



جامعة المجمعة
Majmaah University

كلية الهندسة
College of Engineering

Civil Engineering
Program

جامعة المجمعة
Majmaah University



Annual Program Report
2015-2016

Approval	
Department	College
Department Head: Dr. Abdullah Alshehri	Engineering Dean: Dr. Abdullah Alabdulkarim
Minutes Number & Date [1] 31/8/2016	Signature
Signature:	

Annual Program Report (APR)

College:	Engineering
Academic Department:	Civil and Environmental Engineering
Program:	Civil Engineering
Report Approval Date:	28/ 11 / 1437 H 31/8/2016 AD

Muharram 1437 H



This form compatible with NCAAA Edition

Annual Program Report

1. Institution:	Majmaah University	Date of Report:	26 \ 11\ 1437H
2. College / Department:	Engineering/ Civil and Environmental Engineering		
3. Dean:	Dr. Abdullah Alabdulkrim		
4. List all branches/locations offering this program:			
	Campus Branch/Location	Approval by	Date
	1: Main Campus	Majmaah University	1432
	2: Outside laboratories	Majmaah University	1433

A. Program Identification and General Information

1. Program title:	BSc in Civil Engineering	Code:	CENG
Name and position of person completing the APR			
Dr. Sameh Saadeldin Ahmed Head of Quality unit at CEE			
Academic year to which this report applies.			
1436-1437 H 2015-2016			



B. Statistical Information

1. Number of students who started the program in the year concerned: 24

2. (a) Number of students who completed the program in the year concerned: 20

Completed the final year of the program:

Completed major tracks within the program (*if applicable*)

Title.....Structure Engineering...(According to current Study Pan) **No: 20**

Title.....Civil Engineering (Old Plan)..... **No: 15**

Title..... **No**

Title..... **No**

2. (b) Completed an intermediate award specified as an early exit point (*if any*) NONE

3. Apparent completion rate:

(a) Percentage of students who completed the program, (Number shown in 2 (a) as a percentage of the number that started the program in that student intake.)	83.3%
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(b) Percentage of students who completed an intermediate award (if any) (e.g. Associate degree within a bachelor degree program) (Number shown in 2 (b) as a percentage of the number that started the program leading to that award in that student intake)	NA
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Comment on any special or unusual factors that might have affected the apparent completion rates

(e.g. Transfers between intermediate and full program, transfers to or from other programs).

Only one student transferred from the program to Electrical Engineering Program. Eleven students have completed the full program (Structural Engineering Track) in the end of second semester of the academic year 1435-1436H.

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4. Enrollment Management and Cohort Analysis (Table1)

Cohort Analysis refers to tracking a specific group of students who begin a given year in a program and following them until they graduate (How many students actually start a program and stay in the program until completion).

A **cohort** here refers to the total number of students enrolled in the program at the beginning of each academic year, immediately after the preparatory year. No new students may be added or transfer into a given cohort. Any students that withdraw from a cohort may not return or be added again to the cohort.

Cohort Analysis (Illustration): Table 1 provides complete tracking information for the most recent cohort to complete the program, beginning with their first year and tracking them until graduation (students that withdraw are subtracted and no new students are added). Update the years as needed.



Enrollment Management and Cohort Analysis (Table 1)

Student Category	Years					
	*PYP/.....	4 Years Ago 2011 / 2012	3 Years Ago 2012 / 2013	2 Years Ago 2013 / 2014	1 Year Ago 2014/ 2015	Current year 2015/ 2016
1. Total cohort enrollment		63	98	140	169	139
2. Retained till year end		63	97	59	168	139
3. Withdrawn		-	-	-	1	-
4. Cohort Graduated successfully		-	1	-	-	-
5. Total Graduated successfully			-	-	11 +24	20+15

Provide a summary cohort analysis for each of the above cohorts by listing strengths and **recommendations** for improvement:

CEE department is an attractive department for the students where, every year the number of students wishes to join the department is high. In 2011, the program is running "Structure Engineering Track", and since 2015 –first semester, the department has been activated the second track "Surveying and Transportation" with 10 students. It is expected to activated the third track "Water and Environmental Engineering Track "on 2018.

* PYP - Preparatory Year Program

6. Destination of graduates as shown in survey of graduating students (Include this information in years in which a survey of employment outcomes for graduating students is conducted).

Date of Survey

Number Surveyed

Number Responded

Response Rate %

Destination	Not Available for Employment		Available for Employment		
	Further Study	Other Reasons	Employed in Subject Field	Other Employment	Unemployed
Number			18	1	5
Percent of Respondents			75%	4%	21%

Analysis: List the strengths and recommendations

Total number of graduates is 70. 39 according to the old plan, and 31 with the new plan (up to 2015-16/2). The Alumni unit of CEE department tried to conduct survey on 30 students where only 24 responded. The survey revealed that out of the 24 graduates, 18 got a job in the Civil and Environmental companies, one graduate started his private work and 5 of them are unemployed.

C. Program Context

1 - Significant changes within the institution affecting the program (if any) during the past year.

The program started in 1431-1432 H (Civil Engineering Department), with a study plan (161 units). Three groups were graduated according to the old study plan (28 graduates). However, in 1432/1433H, the Department has changed its name to “Civil and Environmental Engineering Department” and started to use a new Study plan - 136 units). Out of 14 students started the program according to this new plan, 11 students awarded their CE Bachelor degree – Structural Engineering Track in 1436 H.

Significant changes:

- Changing the name of the department from Civil Engineering to “Civil and Environmental Engineering Department).
- Adding 2 new laboratories (GIS – Open Chanel lab) to CEE Department.
- University facilities that enhanced and being more effective such as: E-learning, central library, Edugate system, internet and Wi-Fi accessibility etc.
- Concerns paid to site visits for the civil engineering students.
- Establishment of the Alumni unit at the department, and communication with the graduates gave good feedback to the program which used to program improvement plans.
- Continuous evaluation and assessment of the student performance.
- MU recruited 3 more staff members to CEE Department (1 Professor and 2 Assistant Professors).
- Academic advisory system is being used by the students and the staff advisor in Majmaah Edugate.
- Efforts to improve the level of English language during preparatory years are very good.
- Follow up and actions are implemented seriously and problems are addressed during schooling.
- Encouragement to get the program accredited.



Implications for the program

The high percentage of graduates who successfully find a job quickly upon their graduation will encourage the new students to select the program in the future. This will impose a pressure on the department to maintain its quality.

The increased number of the staff at CEE department will passivity affects the program, but still the more staff is required.

2 - Significant changes external to the institution affecting the program (if any) during the past year.

The current college classrooms are held on temporary building. Despite being sufficient and good, the infrastructures like: College library, laboratories, study rooms or places, activity area, etc. are not in perfect or hoped situation.

On the other hand, the linkage between the university and the industry needs more effort to be effective and this will have an impact on the program.

Implications for the program

We are monitoring the establishment of similar departments in the nearby universities and see the difference in the disciplines. Other external factors that might affect the program include the growth of the awareness of Civil and Environmental Engineering studies and the good opportunities for the graduates. Due to shortage of staff number at the beginning of the year, the department accepted only 19 students in Level 3. But the staff number increased by the second semester of the same year by adding 3 staff members. We expect more students to join the program in the coming years.



D. Course Reports Information Summary

1. Course Reports Results. Describe and analyze how the individual NCAAA “Course Reports” are utilized to assess the program and to ensure ongoing quality assurance

(eg. Analysis of course completion rates, grade distributions, and trend studies.)

A list of results of all courses taught in the first and second semesters in 1436-37 H (2015-2016) is given in the table below.

(a.) Describe how the individual course reports are used to evaluate the program.

All individual course reports are used for evaluation of course and monitoring the program expected outcomes. The CEE-Quality unit has a plan to monitor the SLO by selecting at least two courses for each a-k (following ABET criteria). Course objectives are checked by a higher committee in the department to ensure that the overall assessment will be towards the program objectives.

