KUWAIT UNIVERSITY
College of Engineering & Petroleum
Office of Academic Assessment

Office of Academic Assessment

Annual Report

Academic Year 2021-2022

August 2022

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Introduction

The Office of Academic Assessment (OAA) mission is to serve the academic programs, faculty, staff, and administration within the College of Engineering and Petroleum at Kuwait University. It is designed to foster continuous assessment for achieving academic excellence. The goals of the office are:

- To help coordinate program assessment processes
- To develop and implement regularly scheduled and special-purpose student, alumni, and employer surveys
- To assist academic, administrative, and student-support units with data from assessments, and to develop or evaluate their own assessment processes
- To facilitate assessment training and awareness programs

Accordingly, the purpose of this report is to cover the activities of OAA in the academic year 2021/22. The main activities are summarized. Recommendations and plans for the next academic year are given.

Online Instructor Course Assessment

The office provided the Instructor Course Evaluation Form (ICEF) to the faculty through an online system. This user friendly online tool helps the faculty members to evaluate student performance for related student outcomes as determined by the department assessment coordinators. The form asks the faculty to assess student performance related to an outcome on a Likert scale, to provide a description of activities used to develop related student skills and to provide an account of the evidence used to assess student performance. Faculty is also given the opportunity to record their comments related to student performance, course management and other suggestions to improve the course. After submitting the form, an instruction page inform the faculty on how to prepare the course assessment file to be submitted to the departmental assessment coordinator.

Student outcomes were revised by ABET for programs seeking accreditation in the 2019-2020 cycle and later. The proposed modifications changed the eleven student outcomes (a-k) to seven student outcomes (1-7). Starting with the Fall Semester of the 2018/19 academic year, the online assessment form and the ICEF report were modified to reflect the revised SO changes. The results were accordingly prepared and shared with the departments for their use in the continuous improvement process.

The assessments provided in this report were conducted for the Fall, Spring, and Summer semesters of 2020/21 academic year. A comprehensive report including all the details and the results has been prepared and issued. A summary is given in **Appendix A**.

Exit Survey

Students are required upon graduation to submit the exit survey form. The survey was filled online by students graduating at the end of the Fall, Spring and Summer semesters of the academic year 2020/21. A comprehensive report including all the details and the results has been prepared and issued. The statistics are calculated according to the new student outcomes (1-7); acquired at Kuwait University–Engineering programs. A section in the survey was added to get student

feedback related to the online learning mode during the Covid-19 pandemic. A summary of the student exit survey is given in **Appendix B**.

Recoding of Surveys

Due to the outdated coding language and unstable software, the office is currently working on recoding the alumni and employer surveys. The requirement document is currently being written based on the coding to be done. We plan to launch these two surveys in the upcoming academic year.

Migration to New College Website

After migrating to the new COEP website, OAA needs to make sure the information related to the ABET accreditation status and related data is up to date. A checklist with the updated information was sent to the E-Services department to proceed with editing the data on the new website. Moreover, data regarding the enrollment and graduation statistics was also sent to the E-services department to update on the new website.

Contribution to College-wide ISO Accreditation Initiative

The Office of Academic Assessment fully participated in the KU – CEP's initiative to gain ISO certification for its administrative offices and units. In close conjunction with the VDAA and various other administrative units at the college, the office participated in the certification procedures required by the third-party ISO certification agency. This included participation in the audits/field visits conducted by the ISO third-party entity. KU – CEP successfully attained ISO certification in late June 2022, and a representative of the OAA was present at the closing ceremony held to confer ISO certification to the College.

ABET Draft and Final Statements for Petroleum Engineerinng Department Interim Report

ABET draft statement for Petroleum Engineering department Interim Report (IR) which was submitted in June 2022, was received in November 2022. Both weaknesses of the program were resolved. ABET Final statement for the Petroleum Engineering Department was received on 26 August 2022 and the program is accredited till September 2026.

OAA Guidance to Departments on ABET Procedures

The Office of Academic Assessment has included in its annual operational plan, a systematic procedure of providing assessment and accreditation related guidance to the departments. One guidance item is scheduled for each semester in the OAA operational plan. Accordingly, OAA sent guidance notes related to the Continuous Improvement (CI) process (Criterion 4) as part of the handouts for CAC meetings #2 and #3 during the Spring 2022 semester. Refer to **Appendix C-1** for the presentations made during these CAC meetings about the CI process.

