College of Engineering and Petroleum
Office of Academic Assessment

TRAINING SESSION # 3
(AY 2023-24)

Effective Use of Survey Data in ABET Accreditation

by

Dr. Muhammad Tariq Chaudhary

17 April 2024

Project 2025 - Schedule of Trainings

- ❑ **Training 1 (6/12/2023)**
  - ✓ Introduction to ABET Accreditation Process, Timeline and Responsibilities
  - ✓ SSR Template and Sections
- ❑ **ABET Visit Preparation Schedule and Tasks (17/2/2024)**
  - ✓ Overall review of schedule, activities and targets
- ❑ **Training 3 (17/4/2024)**
  - ✓ Use of Survey data (Criteria **2, 4, 5**, 6, 7, 8, Program Criteria)
  - ✓ Survey data from: **faculty, students, alumni, employers**
- ❑ **Training 4 (Fall 2024)**
  - ✓ SSR Mock Review

Training # 3 – Use of Survey Data in ABET Accreditation

Part 1: Overview of ABET Criteria

Part 2: Use of surveys in various ABET Criteria

Part 3: Using Surveys for Criterion 2 (PEOs)

Part 4: Using Surveys for Criteria 4 (CI) & 5 (Curriculum)

Part 5: Other uses

PART 1:

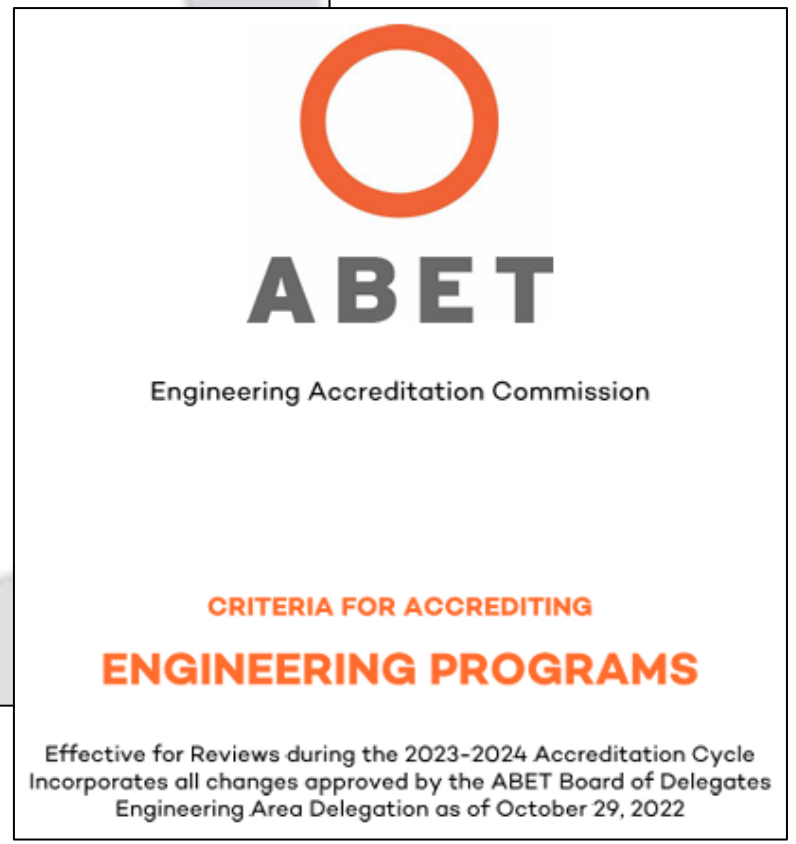
Overview of ABET EAC Criteria

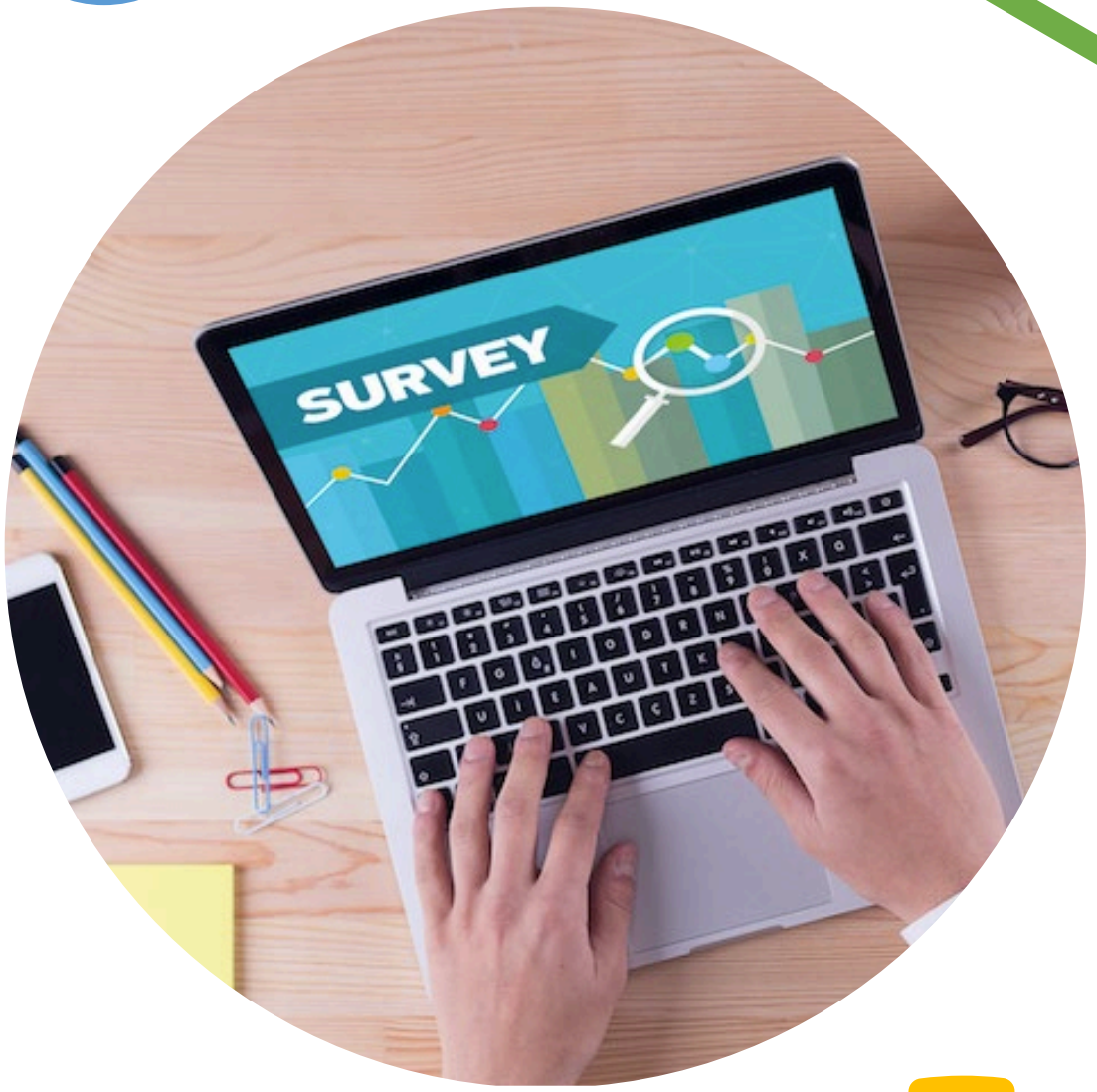
ABET EAC Criteria

Criteria

1. Students
2. Program Educational Objectives
3. Student Outcomes
4. Continuous Improvement
5. Curriculum
6. Faculty
7. Facilities
8. Institutional Support

Part III – Program Criteria
(Discipline Specific)





PART 2:

Use of Survey Data in ABET Accreditation

Survey Results and Accreditation

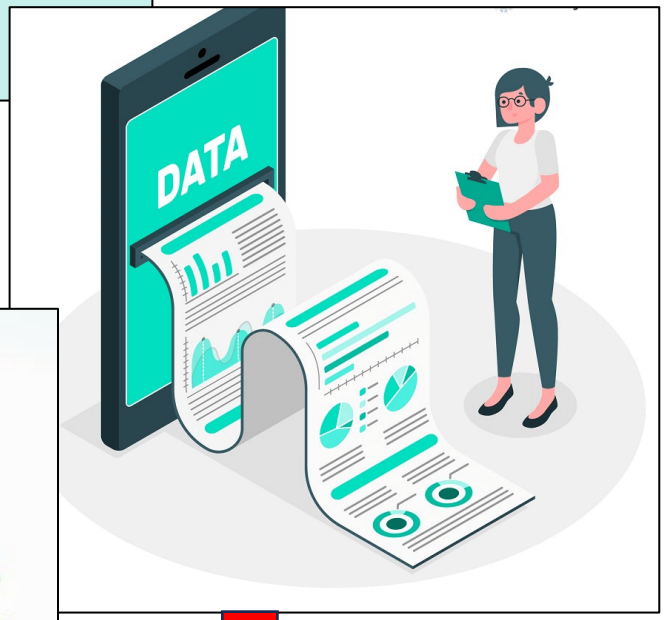
Aligning survey data with accreditation self-study reports

Using survey results as evidence of program effectiveness

Incorporating survey findings in institutional improvement plans

The Survey Cycle

OAA Responsibility



Program Responsibility

ANALYSIS

Use of Survey Results in ABET Criteria

Criteria

1. Students
2. Program Educational Objectives
3. Student Outcomes
4. Continuous Improvement
5. Curriculum
6. Faculty
7. Facilities
8. Institutional Support

- ❑ **Faculty (Program internal survey)**
- ❑ Students (Exit survey)
- ❑ Alumni (Alumni Survey)
- ❑ Employers (Employer Survey)

- ❑ Faculty (ICEF)
- ❑ Students (Exit survey)
- ❑ Alumni (Alumni Survey)
- ❑ Employers (Employer Survey)

- ❑ Faculty (ICEF)
- ❑ Students (Exit survey)

Part III – Program Criteria
(Discipline Specific)

PART 3:

Use of Survey Data for Criterion 2 (PEOs)

Definition

Program Educational Objectives

Program educational objectives are broad statements that describe what graduates are expected to attain within a few years after graduation. Program educational objectives are based on the needs of the program's constituencies.

EAC Criterion

Criterion 2. Program Educational Objectives

The program must have published program educational objectives that are consistent with the mission of the institution, the needs of the program's various constituencies, and these criteria. There must be a documented, systematically utilized, and effective process, involving program constituencies, for the periodic review of these program educational objectives that ensures they remain consistent with the institutional mission, the program's constituents' needs, and these criteria.