The following are the steps being implemented:

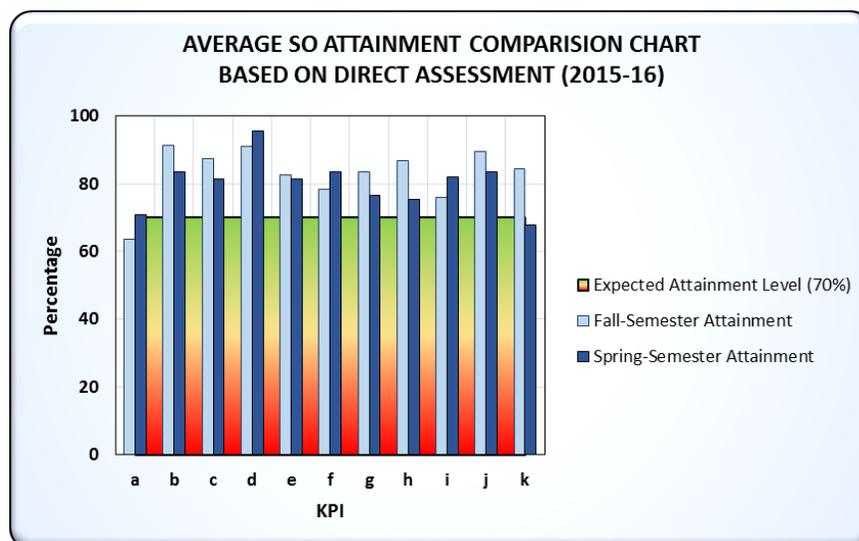
1. The instructor prepares his exams (midterm and/or final) clearly indicating marks distribution for each question, and keeping in mind that each course outcome needs to be measured. So he has to map some questions with SLO (a-k). If he uses other indirect assessment method, it should be stated in the report. It should be mentioned that the program was using NCAAA criteria till 2014.
2. Key Performance Indicators (KPI) were defined for CE program and made available for all the instructors.
3. An excel file created by one of the staff members, is made available for the instructors for quick and easy assessment of the targeted outcome. Once the instructor enters the number of the students passed with satisfaction level the entire question and those who failed, the chart will appear with clear report. See the examples at the end of this section.



Learning Outcomes to Courses Matrix (X Matrix) NCAAA

		Student Learning Outcomes														
		A			B			C			D			E		
		a1	a2	a3	b1	b2	b3	c1	c2	c3	d1	d2	d3	e1	e2	e3
1	Math 105	X														
2	Phy 103	X														
3	GE 101				X	X										
4	GE102															
5	GE 103	X			X											
6	Math 106	X														
7	Math 107	X														
8	GE 108	X					X									
9	GE 105	X														
10	CE 101		X		X			X	X			X	X			

For overall assessment of SOs for the program, some representative courses are selected and overall achievement is plotted in the form of spider web charts for First and Second Semesters of 2015-16 sessions. A comparative study is also made for the SO achievement.



FULL ANALYSIS IN THE DETAILED ANNUAL REPORT



(b.) Analyze the completion rates, grade distributions, and trends to determine strengths and recommendations for improvement.

(i.) Completion rate analysis:

	Number Starting	Number Completing and Passing	Percent Completing and Passing
Year 1 (2012)	15	14	93.3%
Year 2 (2013)	14	14	100%
Year 3 (2014)	14	12	85.7%
Year 4 (2015)	12	11	91.7%

Analysis is based on the first group jointed the department in 136 Study plan; they all selected the Structural Engineering Track. By the end of the second semester 11 students awarded their BSc in Civil Engineering and one completed his graduation by doing one exam at the beginning of the first semester of 1437H.

(ii.) Grade distribution analysis:

One Student graduated with Excellent grade [4.76/5] (he is nominated to join the department as assistant lecture). Four students graduated with grade “Very good” their grades range between [3.85 and 4.29]. Six students graduated with accumulative grade (GPA) ranges between [2.78 and 3.61].

(iii.) Trend analysis(a study of the differences, changes, or developments over time; normally several years):

This group of students was good in average with 2 excellent or very good students. Despite they did not complete the program all together, some of them got A+ and A grades in many courses. The abnormal results that need to be investigated are; all 9 of them got A+ in the senior design projects (CE498 and CE 499). This is abnormal result, and a report sent to the head of the department to investigate and take action if needed.

2. Analysis of Significant Results or Variations (25 % or more).

List any courses where completion rates, grade distribution, or trends are significantly skewed, high or low results, or departed from policies on grades or assessments. For each course indicate what was done to investigate, the reason for the significant result, and what action has been taken.

a. Course	Courses
	CE 318- CE 419 – CE 422 2015-16/1 (All by the same instructor)



Significant result or variation	In two successive semesters, all the 3 courses were 100%
Investigation undertaken	It has been noted that CE 318 (10 students), CE 419 (19 students), CE 422 (9 students), these courses are in advanced levels and the success percentage is 100%. While the same students taken other courses in the same levels did not get the same percentage.
Reason for significant result or variation	Instructor claimed that he is doing well and the students are very good.
Action taken (if required)	CEE –HoD has to ask how the teacher reaches these high results for all courses with different number of students. Teaching method and exams levels, methods of evaluation need to be investigated, the department has to get benefit from the positive parts and correct if there is something does not meet the standards.

4. Delivery of Planned Courses

(a) List any courses that were planned but not taught during this academic year and indicate the reason and what will need to be done if any compensating action is required.

Course title and code	Explanation	Compensating action if required
In 1436 -1437, CEE did not have any problem to deliver all the courses as the staff increased by adding 3 new members	Note: staff are over loaded	- More staff members are needed especially in structural engineering area.
Civil engineering drawing (CE 102) Semester 1 2015-2016	Started with one lecturer who left for PhD mission after one month.	- One staff member took over and an assisted provide from mechanical department for AutoCAD part during the lab sessions.



(b) Compensating Action Required for Units of Work Not Taught in Courses that were Offered. *(Complete only where units not taught were of sufficient importance to require some compensating action)*

Course	Surveying I (CE 370)
Unit of work	3(2,1,2) Traverse surveying
Reason	Too much topics in relation to the students' progress
Compensating action if required	Not big problem as the students will take this part in CE 371
Course	Introduction to Computer Programming (CEN 209)
Unit of work	3(2,0,2) Unions, Classes and Objects due to lack of time
Reason	Insufficient time during the lab
Compensating action if required	<ul style="list-style-type: none"> - Instructor recommended adding assist lecture during the lab sessions for better following the students during their programming exercises. - Students were advised to take training course in programming during the summer vacation to enhance their ability of conducting simple computer programming that could solve Civil Engineering Programs. - Still there is a chance to close the gap when the students take "Computer applications for Civil Engineering in Level 9).
Course	Hydraulics I (CE240)
Unit of work	3(2,1,2) Last topic not covered to the extent desirable.
Reason	Will affect the coverage in the subsequent years
Compensating action if required	To be covered in subsequent levels. (CE 241)



E. Program Management and Administration

List difficulties (if any) encountered in management of the program	Impact of difficulties on the achievement of the program objectives	Proposed action to avoid future difficulties in Response
Technicians	Working in the labs and delays in conducting some experiments	The department about to employed 2 technicians, but needs 3 more.
Shortage of staff	High loads for the faculty members	Getting new contracts with faculty members. The department asked for hiring 3 more staff
Department labs are placed in small areas	Dividing the students in the lab sessions into 12 students per group, this is increase the teaching loads	The department established 3 labs outside the main building with wider spaces, but still looking for permanent place.
High loads	Insufficient time to do other works related to quality documentation and research.	Getting new contracts with faculty members. The department asked for hiring 3 more staff.