OAA consolidated all ABET definitions, EAC Criteria requirements and APPM requirements related to the capstone project (i.e. Criteria 3(1), 3(2) and 5d) in one infograph during the Spring 2022 semester and after review by ABET headquarters, this infograph and the related write-up were sent to all department chairs for use and implementation. Please refer to **Appendix C-2** for a copy of the Capstone Design infograph and summary of related ABET requirements.

CAC Meetings

The Office of Academic Assessment (OAA) organized and called for three meetings of the College Assessment Committee (CAC) during the academic year 2021-22. All CAC meetings were held in the Multimedia lab on the 5th floor of the South Engineering Building in the Shadadiya campus. Participants included the VDAA, departmental assessment coordinators, as well as the OAA represented through its director and employees. Issues relating to improving assessment activities were discussed. Status of virtual assessment room in all departments was examined. A structured student outcome assessment process using Performance Indicators (PIs), rubrics/checklists and statistical data analysis was the subject of the last two meetings. The meeting minutes are **included in Appendix D**, while a brief account of the meetings is supplied below:

1- **CAC meeting #1:**
The first CAC meeting was held on 15 December 2021. All departments were commended for submitting annual assessment reports for AY 2020-21. Expanding the scope of the department annual assessment report to include overview of curricular changes, feedback from Industry Advisory Board, and reports on compliance with ABET requirements for the capstone projects and student lab experience. The need for a faculty workshop on ABET assessment procedures and processes was discussed and was planned for the Spring 2022 semester. Status of the virtual assessment room was reviewed and a timeline was agreed for full implementation starting from the next academic year. ICEF data collected during AY 2020-21 was presented to the committee members and its adequacy for student outcome assessment was discussed. Committee members were also reminded to review the employer survey form and to provide feedback for any change. Assessment coordinators were told to coordinate with their department chairman for formation of industrial advisory board (IAB) and student advisory council (SAC).

2- CAC meeting #2:
The second CAC meeting was held on 28 March 2022. First, agenda items from the precious meeting were reviewed. Main focus of the meeting was to review compliance of the currently used student outcome assessment process with ABET requirements. It was demonstrated that the process is in general compliance with ABET requirements. However, implementation of the assessment and evaluation process varied among various departments. A certain degree of redundancy was noted in the assessment data collection procedure and ways to rectify were discussed. However, the student outcome evaluation procedure adopted by most departments was found to be too 'coarse' for providing useful feedback for improvement in the area(s) of weakness in student learning. The concept of using performance indicators (PIs) was introduced for breaking down student outcomes into tasks that can be measured for evaluation of various aspects of a student outcome. Assessment coordinators were also asked to separate program assessment from course assessment and to judicially select required department courses targeting specific student outcomes. Spreading of the outcome assessment and evaluation activities over multiple semesters was also proposed.

3- **CAC meeting # 3:**
Held on 11 May 2022. Focus of the meeting was performance indicator-based student outcome assessment and evaluation. Committee members shared performance indicators for various student outcomes. However, each department was free to modify the presented performance indicators to suit its specific needs. Statistical evaluation of the assessment data was demonstrated with an example and various ways of interpreting the results were discussed. Committee members were reminded of the submission of the departmental annual assessment report with reference to a checklist

that was circulated a few weeks ago. It was proposed to conduct a session on best practices for preparing assessment data and evidence for TAs and young faculty members in Fall 2022.

OAA Internal Meetings

The Office of Academic Assessment conducted a total of five internal meetings during the 2021 - 2022 academic year. All internal meetings were held in the VDAA meeting room on the 5th floor.

The OAA's internal meetings were held periodically to discuss the office's goals for the year, and to cooperatively keep abreast of the office's practical duties undertaken by office employees to realize these goals.