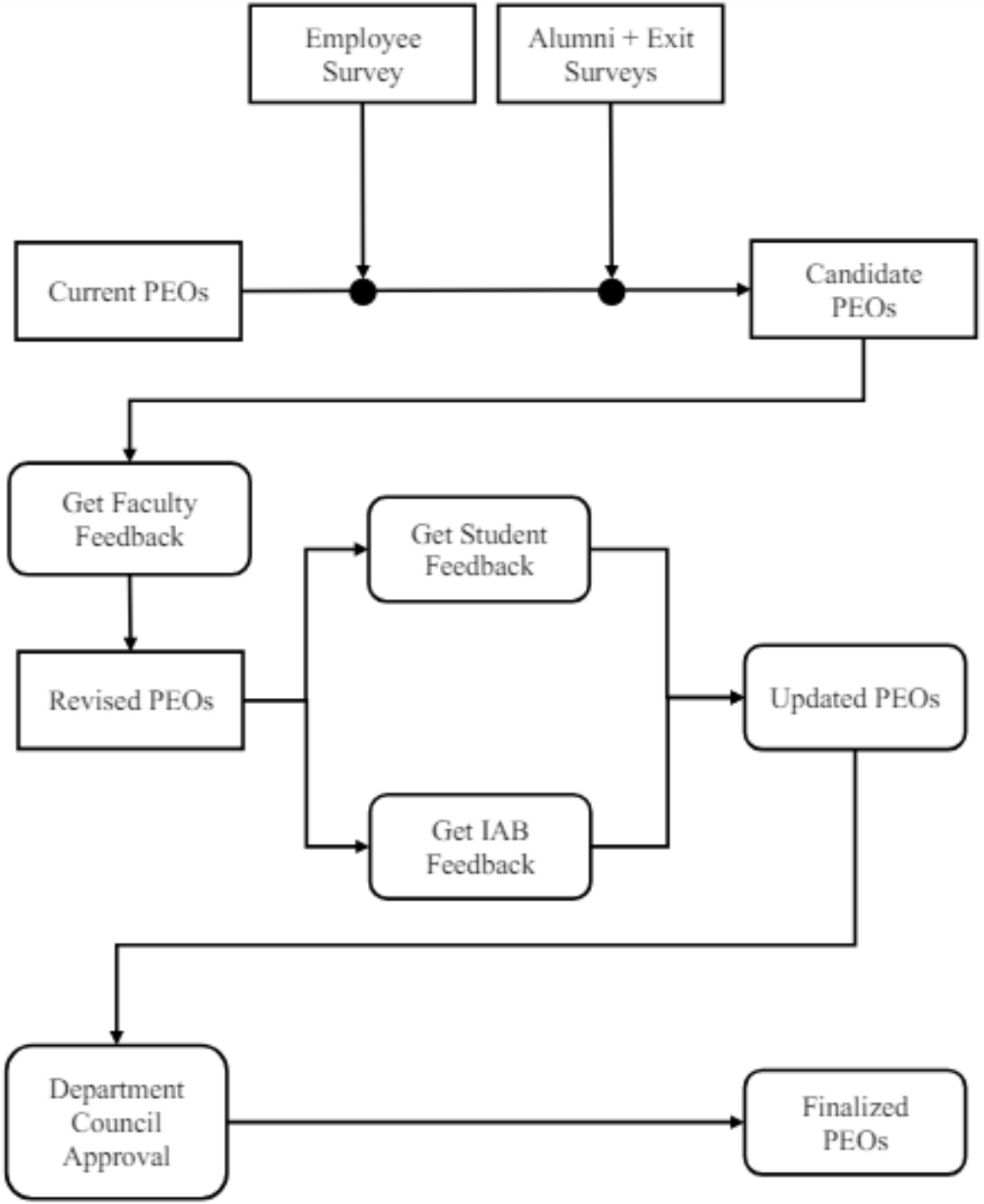
Program's Constituencies

All programs of the COEP defines the following as program's Constituencies:

1- Faculty → Internal feedback through multiple methods

2- Students
3- Alumni
4- Employers → Feedback through Surveys Administered by OAA

PEO Review Process



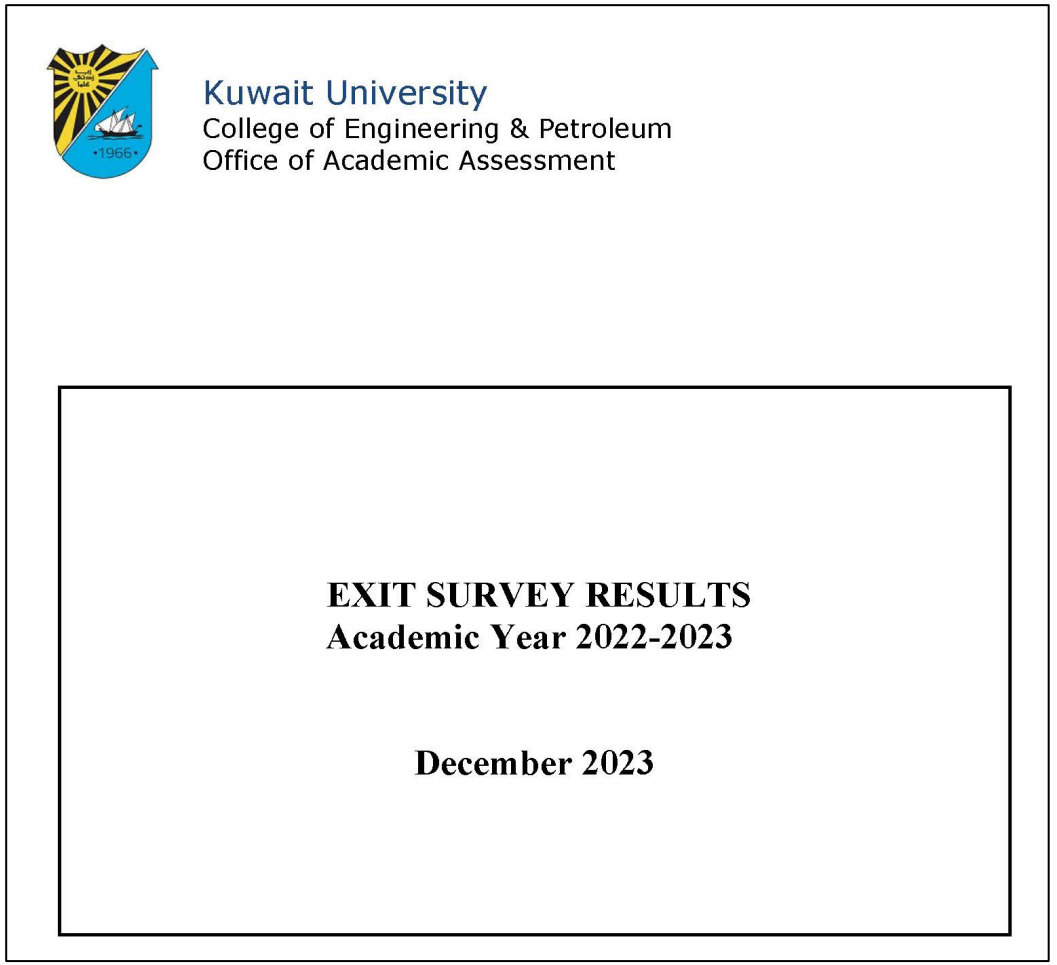
Courtesy: Dr. Ameer Mohammad
Computer Engineering Dept.

Criterion 2: PEOs

(1) Feedback from Students

Student Exit Survey

- Student Exit Survey is administered at the end of each semester to the graduating students.
- OAA compiles results of one academic year and provide to the programs for analysis and use.


Kuwait University
College of Engineering & Petroleum
Office of Academic Assessment

EXIT SURVEY RESULTS
Academic Year 2022-2023

December 2023

2. Educational Objectives

Please rate the following educational objectives elements according to how important they are to you career plans.

Objectives Elements	*Importance to career*				
	Extremely important	*Very important*	*Important*	*Somewhat important*	*Not important*
1. Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)	☐	☐	☐	☐	☐
2. Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional standards and best practices, safeguard and improve the environment).	☐	☐	☐	☐	☐
3. Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	☐	☐	☐	☐	☐
4. Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	☐	☐	☐	☐	☐
5. Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	☐	☐	☐	☐	☐
6. Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	☐	☐	☐	☐	☐

Criterion 2: PEOs

Student Exit Survey **Questionnaire** related to PEOs

Important:

Corelate Questions to PEOs for Analysis

Criterion 2: PEOs

Objectives Elements
1. Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)
2. Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional standards and best practices, safeguard and improve the environment).
3. Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)
4. Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)
5. Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)
6. Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)

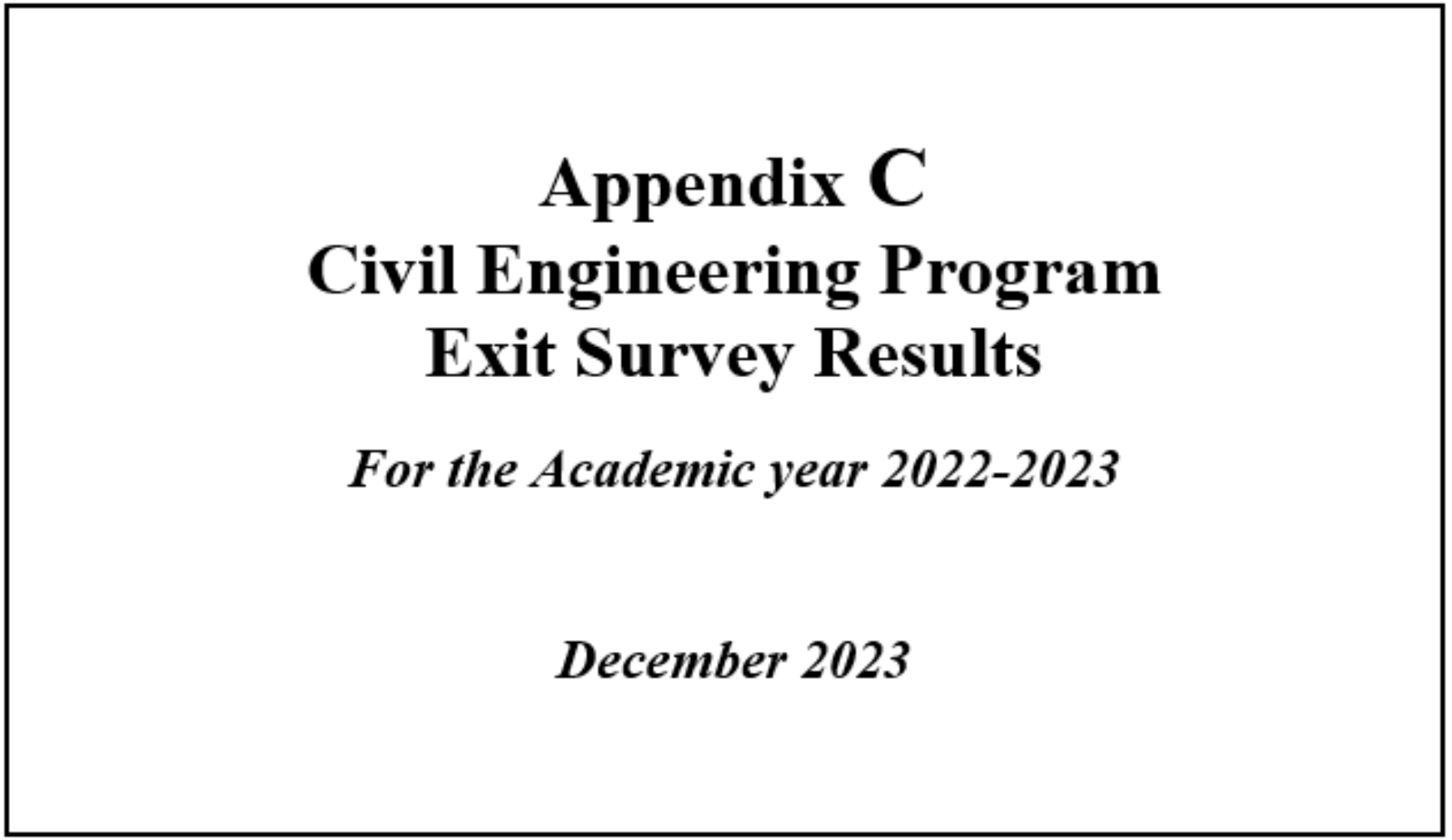
Important:

Corelate Questions to PEOs for Analysis

PEO statements

1. Engage in productive careers in a broad range of mechanical engineering areas in public and private sectors in Kuwait, or successfully pursue advanced studies and careers in academia or in other research environments
2. Advance in responsibility and leadership in their careers, and engage in continuous professional development to respond to rapidly evolving technological and social challenges
3. Contribute to the welfare of society and the development of the profession through responsible practice of engineering and involvement in professional organizations.

Criterion 2: PEOs



Appendix C
Civil Engineering Program
Exit Survey Results

For the Academic year 2022-2023

December 2023

Student Exit Survey Responses related to PEOs

Criterion 2: PEOs

Table 3 Assessment of the relevance of Program Educational Objectives - Civil Engineering

#	Objective Elements	5	4	3	2	1	Average	SI
1	Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)	110	64	35	8	4	4.4	4.1
		59%	27%	11%	2%	0%	89%	81%
2	Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional standards and best practices, safeguard and improve the environment).	107	60	44	7	3	4.4	3.9
		58%	26%	14%	2%	0%	88%	79%
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	111	64	35	9	2	4.4	4.1
		59%	27%	11%	2%	0%	89%	81%
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	111	52	34	18	4	4.4	4
		58%	25%	13%	3%	0%	88%	80%
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	104	57	39	14	4	4.4	3.9
		58%	35%	13%	3%	0%	87%	78%
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	110	59	28	15	6	4.4	4.1
		61%	26%	9%	3%	1%	89%	82%

Where 5 = Extremely important, 4 = Very important, 3 = Important, 2 = Somewhat important, 1 = Not important, and 0 = Cannot rate.