F. Summary Program Evaluation

1. Graduating Students Evaluation *(To be reported on in years when surveys are undertaken)*

Date of Survey

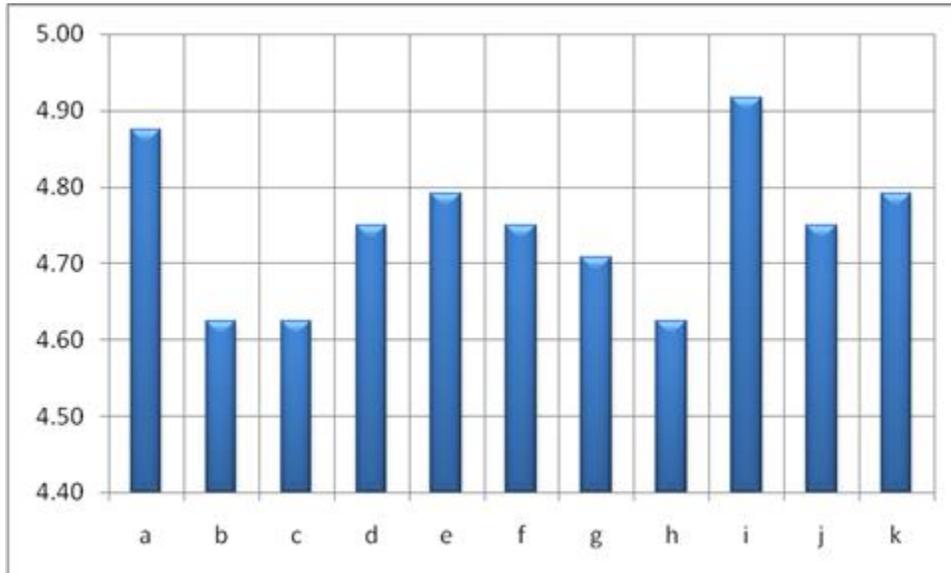
18 / 4 / 2016

Attach : survey report

1a. Exit Survey (ES) 2015-16/1

Data Collection:

- 23 civil engineering graduate students have been participated in filling-up the exit survey.
- The survey was distributed to the graduated students after completion senior design 1 and 2.



Exit Chart of CEE Department

Results

- The total average was **4.70** (Outstanding).
- The chart below shows the details.



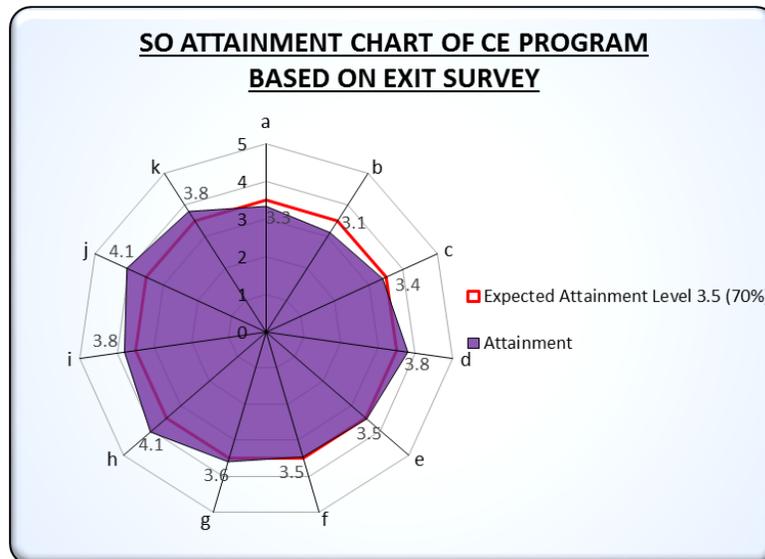
1b. Exit Survey (ES) 2015-16/2

Data Collection:

- 15 civil engineering graduate students have been participated in filling-up the exit survey.
- The survey was distributed to the graduated students after completion senior design 1 and 2.

Results

- The total average was **3.6** (Above Average).
- The chart below shows the details.



2. Student Experience Survey (SES)

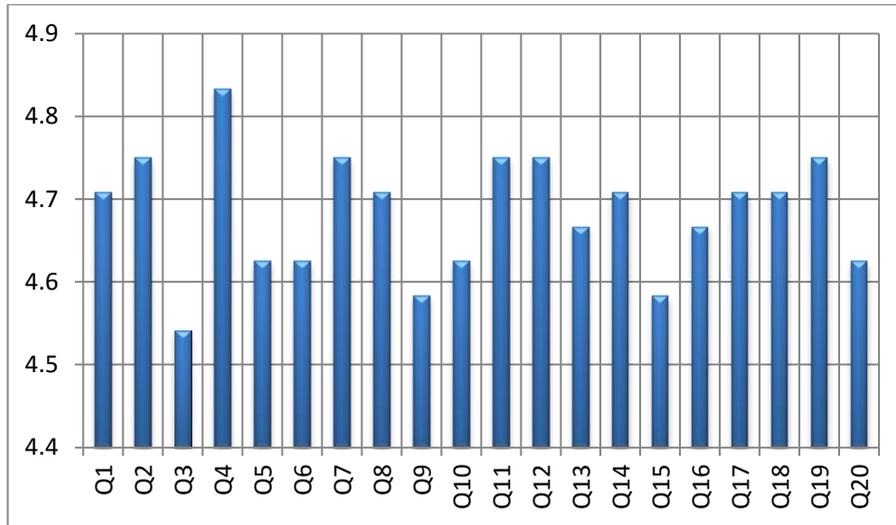
Data Collection:

- 23 graduate students have been participated in filling-up the exit survey.
- The survey was distributed to the graduated students after completion senior design 1 and 2.

Results:

- The total average was **4.70** (Outstanding).
- All students did not answer questions 21-23.
- The chart below shows the details.



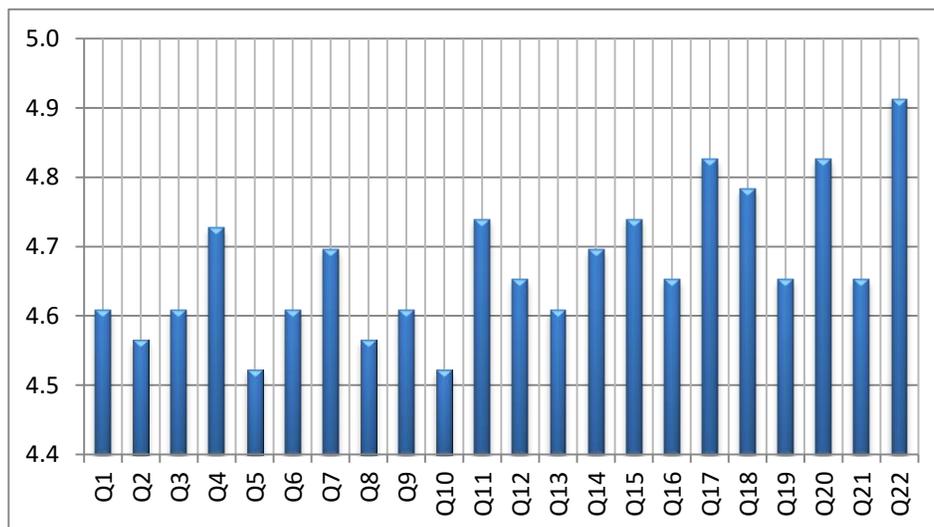


Student Experience Survey of CEE Department

3. Program Evaluation Survey (PES)

Data Collection:

- 23 graduate students have been participated in filling-up the exit survey.
- The survey was distributed to the graduated students after completion senior design 1 and 2.



Program Evaluation Survey of CEE Department

Results

- The total average was **4.70** (Outstanding).
- All students did not answer questions 23-25.
- The chart below shows the details.



a. List most important recommendations for improvement, strengths and suggestions	Analysis <i>(e.g. Assessment, action already taken, other considerations, strengths and recommendation for improvement.)</i>
<p>Most recent graduates reported that practical courses are not sufficient compared with the skills noticed among the other civil engineers who graduated from other universities like KSU. Also:</p> <ul style="list-style-type: none"> - Establishment of Alumni unit. - Enhance the contents of the Design courses. 	<ul style="list-style-type: none"> - The department decided to pay more attention to the site visits and practical sessions. - Alumni unit has been established and started to be active.
<p>b. Changes proposed in the program (if any) in response to this analysis and feedback.</p> <ul style="list-style-type: none"> - The department decided to pay more attention to the site visits and practical sessions. - Alumni unit has been established and started to be active. - The Department intends to open the third track "Water and Environmental Engineering", in the second semester 2016-17. 	



2. Other Evaluation (e.g. Evaluations by employers or other stakeholders, external review)
Describe evaluation process.

The program has been evaluated by internal and external referees prior to its implementation, where all the courses, units, and tracks were adjusted. Since the end of the first semester, the quality unit formed an internal scientific committee to evaluate all the final exams and to report the assessment results to the Head of the Department. External evaluations of the exams are also in process with civil departments in KSU and Qassim Univ.