OAA Meetings with Departments

The Office of Academic Assessment took the initiative of meeting with the department chairs along with the assessment coordinator to get first-hand knowledge of the assessment procedure implementation in the departments, to identify areas of potential weakness and to offer assistance in interpretation and implementation of ABET requirements. The following departments were visited during the Year 2021-22:

1- Civil Engineering – formal meeting with Department Acting Chairman, UPC Coordinator, and Assessment Coordinator on 20 December 2021. See **Appendix E** for meeting minutes.
2- Electrical Engineering – formal meeting with Department Chairman, UPC Coordinator, and Assessment Coordinator on 5 January 2022. See **Appendix E** For meeting minutes.
3- Petroleum Engineering - formal meeting with Department Chairman, UPC Coordinator, and Assessment Coordinator on 31 March 2022. See **Appendix E** For meeting minutes.
4- IMSE Engineering – formal meeting with Department Acting Chairman and UPC Coordinator on 17 May 2022. See **Appendix E** For meeting minutes.
5- Mechanical Engineering – formal meeting with Department Acting Chairman, UPC Coordinator, and Assessment Coordinator on 22 May 2022. See **Appendix E** For meeting minutes.
6- ETAC – formal meeting with ETAC director and support staff on 2 June 2022. See **Appendix E** for meeting minutes.
7- Debrief of annual activities to VDAA – OAA director met VDAA on 2 August 2022 for a debrief of OAA activities during AY 2021-22 as well as items requiring action by VDAA or Dean of the College. See **Appendix E** for meeting minutes.

Participation in College UPC meetings

The Office of Academic Assessment (OAA) was represented in the College Undergraduate Program Committee (UPC) meetings during AY 2021-22 by its director. Two meetings were held during AY 2021-22. Accreditation and assessment related issues discussed in these meetings included ABET capstone design requirements and need for a structured student practical training course based on the feedback from employer, alumni and graduating students.

Update to Survey Forms

The Office of Academic Assessment is responsible for conducting various surveys to obtain pertinent data for evaluation of student outcomes, relevance of program educational objectives and collect feedback from various constituents. This process requires routine updates to the various survey forms on offer to improve data collection and relevance. In the 2021-2022

academic year the employer survey form was revised and updated with collaboration of department assessment coordinators in preparation for survey launch in the upcoming academic year. See **Appendix F** for a copy of the new employer survey form.

Annual Assessment Activities Reports of Departments

All departments submitted the annual assessment activities reports for AY 2020-21. These reports were reviewed by OAA and feedback was provided to the assessment coordinators during CAC meetings. Based on the review of the submitted reports, it was determined that the assessment process was well established in the Computer, Mechanical Engineering and Electrical Engineering departments with active participation of faculty as well as Teaching Area Groups (TAGs). However, a lack of faculty and TAG participation was noted for the Chemical, Civil, Industrial and Petroleum Engineering departments and there is a need for improvement to the assessment process. OAA provided general guidance to the department assessment coordinators for improving the annual assessment report as summarized in **Appendix G**.

Preparation for ABET Criteria revision related to Diversity, Equity and Inclusion

ABET EAC formally approved revisions to Criterion 5 and Criterion 6 to include Diversity, Equity and Inclusion (DEI) in October 2021. The revisions were circulated for a general review and comments in February 2022. These changes are likely to be approved in Fall 2022 with first application for the 2023-24 accreditation review cycle. In preparation for compliance with these changes, OAA gathered pertinent parts of Kuwait constitution and Kuwait University byelaws related to DEI. Further discussion on ways to comply with these criteria changes will be done during CAC and UPC meeting in academic year 2022-23.

Evaluation of the OAA Operation Plan for AY 2021 – 2022

Academic Year 2021/22 - Fall 2020 (Y2)