Student Exit Survey Responses related to PEOs

Important:

Corelate Questions to PEOs for Analysis

Criterion 2: PEOs

Student Exit Survey

Tasks for UPC – Utilization of Survey Results

1- Summarize pertinent results of annual Exist surveys since the last PEO review cycle in graphical or tabular form and present it in SSR.

2- Analyze student responses to each question w.r.t pertinent PEOs.

3- Set a threshold for acceptance (say average > 75%, SI > 70%).

4- Review free responses related to PEOs.

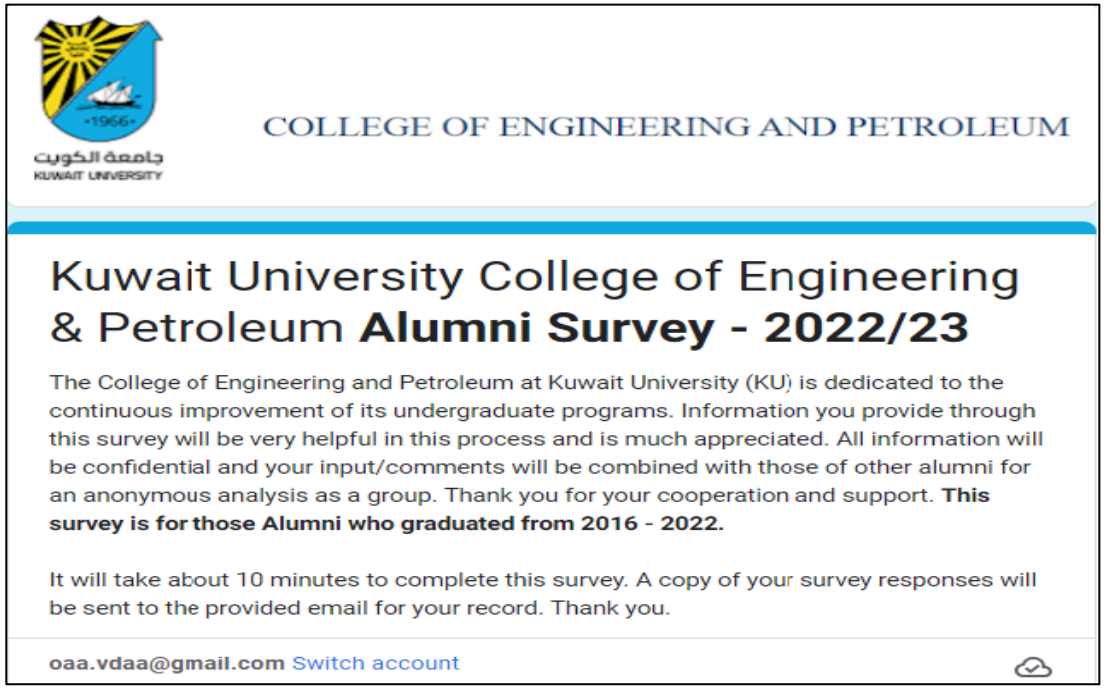
5- Compile results and utilize for reviewing/revising the PEOs in conjunction with input from other constituencies.

6- Keep a record of all used data and meeting minutes.

Criterion 2: PEOs

(2) Feedback from Alumni

Alumni Survey



COLLEGE OF ENGINEERING AND PETROLEUM

Kuwait University College of Engineering & Petroleum **Alumni Survey - 2022/23**

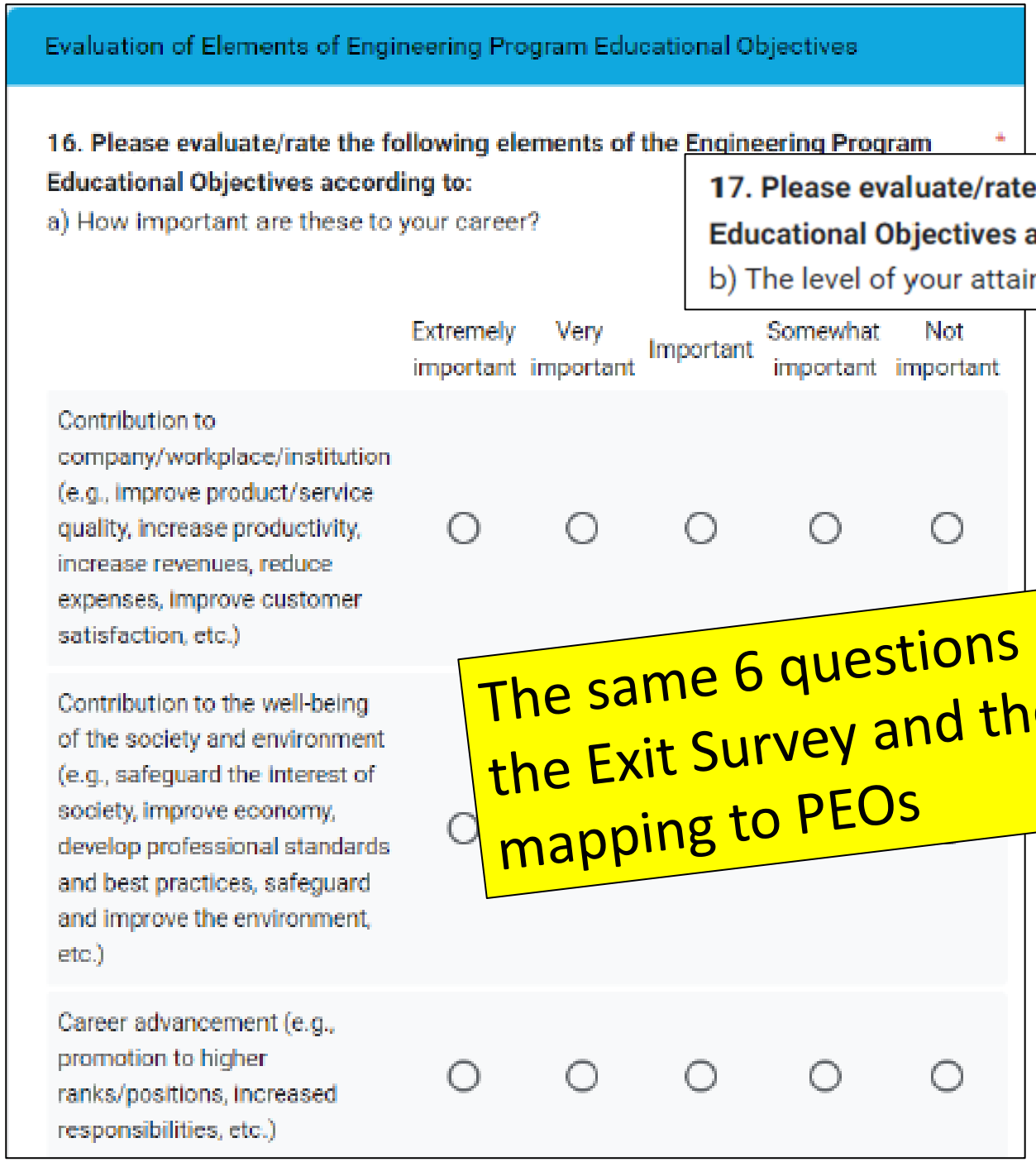
The College of Engineering and Petroleum at Kuwait University (KU) is dedicated to the continuous improvement of its undergraduate programs. Information you provide through this survey will be very helpful in this process and is much appreciated. All information will be confidential and your input/comments will be combined with those of other alumni for an anonymous analysis as a group. Thank you for your cooperation and support. **This survey is for those Alumni who graduated from 2016 - 2022.**

It will take about 10 minutes to complete this survey. A copy of your survey responses will be sent to the provided email for your record. Thank you.

oaa.vdaa@gmail.com Switch account

- Alumni survey is conducted once every 5-6 years.
- OAA collects and compiles results for analysis and use by the departments.

Criterion 2: PEOs



Evaluation of Elements of Engineering Program Educational Objectives

16. Please evaluate/rate the following elements of the Engineering Program Educational Objectives according to:

a) How important are these to your career?

17. Please evaluate/rate the following elements of the Engineering Program Educational Objectives according to:

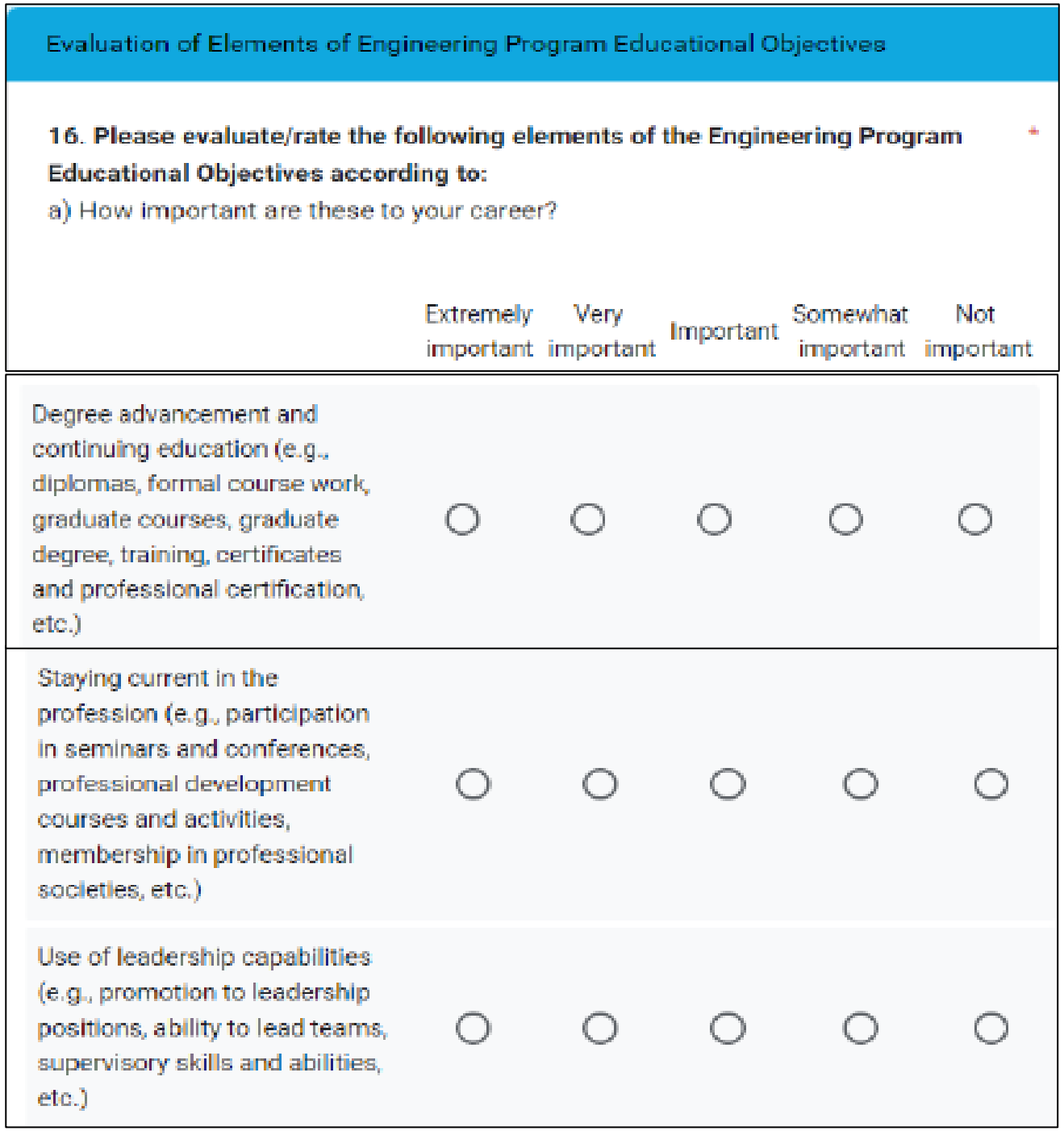
b) The level of your attainment as a Kuwait University graduate

	Extremely important	Very important	Important	Somewhat important	Not important
Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction, etc.)	○	○	○	○	○
Contribution to the well-being of the society and environment (e.g., safeguard the interest of society, improve economy, develop professional standards and best practices, safeguard and improve the environment, etc.)	○				
Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities, etc.)	○	○	○	○	○

The same 6 questions as in the Exit Survey and the same mapping to PEOs

Alumni Survey **Questionnaire** related to PEOs

Criterion 2: PEOs



Evaluation of Elements of Engineering Program Educational Objectives

16. Please evaluate/rate the following elements of the Engineering Program Educational Objectives according to: *

a) How important are these to your career?