Attach review/survey report

<p>a. List most important recommendations for improvement, strengths and suggestions for improvement.</p>	<p>e.g. Analysis of recommendations for improvement:(Are recommendations valid and what action will be taken, action already taken, or other considerations?)</p>
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<p>Regarding the new curriculum (136 units), the referees asked to increase the design courses, and add one more Math course. But the appreciate the overall new Study plan</p>	<p>Study plan (161) was modified to a new Plan (136) and referees notes were taken into account.</p>
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b. Changes proposed in the program (if any) in response to this feedback.
 The program intends to apply for accreditation, one important note received from the consultant, is to adjust the percentage of the Mathematics and Basic Sciences courses to be 32 units. This issue is being discussed at the college level.

3. Ratings on Sub-Standards of Standard 4 by program faculty and teaching staff; 4.1 to 4.10.

(a) Standard 4 Sub-Standards. Are the “Best Practices” followed; Yes or No? Provide a revised rating for each sub-standard. Indicate action proposed to improve performance (if any).

Sub-Standards	Best Practices Followed (Y/N)	5 Star Rating	List priorities for Improvement.
4.1			
4.2			
4.3			
4.4			



4.5			
4.6			
4.7			-
4.8			
4.9			
4.10			

Analysis of Sub-standards. List the strengths and recommendations for improvement of the program's self-evaluation of following best practices.

G. Program Course Evaluation

1. List courses taught during the year. Indicate for each course whether student evaluations were undertaken and/or other evaluations made of quality of teaching. For each course indicate if action is planned to improve teaching.

Course Title/Course Code	Student Evaluations		Other Evaluation (specify)	Action Planned	
	Yes	No		Yes	No
Differential Calculus (Math 105)	✓		Nil		

(Add items or attach list if necessary)

2. List courses taught by this program this year and for this program that are in other programs.

Year	Course Code	Course Title	Required or Elective	Credit Hours	College or Department
Prep Year	PENG 111/121	English for Preparatory Year (1)	Required	8	CoE
	PMTH 112/127	Introduction to Mathematics (1)	Required	2	CoE
	PCOM 113	Computer Skills	Required	2	CoE
	PSSC 114	Study and Communication Skills	Required	2	CoE
	PPHS 128	General Physics	Required	3	CoE
1st Year Semester	MURE	University Requirement	Required	2	
	MATH 105	Differential Calculus	Required	3	Basic Sci. Dept.
	PHY 103	Physics-1	Required	4	Basic Sci. Dept.
	GE 101	Fundamental of Eng. Technology	Required	2	MIE Dept.
	GE 102	Fundamental Engineering Drawing	Required	3	MIE Dept.



Year	Course Code	Course Title	Required or Elective	Credit Hours	College or Department
1 st Year Semester 2	GE 103	Engineering Mechanics (Statics)	Required	3	CEE Dept.
	MATH 106	Integral Calculus	Required	3	Basic Sci. Dept.
	MATH 107	Algebra and Analytical Geometry	Required	3	Basic Sci. Dept.
	GE 108	Engineering Mechanics (Dynamics)	Required	2	MIE Dept.
	GE 105	Engineering Chemistry	Required	3	Basic Sci. Dept.
	CE 101	Engineering Geology	Required	2	CEE Dept.
	CE 102	Civil Engineering Drawing	Required	3	CEE Dept.
2 nd Year Semester 1	MURE	University Requirement	Required	2	
	MATH 204	Differential Equations	Required	3	Basic Sci. Dept.
	CE 210	Soil Mechanics and Foundation Eng. 1	Required	3	CEE Dept.,
	CE 214	Structural Analysis 1	Required	3	CEE Dept.,
	CE 240	Hydraulics 1	Required	3	CEE Dept.,
	CE 370	Surveying 1	Required	3	CEE Dept.,
2 nd Year Semester 2	STAT 101	Statistics and Probability	Required	3	Basic Sci. Dept.
	CEN 209	Computer programming for Civil Eng.	Required	3	College of Computer
	CE 217	Reinforced Concrete Design 1	Required	3	CEE Dept.
	CE 212	Properties and Strength of Materials 1	Required	3	CEE Dept.
	CE 215	Structural Analysis 2	Required	3	CEE Dept.
	CE 241	Hydraulics 2	Required	3	CEE Dept.
3 rd Year Semester 1	MURE	University Requirement	Elective	2	
	GE 306	Engineering Report Writing	Required	2	CEE Dept.
	CE 311	Soil Mechanics and Foundation Eng. 2	Required	3	CEE Dept.,
	CE 360	Environmental Engineering 1	Required	2	CEE Dept.,
	CE 362	Water Supply and Sewage Eng.	Required	2	CEE Dept.,
	CE 371	Surveying 2	Required	3	CEE Dept.,
	CE 380	Highway Engineering 1	Required	3	CEE Dept.,
3 rd Year Semester 2	MURE	University Requirement	Elective	2	
	MATH 254	Numerical Methods	Required	3	Basic Sci. Dept
	CE 313	Properties & Strength of Materials 2	Required	3	CEE Dept.,
	CE 316	Structural Analysis 3	Required	3	CEE Dept.,
	CE 318	Reinforced Concrete Design 2	Required	3	CEE Dept.,
	CE 320	Steel Structures Design (1)	Required	3	CEE Dept.,
4 th Year Semester 1	MURE	University Requirement	Elective	2	
	GE 407	Engineering Economics	Required	2	MIE. Dept
	CE 425	Computer Application in Structure Eng.	Required	2	CEE Dept.,
	CE 419	Reinforced Concrete (3)	Required	3	CEE Dept.,
	CE 421	Steel Structures Design (2)	Required	3	CEE Dept.,



Year	Course Code	Course Title	Required or Elective	Credit Hours	College or Department
	CE 42-	Elective Course (1)	Elective	3	CEE Dept.,
	CE 498	Senior Design Project (1)	Required	2	CEE Dept.,
4th Year Semester 2	MURE	University Requirement	Elective	2	CEE Dept.,
	GE 408	Engineering Project Management	Required	2	CEE Dept.,
	CE 422	Methods and Equipments of Construction	Required	2	CEE Dept.,
	CE 423	Contracts & Specifications	Required	2	CEE Dept.,
	CE 424	Buildings Construction	Required	3	CEE Dept.,
	CE 43-	Elective Course (2)	Elective	3	CEE Dept.,
	CE 499	Senior Design Project (1)	Required	2	CEE Dept.,

Include additional Levels if needed



3. Program Learning Outcome Assessment:

*Provide a report on the program learning outcomes assessment plan using an assessment cycle (a four to six-year cycle is recommended). All program learning outcomes are to be directly assessed at least once during the cycle. By the end of the cycle each program learning outcome will be assessed and recorded using a separate **KPI Assessment Table** (see below);*

Assessment and Evaluation Process

During the past few years we have been doing assessment and evaluation of our educational program based on direct and indirect methods. Direct methods are based on the course work and the indirect methods are generally based on the surveys, faculty reports etc. For the indirect assessments, prior to 2014, we were using surveys that were not necessarily aligned with the ABET requirements. However, for the last three semesters including this semester we have adopted the direct and indirect assessment tools that have allowed us to evaluate our program outcomes. Assessment methods and results prior to our transition to ABET criteria were valuable and beneficial for merging into the ABET format.

The CE Program uses different tools and processes to regularly assess and evaluate the extent to which it's SOs are being attained. These processes are used to gather the necessary data for assessment. Evaluation, in the form of interpreting the data, is then carried out in order to determine how well the outcomes are being attained. The results of both the assessment and evaluation processes are finally utilized to effect continuous improvement of the program.

