOR LISTENING