	Extremely important	Very important	Important	Somewhat important	Not important
Degree advancement and continuing education (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification, etc.)	○	○	○	○	○
Staying current in the profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies, etc.)	○	○	○	○	○
Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities, etc.)	○	○	○	○	○

Alumni Survey **Questionnaire** related to PEOs

Criterion 2: PEOs

KUWAIT UNIVERSITY

College of Engineering & Petroleum

Office of Academic Assessment

Engineering Programs Alumni Survey Results

2016-2022

Alumni Survey

Responses

related to PEOs

Criterion 2: PEOs

PEO Assessment NOT Required anymore

Level of Attainment

The following table presents the alumni's opinion regarding their level of attainment of educational objectives at Kuwait University:

1. According to group

Please evaluate educational objectives according to your level of attainment	EImp	VImp	Imp	SImp	NImp	Average
Contribution to company/workplace	144 (47%)	81 (27%)	50 (16%)	18 (06%)	12 (04%)	4.1 (82%)
Contribution to wellbeing of society	136 (45%)	81 (27%)	46 (15%)	27 (09%)	15 (05%)	4.0 (80%)
Career advancement	131 (43%)	81 (27%)	61 (20%	20 (07%)	12 (04%)	4.0 (80%)
Degree advancement	115 (38%)	77 (25%)	65 21%	34 (11%)	14 (05%)	3.8 (76%)
Staying current in profession	100 (33%)	87 (29%)	69 (23%)	35 (11%)	14 (05%)	3.7 (74%)
Use of leadership capabilities	127 (42%)	89 (29%)	59 (19%)	20 (07%)	10 (03%)	4.0 (80%)

Where EImp(5) refers to "Extremely Important", VImp (4) "Very Important", Imp(3) "Important" , SImp (2) "Somewhat Important" , and NImp(1) "Not Important"

Alumni Survey Responses related to PEOs

Criterion 2: PEOs

Importance to Career

The following table presents the alumni's evaluation of educational objectives with respect to importance to their careers:

1. According to group

Please evaluate educational objectives as per importance to career	Sig	Sat	SSat	NSat	Average
Contribution to company/workplace	115 (38%)	108 (35%)	61 (20%)	21 (07%)	4.0 (80%)
Contribution to wellbeing of society	105 (34%)	116 (38%)	55 (18%)	29 (10%)	4.0 (80%)
Career advancement	99 (32%)	109 (36%)	71 (23%)	26 (08%)	3.9 (78
Degree advancement	111 (36%)	106 (35%)	57 (19%)	30 (10%)	4. (80
Staying current in profession	98 (32%)	111 (36%)	68 (22%)	28 (09%)	3. (78
Use of leadership capabilities	116 (38%)	97 (32%)	71 (23%)	21 (07%)	4. (80

Where Sig (4) refers to "Significant", Sat (3) "Satisfactory", SSat (2) "Somewhat Satisfactory", and NSat (1) "Not Satisfactory"

Alumni Survey **Responses** related to PEOs

Important: Corelate Questions to PEOs for Analysis

Criterion 2: PEOs

Alumni Survey

Tasks for UPC – Utilization of Survey Results

1- Summarize pertinent results of the Alumni survey in graphical or tabular form and present it in SSR.

2- Analyze Alumni responses to each question and corelate with PEOs.

3- Set a threshold for acceptance (say average > 75%, SI > 70%).

4- Review free responses related to PEOs.

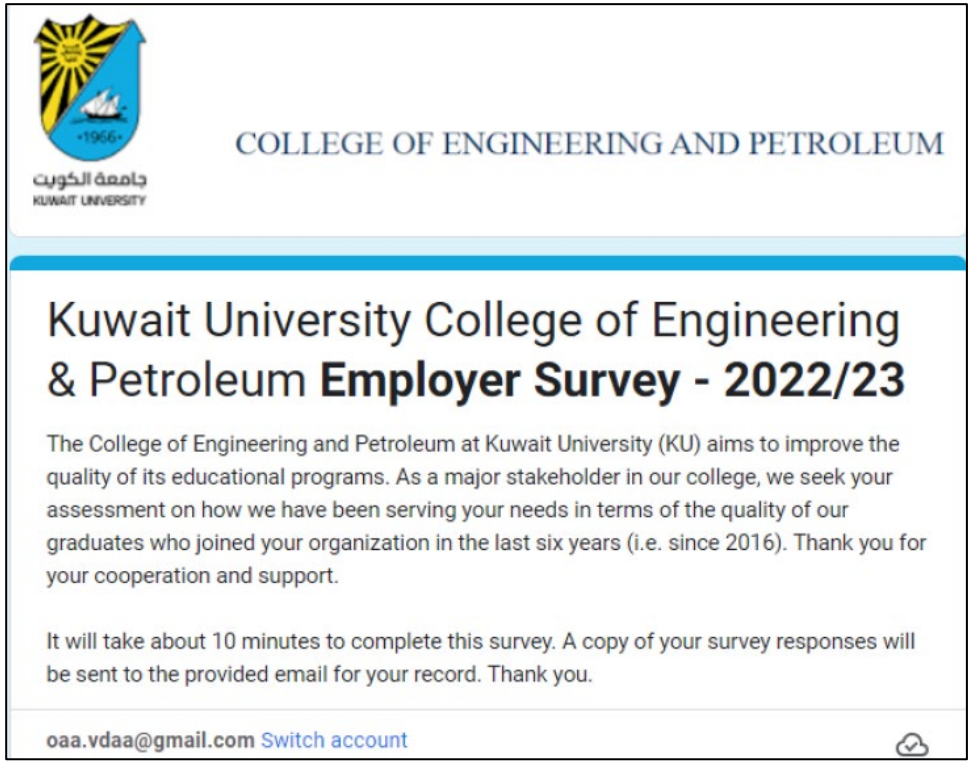
5- Compile results and utilize for reviewing/revising the PEOs in conjunction with input from other constituencies.

6- Keep a record of all used data and meeting minutes.

Criterion 2: PEOs

(3) Feedback from Employers

Employer Survey


COLLEGE OF ENGINEERING AND PETROLEUM

Kuwait University College of Engineering & Petroleum **Employer Survey - 2022/23**

The College of Engineering and Petroleum at Kuwait University (KU) aims to improve the quality of its educational programs. As a major stakeholder in our college, we seek your assessment on how we have been serving your needs in terms of the quality of our graduates who joined your organization in the last six years (i.e. since 2016). Thank you for your cooperation and support.

It will take about 10 minutes to complete this survey. A copy of your survey responses will be sent to the provided email for your record. Thank you.

oaa.vdaa@gmail.com Switch account

- Employer survey is conducted once every 5-6 years.
- OAA collects and compiles results for analysis and use by the departments.

Criterion 2: PEOs

Employer Survey Questionnaire related to PEOs

Level of Attainment of Engineering Program Educational Objectives

9. Please evaluate/rate the following Engineering Program Educational Objectives (PEOs) according to **the level of attainment of Kuwait University Engineering graduates.** *

	Significant	Satisfactory	Somewhat satisfactory	Not satisfactory
Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)	○	○	○	○
Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional standards and best practices, safeguard and improve the environment)	○	○		

The same 6 questions as in Exit and Alumni Surveys

Importance of Engineering Program Educational Objectives to the Company Needs

10. Please evaluate/rate the following Engineering Program Educational Objectives (PEOs) according to **their importance to your company needs.** *

Criterion 2: PEOs

PEO Assessment NOT Required anymore

Employer Survey
Responses related to PEOs

Table 7: Employers Assessment of Educational Objectives

Level of Attainment					Knowledge	Importance to Company Needs				
Average Rating	Significant	Satisfactory	Somewhat Satisfactory	Not Satisfactory		Very Important	Important	Somewhat Important	Not Important	Average Rating
3.1	65	72	32	7	1. Contribution to Co...	79	54	33	10	3.1
62%	37%	41%	18%	4%	W...	5%	31%	19%	6%	62%
3	52	83	35	6	2. ...	7	71	31	7	3.1
60%	30%	47%	20%	3%	...	%	40%	18%	4%	62%
3.1	61	79	3...		...		77	29	8	3.1
62%	35%	45%	17%		...	35%	44%	16%	5%	62%	
3.1	58	80	32		...avancement	59	84	30	3	3.1
62%	33%	45%	18%			34%	48%	17%	2%	62%
3.1	61	77	30		5. Staying current in profession	59	81	30	6	3.1
62%	35%	44%	17%	3%		34%	46%	17%	3%	62%
3	54	70	43	9	6.Leadership Capabilities	63	71	37	5	3.1
60%	31%	40%	24%	5%		36%	40%	21%	3%	62%

Important:
Corelate
Questions to PEOs for Analysis

Criterion 2: PEOs

Employer Survey

Tasks for UPC – Utilization of Survey Results

1- Summarize pertinent results of the Employer survey in graphical or tabular form and present it in SSR.

2- Analyze Employer responses to each question and corelate with PEOs.

3- Set a threshold for acceptance (say average > 75%, SI > 70%).

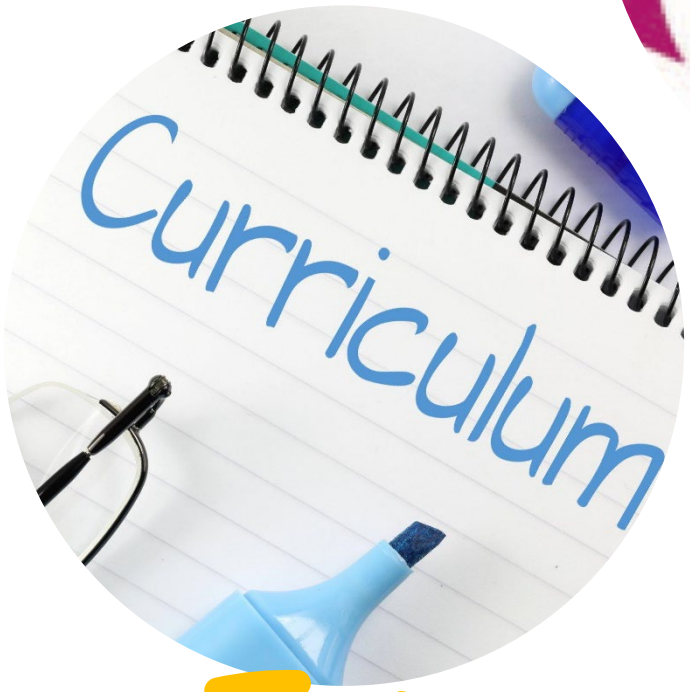
4- Review free responses related to PEOs.

5- Compile results and utilize for reviewing/revising the PEOs in conjunction with input from other constituencies.

6- Keep a record of all used data and meeting minutes.

PART 4:

Use of Survey Data for Criterion 4 (CI) & Criterion 5 (Curriculum)



Definition

Assessment – Assessment is one or more processes that identify, collect, and prepare data to evaluate the attainment of student outcomes. Effective assessment uses relevant direct, indirect, quantitative and qualitative measures as appropriate to the outcome being measured. Appropriate sampling methods may be used as part of an assessment process.

Evaluation – Evaluation is one or more processes for int and evidence accumulated through assessment proces s the extent to which student outcomes are bein decisions and actions regarding prog

Survey data to be used for:
(i) indirect and qualitative Assessment
(ii)Informal feedback

EAC Criterion

Criterion 4. Continuous Im

The program must regularl appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the program's continuous improvement actions. Other available information may also be used to assist in the continuous improvement of the program.

EAC Criterion

Criterion 5. Curriculum

The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The program curriculum must provide adequate content for each area, consistent with the student outcomes and program educational objectives, to ensure that students are prepared to enter the practice of engineering. The curriculum must include:

a) a minimum of 30 semester credit hours (or equivalent) of a combination of college-level mathematics and basic sciences with experimental experience appropriate to the program.

b) a minimum of 45 semester credit hours (or equivalent) of engineering topics appropriate to the program, consisting of engineering and computer sciences and engineering design, and utilizing modern engineering tools.

c) a broad education component that complements the technical content of the curriculum and is consistent with the program educational objectives.

d) a culminating major engineering design experience that 1) incorporates appropriate engineering standards and multiple constraints, and 2) is based on the knowledge and skills acquired in earlier course work.