The steps used for the assessment, evaluation and feedback to the continuous improvement of the program follow the following three steps:

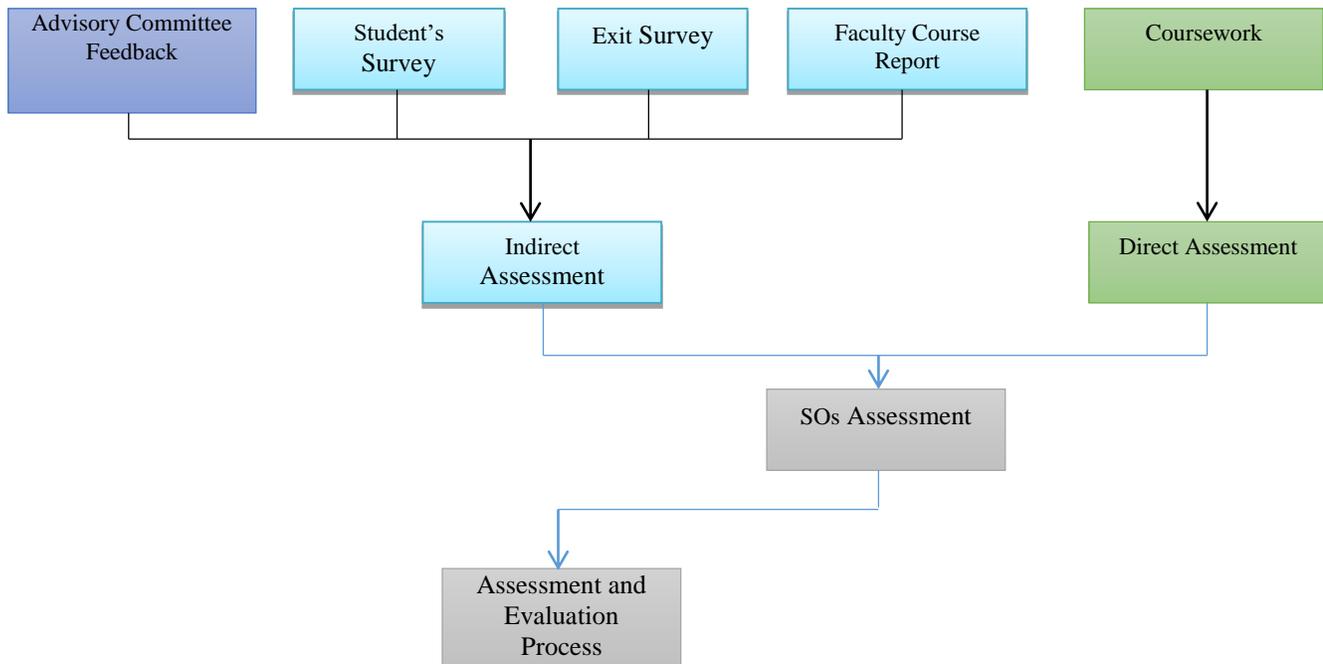
Assessment tools of the SOs (i.e., collecting appropriate data) can be direct or indirect. Direct assessment of SOs usually relies on the course work, whereas indirect assessments of SOs are usually obtained by using surveys. This step includes development of Direct Assessment Templates (Excel Template) and designing forms of surveys and appropriate questions for the specific and applicable date.

Step 1 is followed by analyzing and comparing the data to a pre-set performance indicator, which constitutes the evaluation (interpreting) processes.

Checking the degree to which the data evaluation results meet the pre-set targets will be the driving force for the continuous improvement processes.

A summary of these processes are collected as per following flowchart





Important Steps:

1. The assessment and evaluation of the program outcome is based on the a-k SOs. The SOs are evaluated in terms of Key Performance Indicators (KPIs) based on the rubrics. The KPIs and the rubrics are developed and approved by the Department council for the implementation.
2. Every course in the CE program has been allotted suitable SOs as per its content in such a way that for the program every SO should be covered by at least 2 or 3 courses.
3. A matrix has been generated to map the courses with the SOs which is shown in the following table. Apart from these courses CE Program have some Basic Science and General Courses which are common to all the Departments of CoE and thereby not assessed.
4. Assessments are conducted at the end of every semester for all the courses. The results obtained are documented by the concerned instructors in the form of Excel Files/ course files/ portfolios.



Mapping of Courses with the SOs

N	Code	SLOs MAPPING										
		a	b	c	d	e	f	g	h	i	j	k
1	CE101		✓		✓						✓	
2	CE102	✓										✓
3	CE210	✓	✓			✓		✓				
4	CE212	✓	✓			✓						✓
5	CE214	✓				✓						
6	CE215	✓				✓						
7	CE217	✓		✓		✓						
8	CE240	✓	✓			✓						
9	CE241	✓	✓			✓						
10	CE311		✓	✓		✓		✓				



KPI #	NQF Learning Domains and Learning Outcomes	Method of Assessment for LOs	Date of Assessment
1.0	Knowledge		
1.1	<i>The students will be able to apply knowledge of mathematics, science, and engineering.</i>	Quizzes, Exams, Assignments	All courses/ each semester during predefined time for exams
1.2	<i>The students will be able to have knowledge of the basics and principles of civil engineering analysis, design, evaluation and management.</i>	Quizzes, Exams, Assignments and Presentations and class discussions	All courses/ each semester during predefined time for exams
1.3	<i>The students will be able to use the techniques, skills, and modern civil engineering tools necessary for engineering practice.</i>	Reports received about the students during the Engineering Practice	Upon completing engineering practice training after level 8
1.4	<i>The students will be able to recognize the contemporary issues to the civil engineering.</i>	Assessment of the students' performance in the Senior Designs, and panel discussions	During end exams of senior designs (CE 498 and CE 499)
2.0	Cognitive Skills		
2.1	<i>The students will be able to conduct the experiments in the field/ laboratory, collect data, and analyze and interpret the results.</i>	Lab exercises, Lab Exams, Lab Reports, mini projects and senior designs.	Courses with labs/ each semester during final lab exam
2.2	<i>The students will be able to design a system, components, or process to meet desired need within realistic constraints such as environmental, social, political, ethical, health and safety, and sustainability.</i>	Quizzes, Exams, mini projects, Assignments, home works and senior designs.	All courses/ each semester during predefined time for exams
2.3	<i>The students will be able to identify, formulate, and solve civil engineering problems</i>	Quizzes, Exams, mini projects and senior designs.	All courses/ each semester during predefined time for exams
2.4	<i>The students will be able to provide alternative solutions to design and evaluate the civil engineering projects.</i>	Reports received about the students during the Engineering Practice, mini projects, senior designs	Upon completing engineering practice training after level 8 During end exams of senior designs (CE 498 and CE 499)
3.0	Interpersonal Skills & Responsibility		



3.1	<i>The students will be able to work individually as well as in participating actively in a team work.</i>	Team Participation in senior design/ and some other courses. Evaluation of Punctuality/ sincerity.	Upon completing engineering practice training after level 8 During end exams of senior designs (CE 498 and CE 499)
3.2	<i>The students will be able to demonstrate their professional and ethical responsibilities.</i>	Indirect assessment	During whole semester
3.3	<i>The students will be able to share information and to provide assistance to the team members.</i>	Indirect assessment	During whole semester
4.0	Communication, Information Technology, Numerical		
4.1	<i>The students will be able to communicate effectively (oral/ written) using English.</i>	Write technical report and deliver oral presentation in English.	During end exams of senior designs report/ presentation (CE 499)
4.2	<i>The students will be able to communicate effectively (oral/ written) using English.</i>	Oral Exam/ discussions/ Mini Projects	During end exams of mini projects/ senior designs report/ presentation (CE 499)
4.3	<i>The students will be able to engage themselves in lifelong learning with continuous improvement</i>	Reports/ Assignments etc.	During whole semester
5.0	Psychomotor		
5.1	NA		

Provide an analysis of the Program Learning Outcome Assessment Cycle (List strengths and Recommendations for improvement).

Provide “direct assessments” for the current year’s program learning outcomes, according to the dates provided above (G.3). A key performance indicator (KPI) table is provided below. Each learning outcome should utilize a separate KPI table. Over the four (five/six) year cycle, all program learning outcomes are to be assessed and reported in the Annual Program Report(s).

Note: Programs are to provide their own KPIs for directly measuring student performance.

The KPI Assessment Table is used to document directly assessed program learning outcomes.

Each program learning outcome should use a separate table. Direct assessments methods may include: national or international standardized test results, rubrics, exams and learning outcome grade analysis, or learning achievement using an alternative scientific assessment system (copy the KPI Assessment Table and paste to make additional tables as needed).

KPI Assessment Table (See Following Tables)



KPI #:	Program KPI: CEE is using KPI for ABET examples are shown in this report
Assessment Year: 2015-16	Program Learning Outcome:
NQF Learning Domain	
Target Benchmark	
KPI Actual Benchmark	
Internal Benchmark	See Following Tables
External Benchmark	Mathematics Department, College of Science at Zulfi
Analysis: (List strengths and recommendations)	
New Target Benchmark	



4. Orientation programs for new teaching staff

NA

Orientation programs provided?	Yes	NO	
If offered how many participated ?			
a. Brief Description				
.....				
b. List recommendations for improvement by teaching staff.				
.....				
.....				
.....				
c. If orientation programs were not provided, give reasons.				
.....				
.....				
.....				