- Prepare 2020/2021 student exit survey report. – **Sent to all department on 17/03/2022**
- Prepare 2020/2021 ICEF assessment report. – **Sent to all departments on 17/5/22**
- Ask Programs for establishing Industry Advisory Boards/ Student Advisory Boards and documenting their activities. - **ME, CpE, IMSE, Chemical, EE Submitted. Remind Civil in Fall 2022.**
- ABET maintenance fee reminder. - **Done**
- Follow-up with Departments regarding Criterion 3: Design and complex problems.
- Launch Alumni Survey. **Next Semester (Fall 2022)**
- Analyze placement/graduate data obtained and update website. **Done**
- Follow-up with programs regarding revisions to program assessment plan. **Revisions to courses not yet finalized by College UPC. Next AY 2022-23 after College UPC approves proposed curricular changes.**
- Virtual assessment room update –check readiness, assess needs, provide guidance & coordinate with IT as needed. – **Survey conducted in Spring 2022. Some departments not ready. Follow up in Fall 2022.**
- Coordinate assessment activities among engineering programs. (**Emphasis: Criterion 4: Continuous Improvement**) **– Letter sent on 9/5/21**
- Seek nominations for participation in ABET symposium/workshop 2022. **NO ABET Symposium in 2022.**
- Coordinate with Vice Dean for Student Affairs for student academic and career advising procedures in the College. **Next Fall 2022/2023**
- Gather information on student academic and career advising procedures in each Department. **Next Fall 2022/2023**
- Formulate and propose corrective actions that are based on assessment results. **To be done by the Departments / OAA to guide/review if asked.**
- Conduct Faculty Workshop related to Academic Assessment. **Next AY 2022-23**
- Administer end of Semester Student Exit Survey. **Done**
- Follow up on ABET Final statement on IR if needed. **Not Needed.**
- Review and revise as needed the employer survey form. **Revised**

Academic Year 2021/22 - Spring 2021 (Y2)

- Prepare alumni survey report. **Fall 2022-2023**
- Comparative Study on exit Surveys for the past three Academic years. **Move to Fall 2022.**
- Another Comparative Study on ICEF Surveys for the past 3 years. **Move to Fall 2022.**
- Follow-up with Departments regarding Criterion 4: Continuous Improvement. **Done through CAC meetings in Spring 2022.**
- Remind programs for preparation of annual outcome assessment activities report. **All submitted except Industrial.**
- Organize an alumni gathering (coordinate with ETAC). **Planning process. Follow up in AY 2022-23.**

- Coordinate assessment activities among engineering programs. (**Emphasis: Criterion 3: Design and complex problems**). **Done**
- Formulate/Implement corrective actions, if any. **None by OAA.**
- Administer end of Semester Student Exit Survey. **Done.**
- Seminar/workshop – Faculty development. **Two CAC meeting in Spring 2022 focused on the continuous improvement process.**
- Participate in ABET Symposium 2022. **No ABET Symposium in 2022.**
- Prepare report on student advising procedures in the College and the Departments. Identify potential weakness and suggest improvements in list of ABET procedures. **Move to AY 2022-23.**
- Review and feedback of department's Annual Assessment Reports – **In process**

Recommendations

This section puts forth some recommendations for action during the upcoming academic years to streamline and enhance the effectiveness of the academic assessment process in various departments of the College.

1- The department assessment coordinators are advised to rethink the student outcome assessment process based on selective but comprehensive assessment using few required courses and performance indicators. This proposal will require engagement of few faculty members each semester and could solve the chronic problem of lack of faculty participation.

2- The practical training course is identified by a majority of employers, alumni and graduating students as an essential course. However, student enrolment in this course is limited with some departments refusing to offer this course altogether. Many contentious issues surrounding this course were identified during OAA's visit to the departments and ETAC. It is recommended that the VDAA takes up this issue and try to revive this course by addressing the concerns of departments and ETAC.

3- Encourage higher student participation in the exit survey to have adequate data for use in the continuous improvement processes.

4- There is a need to provide ABET program assessment training to at least two young faculty members from each department. VDAA is requested for budget allocation in AY 2022-23.