Use of Survey Results in EAC Criteria 4 & 5

Criteria

1. Students
2. Program Educational Objectives
3. Student Outcomes
4. Continuous Improvement
5. Curriculum
6. Faculty
7. Facilities
8. Institutional Support

Part III – Program Criteria
(Discipline Specific)

Two aspects of the CI process:
1- To which extent SOs are attained?
2- Need for curricular changes?

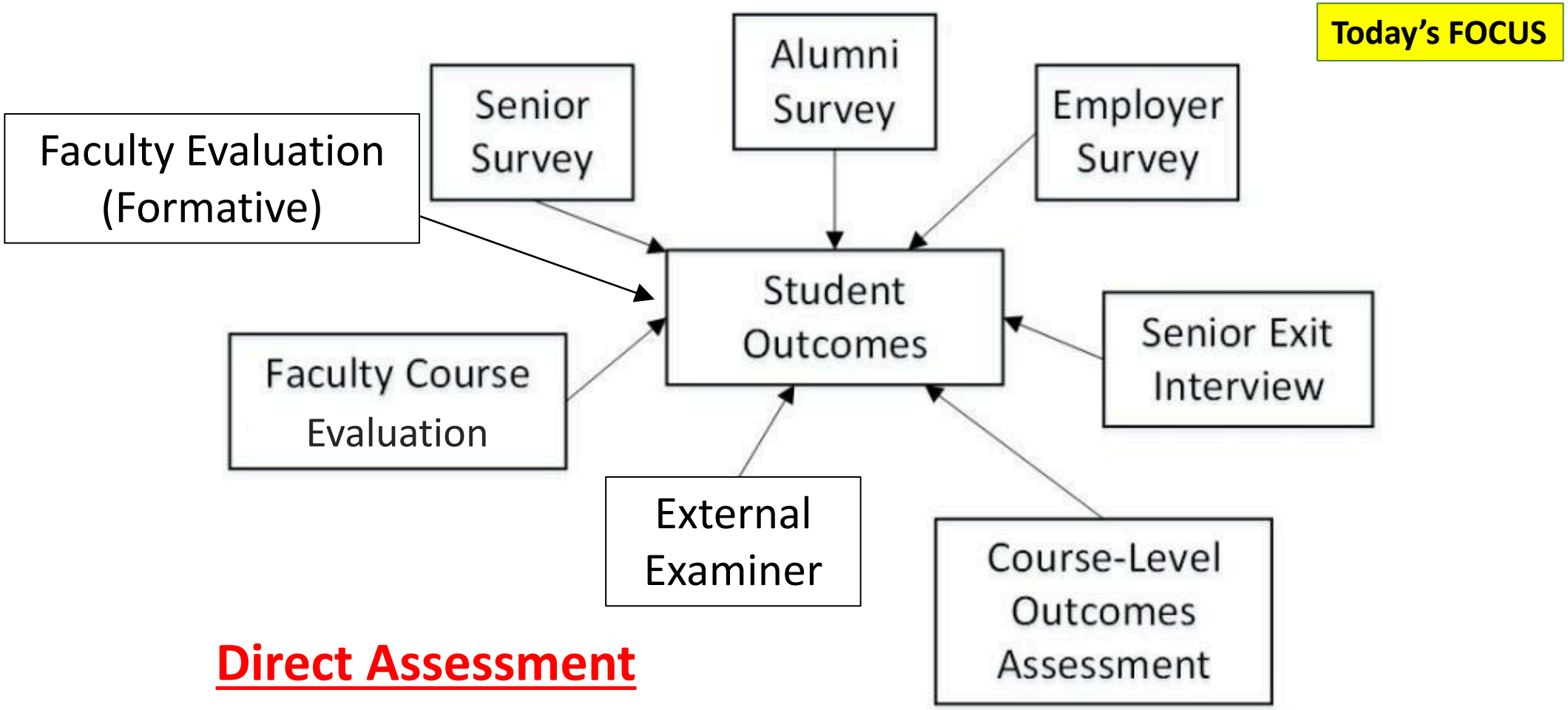
- ❑ Faculty (ICEF)
- ❑ Students (Exit survey)
- ❑ Alumni (Alumni Survey)
- ❑ Employers (Employer Survey)

- ❑ Faculty (ICEF)
- ❑ Students (Exit survey)

Student Outcomes Assessment Methods

Indirect Assessment

Today's FOCUS



Direct Assessment

Criterion 4: CI

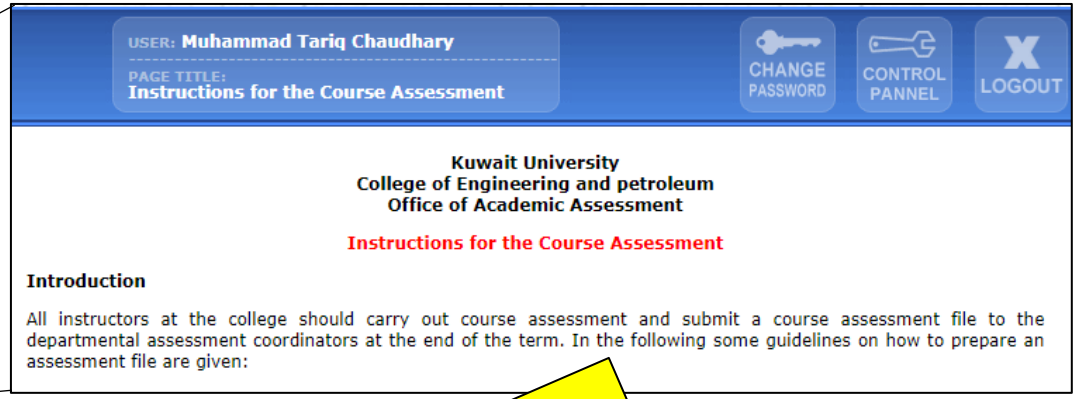
Faculty Evaluation (ICEF)

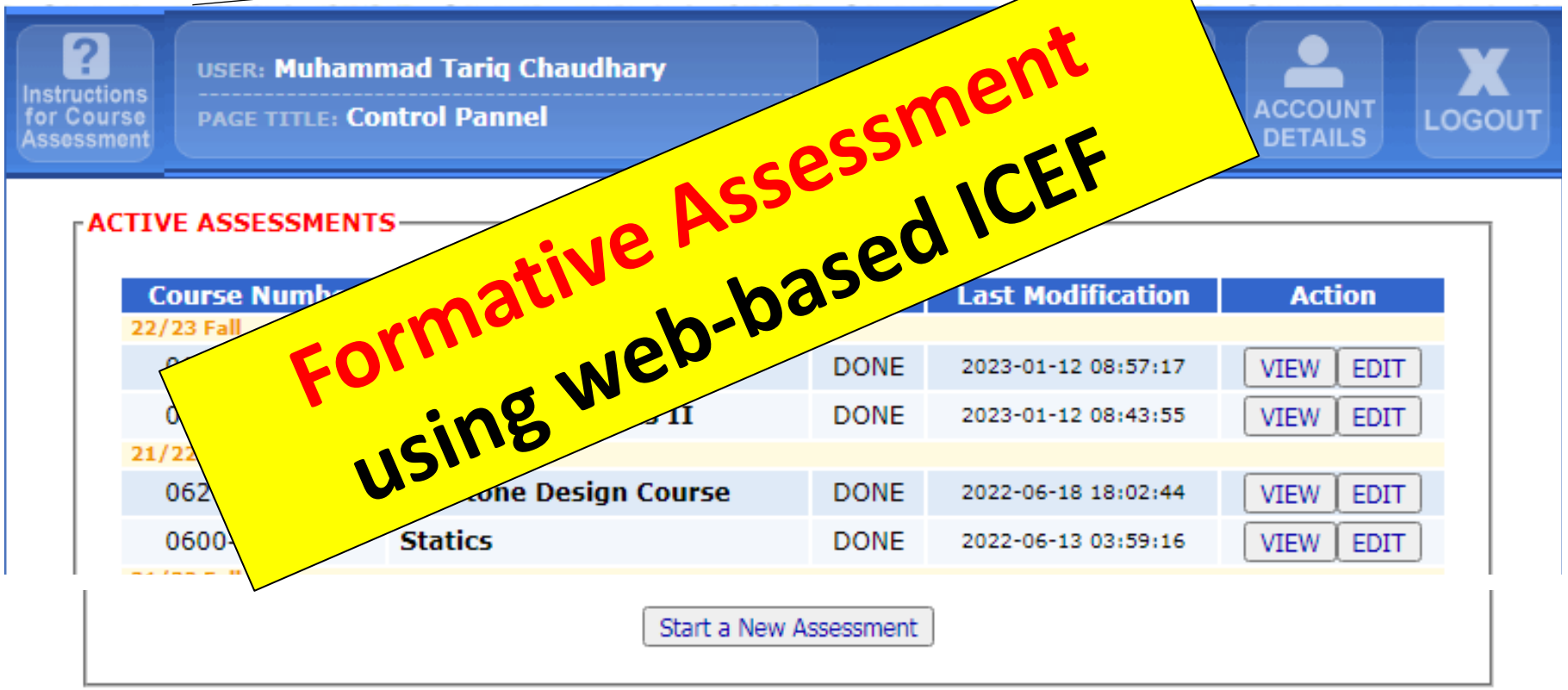
Formative Assessment using web-based ICEF

Criterion 4: CI

Faculty Evaluation (ICEF)

Help for new users





Formative Assessment using web-based ICEF

Criterion 4: CI

- Outcomes:

Qualitative assessment included in the Report

#	STUDENT OUTCOMES	RELEVENCE	PERFORMANCE	Explanation Activities and Practices	Interpretation & Evidence
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	H	4	Static equilibrium used for solving internal forces and stress, axial stress, shear stress, bending stress, concept of strains related to these stresses, concept of principal stresses, state of multiple stresses, deflections of beams using double integration method	Homework, Quiz and exams
2	Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.	M	4	Design of structural elements subjected to axial, shear, bending, torsion or combined stresses.	Homework, Quiz and exams
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	L	3	Not applicable	

Formative Evaluation of Student Outcomes (ICEF)

This info NOT included in the Report but accessible to the Assessment Coordinator for decision making

Faculty Informal Feedback in ICEF

Feedback is included in the Report

Example

- Remarks and Suggestions:

Students are capable of performing the mathematical calculations needed in the course. Students came to the course with little knowledge of computer based tools i.e., Excel and STAAD. However, most of the students learned these tools through classwork and homework assignments. Report writing required as part of the computer based assignments was the toughest challenge for the students. Majority of the students improved in this respect with feedback from the instructor. However, there is need to improve the report writing skills of the students.