5. Professional Development Activities for Faculty, Teaching and Other Staff

a. Activities Provided	How many Participated	
	Teaching Staff	Other Staff
Attending training courses at the university to develop the staff's skills in electronic learning and get used to the modern teaching tools such as the smart board.	3	2
Staff are participating in research projects funded by the "Engineering and Applied Sciences Centre"	4	2
Seminars	6	3
Participating in international conferences and workshops	4	-
Getting more books for the staff and students		
Site visits to industrial places	5	2 +students



b. Summary analysis on usefulness of activities based on participant’s evaluations or other evaluation methods.

- Engorgements of the staff to take their students to site visits made most of the students understood the civil engineering problem thoroughly.
- Staff participation in local and international conferences reflected on the students and teaching methods. Not to mansion, one student represented MU in a conference in Jeddah by a paper adopted from his graduation project. The paper selected as the best scientific paper in the university

H. Independent Opinion on Quality of the Program

(e.g. head of another similar department/ program offering comment on evidence received and conclusions reached)

1. Matters Raised by Evaluator Giving Opinion	Comment by Program Coordinator
In process with civil engineering department at Qassium university.	Internal evaluation for the program has been done on 2016, where CoE vice dean for quality and development with another 3 staff members revised the CEE quality documents using a checklist of 18 items. The feedback of this revision was used to improve the Quality performance at CEE Program.

2. Implications for Planning for the Program

The first batch of graduate students completed their study in June 2014. Followed by 4 other batches in Feb 2015, June 2016, Feb, 2016 and June 2016. However, This program report will be evaluated by external examiners and feedback will be revised in by the department board.



Program KPI and Assessment Table

KPI #	KPIS	KPI Target Benchmark	KPI Actual Benchmark	KPI Internal Benchmarks	KPI External Benchmark s	KPI Analysis	KPI New Target Benchmark
1							
2							
3							
4							
5							
6							

Whole Program Analysis of KPIs and Benchmarks: (list strengths and recommendations)

.....

.....

.....

.....

NOTE The following definitions are provided to guide the completion of the above table for Program KPI and Assessment.

KPI refers to the key performance indicator the program used in its SSRP. This includes both the NCAAAs suggested KPIs chosen and all additional KPIs determined by the program (including 50% of the NCAAAs suggested KPIs and all others).

Target Benchmark refers to the anticipated or desired outcome (goal or aim) for each KPI.

Finding Benchmark refers to the actual outcome determined when the KPI is measured or calculated.

Internal Benchmarks refer to comparable benchmarks (actual findings) from inside the program (like data results from previous years or data results from other departments within the same college).

External Benchmarks refer to comparable benchmarks (actual findings) from similar programs that are outside the program (like from similar programs that are national or international).

KPI Analysis refers to a comparison and contrast of the benchmarks to determine strengths and recommendations for improvement.

New Target Benchmark refers to the establishment of a new anticipated or desired outcome for the KPI that is based on the KPI analysis.



NCAAA Standards	KPI Code #	KPI	Target Benchmark	Actual Benchmark	Internal Benchmark Math. Zulfi	External Benchmark	New Target Benchmark
Standard 4: <i>Learning and Teaching</i>	S4.1	7. Ratio of students to teaching staff.	1:16	1.21	1:9	N/A	1.15
	S4.2	8. Students overall rating on the quality of their courses	4 out of 5	3.89 out of 5	--	--	4.8 out of 5
	S4.3	9. Proportion of teaching staff with verified doctoral qualifications.	90%	92.3%	86%	N/A	85%
	S4.4	10. Percentage of students entering programs who successfully complete first year	75%	72%	75%	N/A	80%
	S4.5	11. Proportion of students entering undergraduate programs who complete those programs in minimum time	20%	3%	24%	N/A	10%
	S4.6	12. Proportion of students entering post graduate programs who complete those programs in specified time.	25%	3%	N/A	N/A	20%
	S4.7	13. Proportion of graduates from undergraduate programs who within six months of graduation are: (a) employed (b) enrolled in further study (c) not seeking employment or further study	(a) 70% (b) 20% (c) 10%	(a) 59% (b) 3% (c) 38%	(a) 58.38% (b) 0.0% (c) 40.62%	N/A	(a) 75% (b) 10% (c) 15%

KPI Analysis for 1436-1437H

1) The objectives of the CE program and their consistency with the Mission are discussed in the quality unit meetings, and department council, Also it has been revised by the Quality and Skills Development deanship. The following results are based on the faculty opinion to the Program Educational Objectives (PEO).

a) To develop critical thinking and the skill to solve engineering problems on the basis of civil and environmental engineering knowledge.

Accept	8	88.9%
Accept but needs revision	1	11.1%
Not accepted	0	0%

b) To serve and benefit the engineering profession, the industry and universities within the local community in the Kingdom by supplying the society with promising leadership that participates in developing it and providing it with knowledge.

Accept	7	77.8%
Accept but needs revision	2	22.2%
Not accepted	0	0%

c) To provide the basics of solid knowledge for students who want to complete their graduate studies.

Accept	7	77.8%
Accept but needs revision	1	11.1%
Not accepted	1	11.1%

d) Preparing graduate students to become leaders, who constantly and effectively influence the community through the field of civil and environmental engineering applications.

Accept	7	77.8%
Accept but needs revision	2	22.2%
Not accepted	0	0%



2) **Quality of undergraduate students**

Based on the average grades of the overall courses in CEE, the average grades is about 72%. Some students are distinguished and get A+; others are weak and could not pass some courses after 2-3 trials. However, there is a need to take the staff opinion about the quality of the undergraduate students using standard questionnaires. We are preparing to implement this step in the second semester of 2015-2016.

a) Strengths:

- 1) The quality assessment process is performing based on clear and fair process.
- 2) National framework referred and local accreditation requirements are referred.
- 3) Student Feedbacks are in place.
- 4) Teaching strategies and assessment methods are updated and approved.
- 5) Program specifications, course specifications are updated based on new NCAAA format.
- 6) Students are willing to learn and polit.

b) Recommendations for Improvements:

- More reviewing process and working on clear procedure to check the quality of teaching.

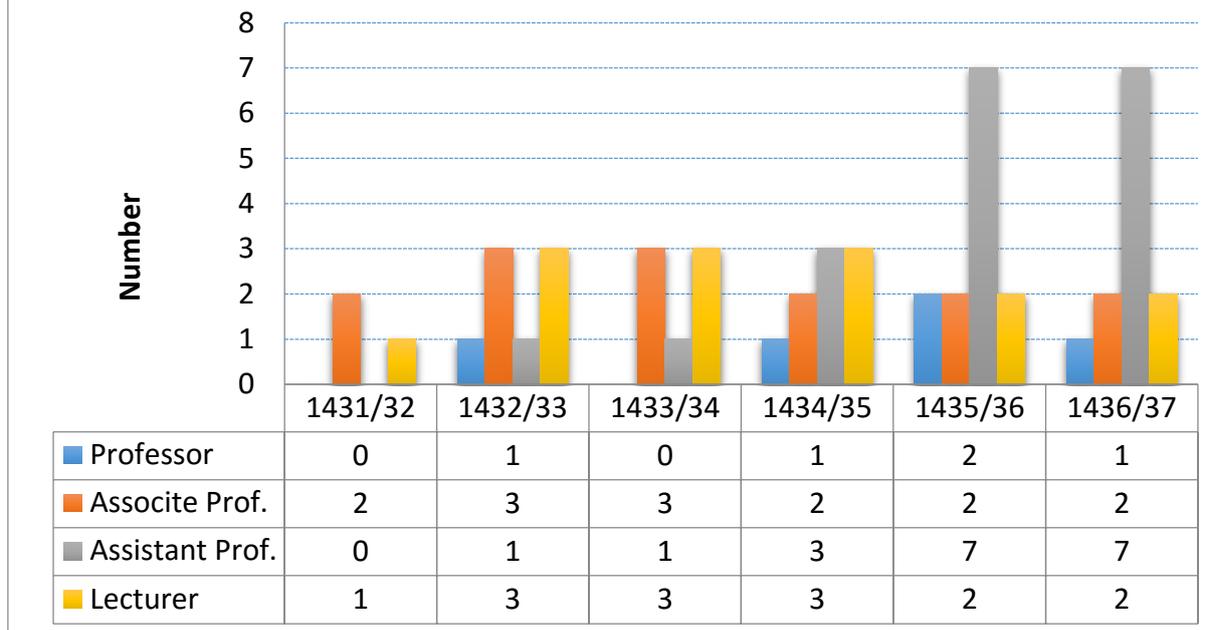
3) **Percentage of Teaching Staff who has Ph.D.**

Despite the increase in the past two years, there is a need for more staff especially with the activation of the second track (Surveying and Transportation) and the increase of the student's desires to join the department. Out of 11 staff members at the department, 9 of them are holding PhD and one lecture got his PhD last semester, but still working as lecturer.

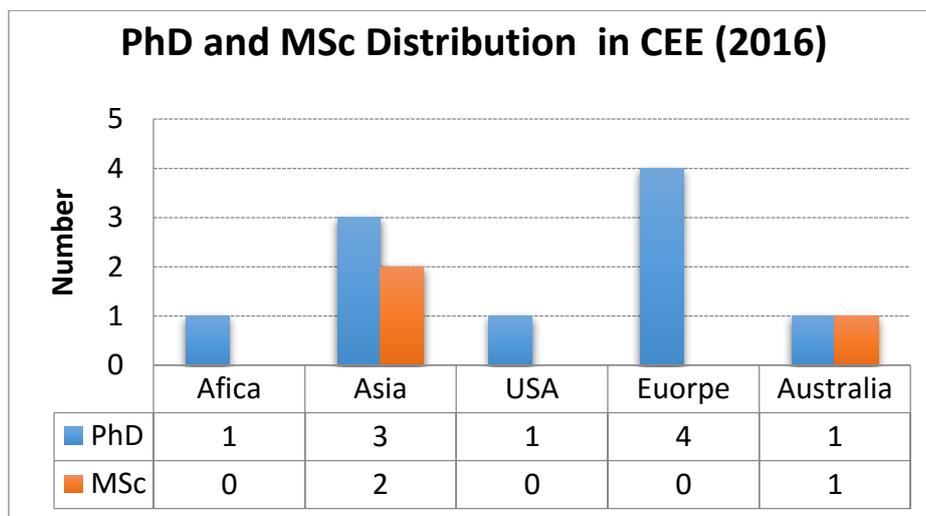
The following charts reveal the progress in the teaching staff in CEE department and the distribution of their PhD countries. One can see that PhD's are from different academic schools and some well known Universities.



Staff at Civil and Environmental Engineering Department



Number of PhD holders is increased comparing to last six years.



4) Student Staff Ratio

The current student staff ration in 1437H is 1:19. There is an increase in the number of students with less increase in the number of teaching staff. The department aims to maintain the ratio at 1:15. It is expected to hire 3 more staff next year.

a. Strengths:

- 1) Teaching staff is qualified and covering most of Civil engineering courses.
- 2) Number of PhD holders is increased last two years.
- 3) The faculty members are qualified with good experience.

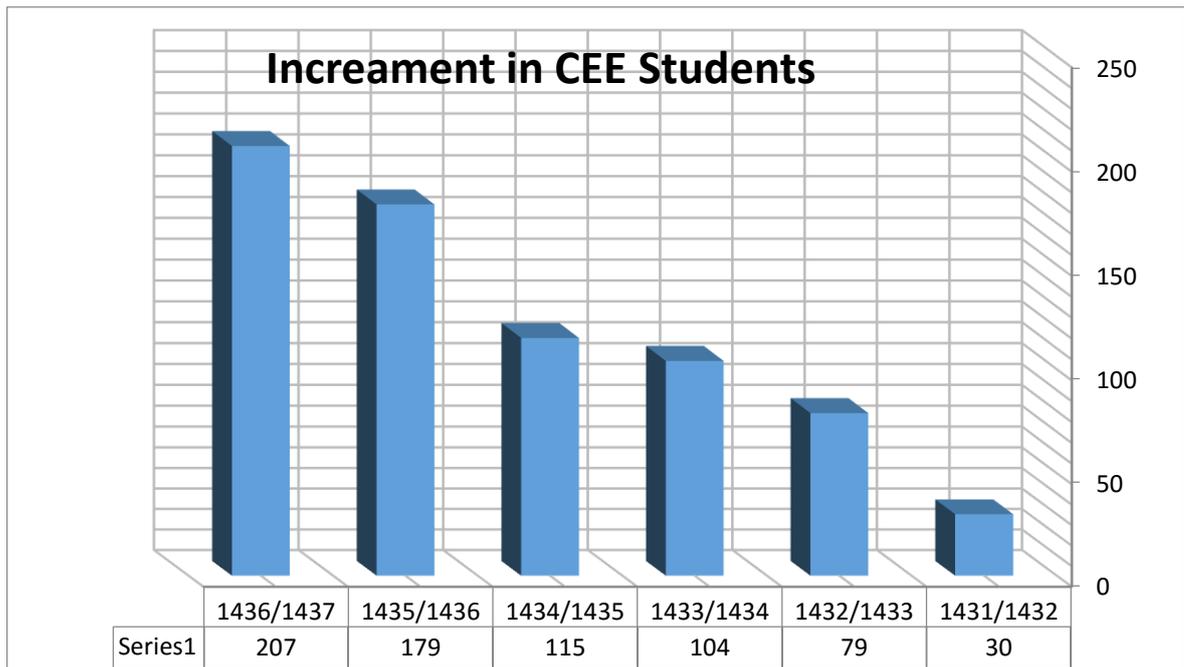


- 4) The experience of faculty staff ranges around (3 to 16) years.
 - 5) All faculty members are full-time and from different teaching schools.
- b. Recommendations for improvement:

- Increasing number of teaching staff (PhD Holders) in Power track.
- To meet the high requirements of faculty members regarding teaching and research.

5) **Student increment and advising groups**

CEE students are distributed on the current teaching staff (about 10 students for each staff member).



Students are encouraged to get help and advising through linking the registration of the student with the approval of the advisor.

a) Strengths

- 1) Registration process is performed in the College of Engineering.
- 2) An advising day is organized every semester to provide students with efficient guidance and orientation.
- 3) Admission process is organized by the Admission and Registration Deanship.
- 4) Students are distributed among advisors and linked through Edugate.

b) Recommendations for Improvements:

- Using other facilities such as WhatsApp and emails for more contact between the advisors and the students.



6) Stakeholder evaluation of library services

a) Strength:

- 1) There is a library in the engineering building.
- 2) Saudi Digital Library (SDL) is available.

b) Improvement for recommendations:

- More support in E-learning resources and more books for the students.
- Study room and sale book have to be in place.



7) Number of accessible computer terminals per student.

a) Analysis:

- There are three labs with 20 computers each. The total number of computers is 60 for all programs with number of students 520 students.
- The university provides students with WiFi access. Students use their Laptops and Smart devices to access the internet.

b) Strengths:

- 1) Technical Support for all students and faculty staff.
- 2) Facilities meet health and safety requirements.
- 3) Computer ratio of faculty staff 2:1 (Desktop and laptop).

c) Recommendations for Improvements:

- Increase and upgrade the computers for the students.

8) Number of publications in peer reviewed national and international journals

a) Analysis:

Number of publications in journals is 10 and the number of PhD holder is 10. Last year CEE had two funded research projects by MU. It should be mentioned that this is almost the average number of funded projects each year in the past 4 years.

b) Strength:

- 1) Scientific committee is formed and two research groups submitted proposals for the Centre of Engineering and Applied Sciences Centre in MU.
- 2) Several Research projects are funded by the university
- 3) The publications ratio is acceptable
- 4) Student's participations in research in annual research conference. One student presented a paper in the Student conference in Jeddah in 1436. That was the only paper from MU in that conference.

c) Recommendations for Improvement:

- Encourage the staff for more publications by providing support for their attendant and publishing.
- More participation of students in conferences and research activities.
- Time to organize a conference at the department or college

9) **Proportion of full time teaching and other staff actively engaged in community service activities.**

a) **Analysis:**

The average load of teaching staff in the program is 16 Credit Hours/week. So, the total time for social activities is estimated as 2hrs/week.

b) **Strength:**

- 1) Consultation to Majmaah Governorate.
- 2) The department of civil engineering participated in solving some problems related to the traffic planning at Majmaah city and restoration and rehabilitation of AlGhat dam, and Waste water treatment plant, and University waste water unit.
- 3) Faculty is motivated to undertake research projects.

c) **Recommendations for improvement:**

- More activities needed through research and scientific activities.
- Encourage staff to increase community involvement and interaction through college and university policies and initiatives.