Program Level Formative Assessment using ICEF for Each Semester

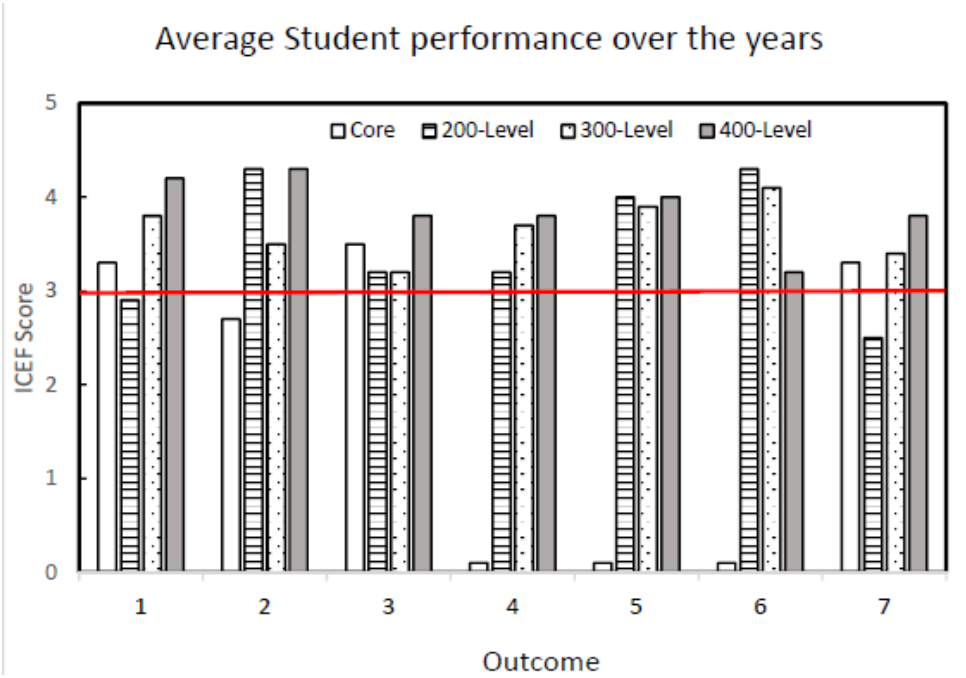
PERFORMANCE

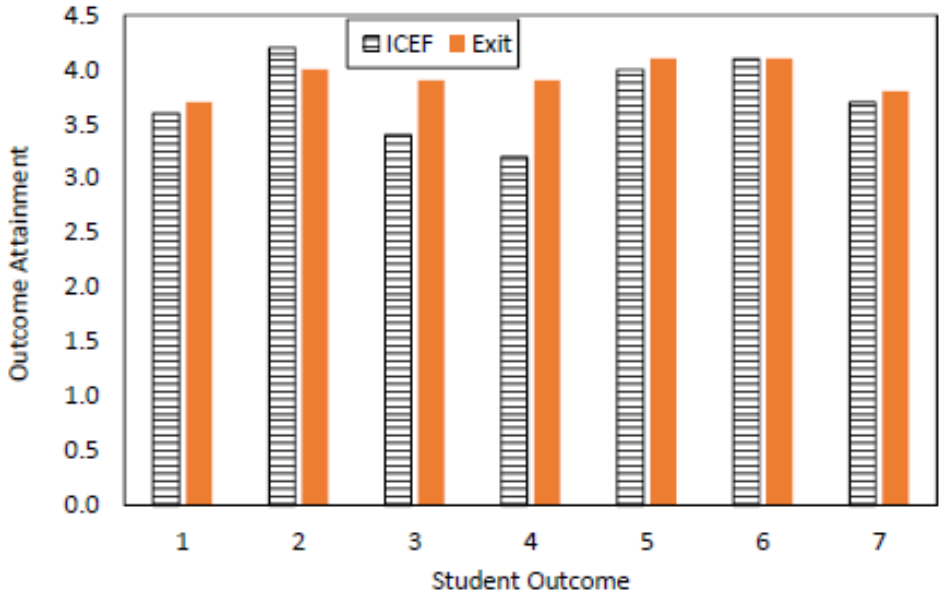
Student Outcomes (SOs)

Course Number	Course Name	1	2	3	4	5	6	7
0640-211	Chemical Engineering Principles I	3	3		3			
0640-211	Chemical Engineering Principles I	3	3		3			
0640-211	Chemical Engineering Principles I	2	2		3			
0640-304	Introduction to Environmental Engineering	4	4		4	4		4
0640-324	Kinetics and Reactor Design (A)	5	5					
0640-324	Kinetics and Reactor Design (A)	5	5					
0640-343	Heat Transfer	4	4	3			4	
0640-344	Heat Transfer Laboratory	3		4		4	5	
0640-345	Mass Transfer	3	3	3		3	3	
0640-345	Mass Transfer	5	5	5		3	5	
0640-391	Chemical Process Synthesis	4	4	4	3	5		4
0640-427	Kinetics and Reactor Design (B)	3	3	3	3	3	3	3
0640-427	Kinetics and Reactor Design (B)	5	5	4	5	5	5	4
0640-440	Mass Transfer Operations	2	3				4	
0640-461	Water Desalination	5	4		3	5		5
0640-484	Topics in Chemical Engineering	4	3	3		3		3
0640-491	Plant Design	4	4	4	4	4		4
0640-491	Plant Design	4	4	5	4	5		4
	Weighted Average	**3.7**	**4**	**4.2**	**3.5**	**4.3**	**4.4**	**4.2**

Program Level Annual Formative Assessment using ICEF

Course No.	Course Name	Student performance for student outcomes						
		1	2	3	4	5	6	7
0620-311	Water Resources	4	5	5	4	4	5	
0620-350	Soil Mechanics	4	3	3		4	3	3
0620-350	Soil Mechanics	3	3	3		4	4	3
0620-371	Structural Analysis II	4		3				4
0620-373	Reinforced Concrete I	4	5	3	4			
0620-373	Reinforced Concrete I	4	3	3	4			
0620-490	Capstone Design Course	4	4	5	4	5		5
0620-490	Capstone Design Course	4	5	4	5	5		4
0620-490	Capstone Design Course	5	5	5	4	5		5
0620-490	Capstone Design Course	5	5	4	3	4		5
Summer 2018-19								
0620-271	Structural Analysis I	3		3	2			
Overall Statistics for year 2018-19 based on ICEF data								
Total number of evaluations		54	46	49	33	35	16	43
Simple average (AY 2018-19)		3.7	3.8	3.5	3.7	3.9	3.9	3.6
Weighted average (Fall 2018-19)		3.9	4.1	3.6	3.8	3.8	4	3.6
Weighted average (Spring 2018-19)		3.8	4.3	3.7	3.9	4.2	4.1	3.7
Weighted average (Summer 2018-19)		3		3	2			
Weighted average (AY 2018-19)		3.6	4.2	3.4	3.2	4.0	4.1	3.7
Number of evaluations with performance >3		28	29	20	20	28	11	21
Satisfaction Index		52%	63%	41%	61%	80%	69%	49%





Informal Faculty Feedback using ICEF – Criteria 4 & 5

Course Number	Course Name	Remarks and Suggestions
0640-211	Chemical Engineering Principles I	Ethical outcome need to be reviewed
0640-343	Heat Transfer	I have taught this course several times before. Most of the students in this batch worked hard and had a good understanding of general physics and thermodynamics. Attendance was good despite not being required. However, what was lacking is their knowledge basic calculus and differential equations. This issue needs to be addressed for the coming courses.
0640-345	Mass Transfer	This Fall 2022 course to me was a success since most students attended and solved using the ways that were provided to them via my course. I wouldn't change a thing from this course procedure.
0640-427	Kinetics and Reactor Design (B)	Students this semester were not the strongest batch I have seen. Class attendance was relatively poor. students are affected by external tutors who are not teaching them the right way. Attendance must be instituted as mandatory. Use of Excel is better than Polymath. Use of extra material with images and videos of reactors and catalysts is needed.
0640-427	Kinetics and Reactor Design (B)	This was an excellent section, with lots of interesting class-time questions and discussion. Most students were interested in understanding the material, and seemed to enjoy class. I enjoyed teaching this class as well. Since this is my 1st time teaching it, I spent more time on Ch10. Next time, I'll probably spend less time in Ch10, which will

Feedback by the faculty could be on **SO assessment** or **Curriculum improvement** or other aspects of student learning.

Criterion 4 & 5: CI and Curriculum

Faculty Feedback

Tasks for AC/UPC – Utilization of ICEF Results

1- Formative assessment of **Student Outcomes (SOs)** is to be used for SO evaluation in conjunction with other direct and indirect assessment data according to the department SO Assessment plan.

2- **Feedback** by the faculty is to be organized according to relevance to CI or Curriculum improvement or other aspects of student learning.

3- Feedback is to be periodically reviewed by UPC as part of the CI process for recommending actions for improvement in curriculum or SO assessment/evaluation processes.

4- Faculty feedback must be reviewed for ANY curricular changes.

5- Keep a record of all used data and meeting minutes.

1. Assessment of Abilities, Skills and Attributes Acquired at Kuwait University.

Please rate each of the following skills, abilities or attributes in terms of how well your education at Kuwait University prepared you for them.

Skills, abilities, and attributes	*Level of preparation*					
	Very well prepared	*Well prepared*	*Prepared*	*Somewhat prepared*	*Not prepared*	*Cannot evaluate*
1. Apply knowledge of mathematics, sciences and engineering to solve complex engineering problems.	☐	☐	☐	☐	☐	☐
2. Ability to use modern tools and technologies in engineering analysis/design	☐	☐	☐	☐	☐	☐
3. Apply the knowledge of probability and statistics in engineering analysis/design.	☐	☐	☐	☐	☐	☐
4. Design a system, component, or process to meet specified needs with consideration of public health, safety and welfare.	☐	☐	☐	☐	☐	☐
5. Identify, formulate, and solve engineering problems taking into account socio-economic, global, cultural and environmental factors	☐	☐	☐	☐	☐	☐
6. Effectively write a variety of items like short essays, memos, letters, reports etc.	☐	☐	☐	☐	☐	☐
7. Participate in class discussions with instructors & students and deliver oral presentations.	☐	☐	☐	☐	☐	☐
8. Ability to use technology for communication purposes (e.g. Word, Excel, Powerpoint, social media, etc.).	☐	☐	☐	☐	☐	☐
9. Understand professional and ethical responsibilities, (e.g. safety, professional ethics and code of conduct) in making informed judgement as applicable to engineering situations.	☐	☐	☐	☐	☐	☐
10. Understand and appreciate the impact of engineering solutions in the societal and global contexts.	☐	☐	☐	☐	☐	☐
11. Function effectively in a team in different roles (i.e. leadership, note taking, planning, and execution) for establishing goals, planning tasks and meeting objectives.	☐	☐	☐	☐	☐	☐
12. Develop and conduct experiments, as well as analyze and interpret data and draw conclusions	☐	☐	☐	☐	☐	☐
13. Ability to acquire and apply new knowledge through appropriate learning strategies	☐	☐	☐	☐	☐	☐

Criterion 4: CI

Student Exit Survey

Questionnaire related to SO Assessment

Important:

Corelate Questions to SOs for Analysis

S. No.	*Skills, abilities, and attributes*	Targeted Student outcome(s)	% contribution to outcome assessment score
1	Apply knowledge of mathematics, sciences and engineering to solve complex engineering problems.	1	70
2	Ability to use modern tools and technologies in engineering analysis/design	1	20
3	Apply the knowledge of probability and statistics in engineering analysis/design.	1	10
4	Design a system, component, or process to meet specified needs with consideration of public health, safety and welfare.	2	50
5	Identify, formulate, and solve engineering problems taking into account socio-economic, global, cultural, and environmental factors	2	50
6	Effectively write a variety of items like short essays, memos, letters, reports etc.	3	40
7	Participate in class discussions with instructors & students and deliver oral presentations.	3	40
8	Ability to use technology for communication purposes (e.g. Word, Excel, PowerPoint, social media, etc.).	3	20
9	Understand professional and ethical responsibilities, (e.g. safety, professional ethics and code of conduct) in making informed judgement as applicable to engineering situations.	4	70
10	Understand and appreciate the impact of engineering solutions in the societal and global contexts.	4	30
11	Function effectively in a team in different roles (i.e. leadership, note taking, planning, and execution) for establishing goals, planning tasks and meeting objectives.	5	100
12	Develop and conduct experiments, as well as analyze and interpret data and draw conclusions	6	100
13	Ability to acquire and apply new knowledge through appropriate learning strategies	7	100

Criterion 4: CI

Student Exit Survey Questionnaire related to SO Assessment

Important:

Corelate Questions to SOs for Analysis

Criterion 4: CI

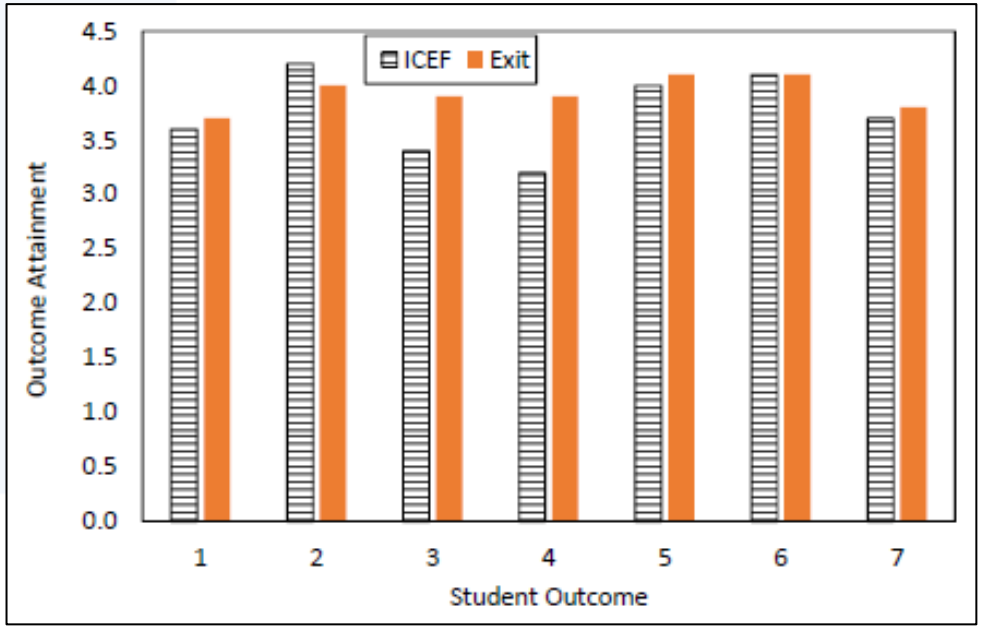
Student Exit Survey

Response related to SO Assessment

Table 2 Assessment of Student Outcomes (1-7) acquired at Kuwait University- Civil Engineering

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.2 86%	3.7 80%
2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	4.1 82%	3.6 71%
3	an ability to communicate effectively with a range of audiences	4.1 82%	3.7 72%
4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	4.2 83%	3.8
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	4.2 84%	
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.1 82%	
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.1 82%	

This indirect SO assessment can be compared to ICEF and other surveys for gaining a holistic view of SO attainment.