10) **Proposal to improve Assessment and Evaluation Methods of the Program**

The CEE Quality Unit have conducted and assessed various surveys by the students for the Program:

1. Course Evaluation Survey: These surveys have been conducted in every semester and compared as depicted in Appendices: A1-A4
2. Assessment of Students' Program and Experience Evaluation: Appendices B1-B2



Program Action Plan Table

Directions: Based on the "Analysis of KPIs and Benchmarks" provided in the above Program KPI and Assessment Table, list the recommendations identified and proceed to establish a continuous improvement action plan.

No.	Recommendations	Actions	Assessment Mechanism or Criteria	Responsible Person	Start Date	Completion Date
1						
2						
3						
4						
5						
6						
<p>Action Plan Analysis(List the strengths and recommendations for improvement of the Program Action Plan).</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>						



Operational Plan of Civil and Environmental Engineering Department for Academic Year 2015-16

Area of Improvements in: Civil and Environmental Engineering Department

Initiatives	Activities	Period of Implementation		Required Resources	Performance Indicators	Responsibility for Implementation		Responsibility for follow-up
		From	To			Basic	Support	
Improving the work at the Department Quality Unit	New formation of specialized subsidiary committees	10/2015	11/2015	Approval from Department Board	ensure and endorse of resolutions, then processing into action	Department Quality Unit	Department Board	Head of Department
	Evaluation, measurement and statistics unit for tests	1/2016	6/2016	Tests assessment models	Development of educational output during the review of the courses, curriculum and tests	Department Quality Unit	Department Board	Department Quality Unit
	Start Bench marking with CE departments in KSU and Qassim Universities	12/2015	4/2016	Set a bench mark studies with both	Comparison of department programs with local and programs specialized in the same area	Department Quality Unit	Department Board	Head of Quality Unit
	Form and activate the Program Advisory Board	1/12/2015	25/1/2016	Add more members current Board	Having a strong advisory board for the program and being an active board	CEE-QAU	Head of Department	Head of Department
	Revise the senior design evaluation process	1/11/2015	25/11/2015	Reform the evaluation process	Senior design evaluation reflects a real student level without abnormal results	Special committee	Department Quality Unit	Departmental Board
	MVO on Web site	1/11/2015	25/11/2015	Be visible	Put MOV of CE Program in the college website		College	Dr. Yousef
	Review and revise CS-CR-C Syllabus – Staff CV's - Course files- Course Description	1/11/2015	25/1/2016	Follow up committee	Having up-to-date documents that done according to ABET criteria and approved by the Department	CEE-QAU	Department Quality Unit	CEE Quality Unit
	Develop SLO program and map for the program outcomes in accordance with the ABET system	1/12/2015	25/12/2015	Academic plan and requirements of ABET	Academic programs and plans must be in line with ABET and try to redress any errors early	CEE-QAU	Department Board	CEE Quality Unit
	Archiving and Documentation	11/2015	End of S2	A & D	Having all the evidences and document	CEE-QAU	ADU	CEE Quality Unit
	Program Annual Report	5/2016	6/2016	PAR	Writing and approving the program Annual Report	Dr. Sameh	Dr. Abbas + Dr. Yousef	CEE Quality Unit
Preparing SSR	4/2016	5/2016	All documents	Submit a complete SRR on time	CEE Quality Unit	Dr. Abbas + Dr. Yousef	Dr. Sameh	



Follow up Schedule of Quality Documents Civil and Environmental Engineering Department 2015-16

Course File (1)

No.	Contents	Courses Status in 1437-1									
		CE 215	CE241	GE306	CE311	CE360	CE362	CE371	CE313	CE316	CE318
1	Course Specifications	√	√		√	√	√	√	√	√	√
2	First Midterm Exam	√	√		√	√	√	√	√	√	√
3	First Midterm Exam Key Solution	√	√		√	√	√	√	√	√	√
4	Second Midterm Exam	√	√		√	√	√	√	√	√	√
5	Second Midterm Exam Key Solution	√	√		√	√	√	√	√	√	√
6	Final Exam	√	√		√	√	√	√	√	√	√
7	Final Exam Key Solution	√	√		√	√	√	√	√	√	√
8	Quizzes	√	√		√	√	√	√	√	√	√
9	Homework	√	√		√	√	√	√	√	√	√
10	Projects	√	√		√	√	√	√	√	√	√
11	Reports	√	√		√	√	√	√	√	√	√
12	Assignments	√	√		√	√	√	√	√	√	√
13	List of Students with Marks	√	√		√	√	√	√	√	√	√
14	Short Course Specifications	√	√		√	√	√	√	√	√	√
15	Attendance Form (Final Exam)	√	√		√	√	√	√	√	√	√
16	Three Samples (Copies) of Answer	√	√		√	√	√	√	√	√	√
17	Course Report	√	√		√	√	√	√	√	√	√
18	Course Outcomes	√	√		√	√	√	√	√	√	√
19	Course Materials	√	√		√	√	√	√	√	√	√

Follow up by: Eng. Ziaa Alrahman

Course File (2)

No.	Contents	Courses Status in 1437-1									
		CE 320	CE425	GE407	CE419	CE421	CE498	GE408	CE423	CE424	CE499
1	Course Specifications	√	√		√	√	√		√	√	√
2	First Midterm Exam	√	√		√	√	√		√	√	√
3	First Midterm Exam Key Solution	√	√		√	√	√		√	√	√
4	Second Midterm Exam	√	√		√	√	√		√	√	√
5	Second Midterm Exam Key Solution	√	√		√	√	√		√	√	√
6	Final Exam	√	√		√	√	√		√	√	√
7	Final Exam Key Solution	√	√		√	√	√		√	√	√
8	Quizzes	√	√		√	√	√		√	√	√
9	Homework	√	√		√	√	√		√	√	√
10	Projects	√	√		√	√	√		√	√	√
11	Reports	√	√		√	√	√		√	√	√
12	Assignments	√	√		√	√	√		√	√	√
13	List of Students with Marks	√	√		√	√	√		√	√	√
14	Short Course Specifications	√	√		√	√	√		√	√	√
15	Attendance Form (Final Exam)	√	√		√	√	√		√	√	√
16	Three Samples (Copies) of Answer	√	√		√	√	√		√	√	√
17	Course Report	√	√		√	√	√		√	√	√
18	Course Outcomes	√	√		√	√	√		√	√	√
19	Course Materials	√	√		√	√	x		√	√	√

Follow up by: Eng. Ziaa Alrahman

I. Action Plan Progress Report

1. Progress on Implementation of Previous Year's Action Plans				
Actions Planned	Planned Completion Date	Person Responsible	Completed	If Not Complete, Give Reasons
a. Getting 3 more staff and 10 technicians for the department	1437	Head of department	Partially completed	We got the 3 staff, but only 3 technicians.
b. Add 3 more labs (Geology – concrete lab 2 - AutoCAD and civil Eng computer lab) and upgrade the exciting labs.	1436	Head of the department and Dean	To some extent	More instruments added to Surveying lab. We an open channel is added to the water resource lab., AUTO-CAD made available using College computer labs. But Geology and Concrete labs postponed due to budget
c. Organize a conference	1438	Department	No	Not yet, but will be difficult to be organized in the planned date. Will be postponed for 2 years
d. Developing research activities and producing papers in journals and international conferences	Continuous	All faculty at CEE department	Yes	

Program Chair/ Coordinator Name : **Dr. Sameh Saadeldin Ahmed**

Signature :*SaMeH*.....

Date Report Completed: **28/8/2016**

Received by: **Dr. Abdullah Alshehri**

Dean/Department Head

Signature: *AlShehri*

Date: **31/8/2016**