Student Exit Survey

Questions Related to Curriculum

5. General Assessment

Please answer the following questions:

A. Please list some very important skills that you think you had learned in the engineering program.

_____

_____

_____

B. Please list some very important or useful skills that you did not get the chance (or are not available) to learn while taking engineering courses at Kuwait University.

_____

_____

_____

C. Please write down any comments or suggestions that you think will improve the engineering programs at Kuwait University (use additional sheets if necessary).

_____

_____

_____

- No direct questions on curriculum.
- Read through the comments for suggested curricular improvements

Student Exit Survey

Student Feedback Related to Curriculum

B. Please list some very important or useful skills that you did not get the chance (or are not available) to learn while taking engineering courses at Kuwait University.

---

go to site or field trip to know more about civil engineering

---

Civil-based conferences.

Public Speaking

Practical experience. Creative thinking. Linking ability (Connecting concrete 2 with foundations so that the student can design completely and correctly). Designing skills.

Applying what we have learned in a big projects.

Presentation skills and discussion we need to improve that part in our study

---

one of the skills that i did not had the chance to learn is field training .

Practical work (in field)

Presenting projects

Plaaning to your career

Lesrn designing in advanced programs/ communicate and participate in classes/ visiting more sites

❖ Student Feedback

Criterion 4 & 5: CI and Curriculum

Student Feedback

Tasks for UPC – Utilization of Exit Survey

1- Student **self-assessment** of **Student Outcomes (SOs)** is to be used for SO evaluation in conjunction with other direct and indirect assessment data according to the department SO Assessment plan.

2- Feedback by the Students is to be organized according to relevance to CI or Curriculum improvement or other aspects of student learning.

3- Feedback is to be periodically reviewed by UPC as part of the CI process for recommending actions for improvement in curriculum or SO assessment/evaluation processes.

4- Keep a record of all used data and meeting minutes.

Criterion 4: CI

18. Please answer the following questions: *

1. Rate your overall academic preparation at Kuwait University with respect to the following:

	Very well prepared	Well prepared	Prepared	Somewhat prepared	Not prepared	Relevant SO
Be a technically competent engineer	○	○	○	○	○	SO 1, 2, 6
Obtain your first job after graduation	○	○	○	○	○	SO 4
Have the necessary professional skills to meet expectations of your job	○	○	○	○	○	SO 3, 5
Contribute to the society as an engineer	○	○	○	○	○	SO 4
Be aware of your responsibility to consider sustainability in engineering solutions	○	○	○	○	○	SO 4

Alumni Survey

Questionnaire related to SO Assessment

- No attempt was made in the Alumni survey to get indirect feedback on SO assessment.
- Mapping can be used for SO assessment, if needed.

Criterion 4: CI

Overall preparation at Kuwait University

Rate your overall preparation at Kuwait University	VWP	WP	P	SP	NP	Average
Be a technically competent engineer	4 10%	17 40%	9 21%	10 24%	2 5%	3.3 66%
Obtain your first job after graduation	10 24%	7 17%	15 36%	5 12%	5 12%	3.3 66%
Have the necessary professional skills to meet expectation of your job	11 26%	7 17%	11 26%	8 19%	5 12%	3.3 66%
Contribute to society as an engineer	9 21%	11 26%	14 33%	5 12%	3 07%	3.4 68%
Be aware of your responsibility to consider sustainability in engineering solutions	13 31%	8 19%	12 29%	5 12%	4 10%	3.5 70%
Pursue advanced degree	15 36%	10 24%	10 24%	4 10%	3 07%	3.7 74%
Be an entrepreneur and start your own business	4 10%	9 21%	7 17%	9 21%	13 31%	2.6 52%

Alumni Survey

Responses related to SO Assessment

- No attempt was made in the Alumni survey to get indirect feedback on SO assessment.
- Mapping can be used for SO assessment, if needed.

Criterion 4: CI

Feedback

22. From the list below, please select three skills that you found to be the most beneficial in your job. *

- [ ] Use of software packages/modern engineering tools (SO 1, 2), C5
- [ ] Teamwork (SO 5)
- [ ] Creative thinking (SO 1)
- [ ] Ability to seek new knowledge at your own (SO 7)
- [ ] Project management
- [ ] Sustainability & societal impact of Engineering solutions (SO 4)
- [ ] Oral/written communication skills (SO 3)
- [ ] Application of Engineering principles & design (SO 1,2)

Alumni Survey

Questionnaire related to SO Assessment

- No attempt was made in the Alumni survey to get indirect feedback on SO assessment.
- Mapping can be used for SO assessment, if needed.

Criterion 4: CI

Beneficial Skills and Alumni Recommendations

Beneficial Skills in your job	Total Responses
Application of Engineering principles & design	14 (11%)
Use of software packages/modern engineering tools	15 (12%)
Project management	19 (15%)
Oral/written communications skills	17 (13%)
Sustainability & societal impact of Engineering solutions	3 (2%)
Teamwork	21 (17%)
Creative thinking	15 (12%)
Ability to seek new knowledge at your own	22 (17%)
TOTAL	126

Alumni Survey

Responses to SO Assessment

- No attempt was made in the Alumni survey to get indirect feedback on SO assessment.
- Mapping can be used for SO assessment, if needed.

Criterion 4 & 5: CI and Curriculum

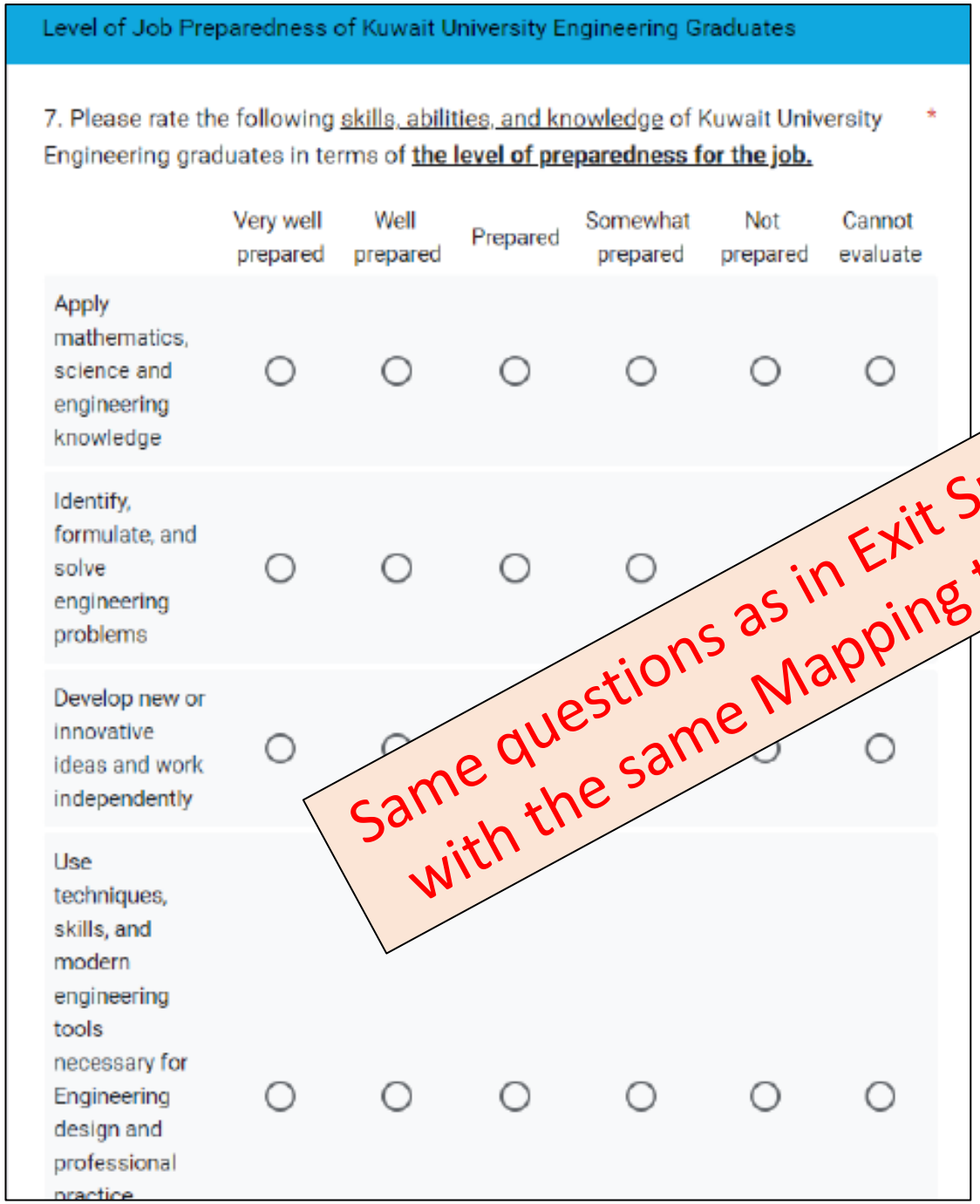
Alumni Feedback

Tasks for UPC – Utilization of Alumni Survey Results

1- Alumni Survey provides an additional qualitative measure on **student outcome assessment**. However, this process requires mapping and additional data processing by department UPC.

2- Feedback on **curricular improvement** is in the free responses.

3- Keep a record of all used data and meeting minutes.


Level of Job Preparedness of Kuwait University Engineering Graduates

7. Please rate the following skills, abilities, and knowledge of Kuwait University Engineering graduates in terms of **the level of preparedness for the job.** *

	Very well prepared	Well prepared	Prepared	Somewhat prepared	Not prepared	Cannot evaluate
Apply mathematics, science and engineering knowledge	○	○	○	○	○	○
Identify, formulate, and solve engineering problems	○	○	○	○		
Develop new or innovative ideas and work independently	○					○
Use techniques, skills, and modern engineering tools necessary for Engineering design and professional practice	○	○	○	○	○	○

Same questions as in Exit Survey with the same Mapping to SOs

Criterion 4: CI

Employer Survey

Questionnaire related to SO Assessment

- Same mapping of questions to SOs as in the Exit survey

Criterion 4: CI. Employer Survey Responses

Table 6: Employer Assessment of College Graduates' Skills, Abilities, and Knowledge

Assessment of graduates							Knowledge	Importance to business						
Average Rating	Very well prepared	Well prepared	Prepared	Somewhat prepared	Not prepared	Cant Evaluate		Extremely important	Very important	Important	Somewhat important	Not important	Can't evaluate	Average Rating
3.7	52	60	40	12	4	8	1. Apply mathematics, science and engineering knowledge	60	48	40	20	0	8	3.7
74%	31%	36%	24%	7%	2%	5%		36%	29%	24%	12%	0%	5%	74%
3.6	47	58	41	14	8	8	2. Identify, formulate, and solve engineering problems		50	37	20	3	8	3.7
72%	28%	35%	24%	8%	5%	5%			30%	22%	12%	2%	5%	74%
3.6	46	54	49	15	9	3	3. Develop new or innovative ide… work independen…		52	40	16	7	3	3.7
72%	27%	31%	28%	9%	5%	2%			0%	23%	9%	4%	2%	74%
3.8	56	59	36	16	6	3	4. Use techniques … engineering tools… design and …		48	34	17	3	5	3.8
76%	32%	34%	21%	9%	3%	2%		40%	28%	20%	10%	2%	3%	76%
3.2	36	52	41	20	14	13	…, or	46	56	36	21	8	9	3.5
64%	22%	32%	25%	12%	9%	7%	…needs	28%	34%	22%	13%	5%	5%	70%
3.8	67	47	38	17	6		…ally: informal and	79	48	30	11	8	0	4
76%	38%	27%	22%	10%	3%		…epared talks	45%	27%	17%	6%	5%	0%	80%
3.6	53	45	47	21			…municate in writing: letters, technical reports, etc	70	44	39	16	7	0	3.9
72%	30%	26%	27%	12%				40%	25%	22%	9%	4%	0%	78%
3.8	66	49	32	22			8 . Understand professional and ethical responsibility	73	55	29	13	5	1	4
76%	38%	28%	18%	13%	4%	…%		42%	31%	17%	7%	3%	1%	80%
3.5	48	45	50	16	7	10	9. Understand impact of engineering solutions in a global/societal context	58	43	48	14	6	7	3.6
70%	29%	27%	30%	10%	4%	6%		34%	25%	28%	8%	4%	4%	72%
3.4	43	51	45	21	6	10	10. Understand contemporary social, economic, and cultural issues	55	47	49	13	5	5	3.7
68%	26%	31%	27%	13%	4%	6%		33%	28%	29%	8%	3%	3%	74%
3.8	58	61	33	14	10	0	11. Work in teams and develop leadership skills	70	57	29	14	5	1	4
76%	33%	35%	19%	8%	6%	0%		40%	33%	17%	8%	3%	1%	80%
3.5	48	50	46	19	7	6	12. Function effectively in international and multicultural contexts	50	56	41	17	7	5	3.6
70%	28%	29%	27%	11%	4%	3%		29%	33%	24%	10%	4%	3%	72%

Use the Exit Survey mapping to corelate responses to SOs

Criterion 4: Employer Survey Questions

15. From the list below, please select three particular strengths that you observed * in Kuwait University Engineering graduates.

- [ ] Engineering fundamentals & design (SO 1, 2)
- [ ] Creative thinking (SO 1, 2)
- [ ] Consciousness of the impact of engineering solutions on the society (SO 4)
- [ ] Ability to seek new knowledge on their own (SO 7)
- [ ] Teamwork (SO 5)
- [ ] Project management (SO 1,5)
- [ ] Use of modern engineering tools & softwares (SO 1, 2), C5
- [ ] Oral/written communication (SO 3)

Employer Survey

SO Assessment

- No attempt was made to relate these responses to SO assessment.
- Mapping can be used for SO assessment, if needed.

Criterion 4: Employer Survey Responses

Table 11: KU Graduate Strengths

Three particular strengths that you observed in KU Engineering graduates	Total Responses	
Engineering fundamentals & design	11	13%
Creative thinking	10	12%
Consciousness of the impact of engineering solutions on the society	3	4%
Ability to seek new knowledge on their own	14	17%
Teamwork	20	24%
Project management	6	7%
Use of modern engineering tools & softwares	12	14%
Oral/written communication	8	10%

Criterion 4 & 5: CI and Curriculum

Employer Feedback

Tasks for UPC – Utilization of Employer Survey Results

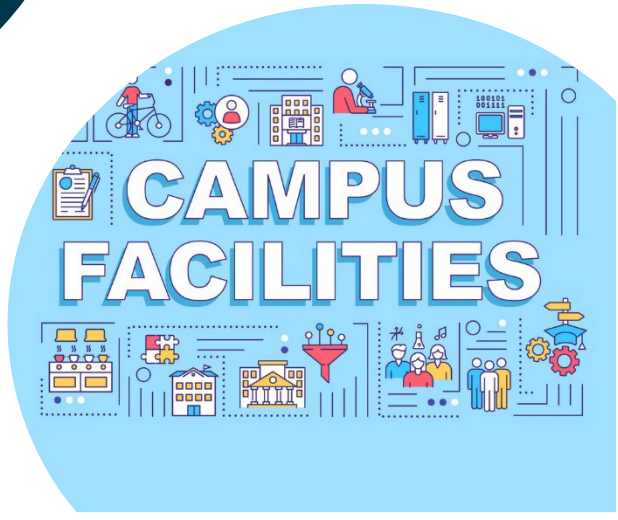
1- Employer Survey provides an additional qualitative measure on **student outcome assessment**. However, this process requires mapping and additional data processing by department UPC.

2- Feedback on **curricular improvement** is in the free responses.

3- Keep a record of all used data and meeting minutes.

PART 5:

Use of Survey Data for Other EAC Criteria



Use of Survey Results in other EAC Criteria

Criteria

1. Students
2. Program Educational Objectives
3. Student Outcomes
4. Continuous Improvement
5. Curriculum
6. Faculty
7. Facilities
8. Institutional Support

- ❑ Students (Exit survey)

- ❑ Faculty (ICEF)
- ❑ Students (Exit survey)
- ❑ Alumni Survey

Part III – Program Criteria
(Discipline Specific)

Criterion 1. Students

Student performance must be evaluated. Student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. Students must be advised regarding curriculum and career matters.

The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution. The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements.

Criterion 7. Facilities

Classrooms, offices, laboratories, and associated equipment must be adequate to support attainment of the student outcomes and to provide an atmosphere conducive to learning. Modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, and systematically maintained and upgraded to enable students to attain the student outcomes and to support program needs. Students must be provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories available to the program.

The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

Criterion 1: Students

4. Assessment of Support Services

Please rate the quality of services provided by the listed offices. In addition, please indicate the amount of interaction that you had with each office.

	Quality of services						*Amount of interaction*			
	Very good	*Good*	*Adequate*	*Poor*	*Very poor*	*No opinion*		*Much*	*Some*	*Little or none*
A. Academic Services:										
Admissions/Registrar	☐	☐	☐	☐	☐	☐		☐	☐	☐
Training office	☐	☐	☐	☐	☐	☐		☐	☐	☐
Libraries	☐	☐	☐	☐	☐	☐		☐	☐	☐
Bookstores	☐	☐	☐	☐	☐	☐		☐	☐	☐
B. Administrative Offices:										
Students' affairs office in your department	☐	☐	☐	☐	☐	☐		☐	☐	☐
Administrative offices in the college	☐	☐	☐	☐	☐	☐		☐	☐	☐
C. Other Services:										
Health services	☐	☐	☐	☐	☐	☐		☐	☐	☐
Food services	☐	☐	☐	☐	☐	☐		☐	☐	☐
Parking	☐	☐	☐	☐	☐	☐		☐	☐	☐
Recreation and athletics	☐	☐	☐	☐	☐	☐		☐	☐	☐
Others (specify) _____	☐	☐	☐	☐	☐	☐		☐	☐	☐

C1

Exit Survey

Questionnaire related to Criteria 1 & 7

C7

- Mapping can be used for improvement, if needed.

Criterion 1: Students

Table 5 Assessment of the Support Services at Kuwait University - Civil Engineering

#	Item	Quality of Services								Amount of Interaction		
		5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	75	66	34	30	18	9	3.7	3.2	26	29	19
		32%	28%	15%	13%	8%	4%	74%	64%	11%	13%	8%
2	Training office	77	74	38	3	6	34	4.1	3.8	11	28	33
		33%	32%	16%	1%	3%	15%	82%	76%	5%	12%	14%
3	Libraries	83	75	30	10	7	27	4.1	3.9	17	25	30
		36%	32%	13%	4%	3%	12%	82%	78%	7%	11%	13%
4	Bookstores	75	72	33	19	8	25	3.9	3.6	13	33	27
		32%	31%	14%	8%	3%	11%	78%	72%	6%	14%	12%
B. Administrative Offices:												
5	Students affairs office in your department	84	76	33	9	8	22	4	3.8	17	24	28
		36%	33%	14%	4%	3%	9%	80%	76%	7%	10%	12%
6	Administrative offices in the college	76	76	41	7	9	23	4	3.6	15	30	25
		33%	33%	18%	3%	4%	10%	80%	72%	6%	13%	11%
C. Other Services:												
7	Health services	82	56	35	15	13	31	3.9	3.4	14	16	37
		35%	24%	15%	6%	6%	13%	78%	68%	6%	7%	16%
8	Food services	75	66	47	20	14	10	3.8	3.2	32	18	18
		32%	28%	20%	9%	6%	4%	76%	64%	14%	8%	8%
9	Parking	70	63	53	14	20	12	3.7	3	34	19	17
		30%	27%	23%	6%	9%	5%	74%	60%	15%	8%	7%
10	Recreation and athletics	68	53	29	18	24	40	3.6	3.2	11	16	42
		29%	23%	13%	8%	10%	17%	72%	64%	5%	7%	18%
11	Others	63	35	11	3	8	112	4.2	4.1	15	7	24
		27%	15%	5%	1%	3%	48%	84%	82%	6%	3%	10%

Exit Survey

Responses related to Criteria 1 & 7

- Mapping can be used for improvement, if needed.

Other Criteria

24. Please select three most important items that will improve the academic experience of Kuwait University Engineering students.

- ☐ Classrooms (e.g. seating arrangement, comfort, visual lecturing aids, etc.) (C7)
- ☐ Library resources (e.g. textbooks, journals, project resources, etc.) (C7)
- ☐ Parking (C7)
- ☐ Internship/interaction with practicing engineers/site visits (C4)
- ☐ Faculty-student interaction (C4)
- ☐ Recreation (e.g. student clubs, social space, etc.) (C7)
- ☐ Computing resources (e.g. WiFi, softwares, printing, etc.) (C7)
- ☐ Supplemental instructions (e.g. hands-on tutorials, video lectures, online lecturing, etc.) (C4)

Alumni Survey

Questionnaire related to other EAC Criteria

❖ Mapping can be used for improvement, if needed.

Other Criteria

Alumni Survey

Responses related to other EAC Criteria

Beneficial Skills and Alumni Recommendations

Improve Academic Experience of KU Engineering Students	Total Responses
Classrooms	4 (3%)
Library Resources	9 (7%)
Computing resources	13 (10%)
Recreation	12 (10%)
Supplemental instructions	22 (17%)
Faculty-student interaction	24 (19%)
Parking	9 (7%)
Internship/interaction with practicing engineers/site visits	33 (26%)
TOTAL	126

- No attempt was made in the Alumni survey to get indirect feedback on SO assessment.
- Mapping can be used for improvement, if needed.

Other Criteria: Employer Survey Questions

16. Are there other skills, abilities, or knowledge you regard as being important when employing recent graduates? Please outline these below. *

Your answer

Other Criteria: Employer Survey Responses

Employer comments:

Other skills, abilities, or knowledge you regard as being important when employing recent graduates
Code of conduct
Practical Training
Work under pressure
Their work experience in term of participating in internship programs and field work.
Fast Learner
Presentation and communication skills.
find engineering solution to the environmental problems- assist in writing publication
Ability to seek information and new knowledge on their own
Need to work more on their English language.
Innovation and digitalization
Problem-solving and time management skills
Technical skills
Commercial Aspects for business fields
Professional attitude and the ability to seek information about the business of engineering and creative thinking
adaptability and flexibility, technology skills

Other Criteria

Tasks for UPC – **Utilization of Survey Results**

1- Surveys provide valuable feedback from students, faculty, alumni and employers on **C1 and C7**. However, this process requires mapping and additional data processing by the department UPC.

2- A **holistic approach** to student academic experience improvement is required in **ABET accreditation** and informal feedback and qualitative data provides this opportunity from **all constituents**.

3- The program needs to be responsive to the needs of the constituents and this should **reflect in the decisions taken to improve student learning** experience.

4- Keep a record of all used data and meeting minutes.

Thank you !!!!

Questions / Comments ??????