Summary of Salient OAA Communications during AY 2021-22

S. No.	Activity	Prepared by	Submitted to	Date
1	OAA weekly meeting #1	OAA team		24/10/21
2	Requested for graduation data for 20-21 and enrollment data for all semesters for the AY 20-21	OAA	Ms. Nancy	24/10/21
3	ABET Draft statement	Dr. Tariq	Dean, Vice Dean and PE Chairman	3/11/21
4	OAA weekly meeting #2	OAA Team		7/11/21
5	ICEF and Exit summary for the AY 20-21	Dr. Tariq	All departments, Vice Dean	11/11/21
6	Launch of Alumni Survey for the graduates of AY 2016-2017 to AY 2019-2020	Dr. Tariq	All departments, Vice dean	22/11/21
7	ICEF Report for the AY 20-21	Dr. Tariq	All departments, Vice dean	28/11/21
8	Formation and interaction with Industry Advisory Borad & Student Advisory Board	Dr. Tariq	All departments, Vice Dean	02/12/21
9	Call for CAC meeting #1	Dr. Tariq	All CAC Members and Vice Dean	09/12/21
10	Departmental visit – Civil Engineering department	Dr. Tariq	Vice Dean, CE Chairman, UPC and CAC	15/12/21
11	ABET requirements for program criteria and capstone design	Dr. Tariq	Vice Dean, Chairman, UPC Coordinators	19/12/21
12	Departmental visit – Electrical Engineering department	Dr. Tariq	Vice Dean and EE Chairman	23/12/21
13	Departmental Visit to PE	OAA	PE Chairman, UPC and CAC	5/1/22
14	College website update and administrative access	Dr. Tariq	Vice Dean	27/1/22
15	Lab Safety	Dr. Tariq	Vice Dean	27/1/22
16	Updates to be done on the website	Dr. Tariq	Vice Dean	20/2/22
17	HML Update - Mechanical	Dr. Tariq	Vice Dean	13/3/22
18	ICEF and Exit Summary	Dr. Tariq	All departments	15/3/22
19	OAA Weekly Meeting # 3	OAA team		13/3/22
20	CAC Meeting # 2 for AY 2021-2022	OAA Team	All CAC Members	14/3/22

S. No.	Activity	Prepared by	Submitted to	Date
21	Submission of Student Exit Survey Report 2020-2021	OAA	All CAC Members, VDAA	17/3/22
22	Reminder for submission for Annual Assessment Report 2021-2022	OAA	All CAC Members and Chairman	14/4/22
23	CAC Meeting # 3 for AY 2021-2022	OAA	All CAC Members and VDAA	24/4/22
24	Capstone Design letter	OAA	To all the Chairman	8/5/22
25	Departmental visit to IMSE	OAA	IMSE Chairman, UPC and CAC	17/5/22
26	Departmental visit to ME	OAA	ME Chairman, UPC and CAC	22/5/22
27	Visit to ETAC	OAA	Dr. Duaij	2/6/22
28	OAA recommendation related to assessment activities	OAA	Dr. Raed	5/7/22

APPENDIX A:
Online Course Assessment
For Academic year 2020-2021

November 2021

Introduction

The online assessment submission system was developed by the Office of Academic Assessment (OAA). The system is monitored and maintained by OAA. At the end of each semester the assessment response statistics are reported to all programs for follow-up in order to improve them. This report presents the results of the online course assessment at the College of Engineering and Petroleum 2020-2021. The first part of the report presents the response statistics for all programs, and the second part presents measured student performance, quantified according to Student Outcomes (SO), on both the departmental and college-wide levels.

Preparation and Implementation of the Process

The form was provided to the faculty through an online system. Faculty members were able to leave the system at any time before submitting the form without losing any of the data they entered. They were also able to view the previously submitted forms. After submitting the form, an instruction page appears. It contains guidelines on how to prepare a course assessment file to be submitted to the departmental assessment coordinator.

For the Fall Semester (Table 1), a total course assessment response of 147 was recorded from 80 faculty members in the college (36.3% faculty response rate). The response was out of a total of 431 course sections (34.1% course response rate).

For the Spring Semester (Table 2), a total course assessment response of 118 was recorded from 68 faculty members in the college (33.0% faculty response rate). The response was out of a total of 402 course sections (29.3 % course response rate).

For the Summer Semester (Table 3), a total course assessment response of 16 was recorded from 12 faculty members in the college (7.8% faculty response rate). The response was out of a total of 162 course sections (7.3% course response rate).

Results and Discussion

The ABET SO (1-7) were adopted at the College for all its programs in the Fall of 2018/2019. They had been modified from the previous ABET SO (a-k) for programs seeking accreditation in 2019-2020 cycle and later.

The new SO (1-7) are as follows:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
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
3. An ability to communicate effectively with a range of audiences

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
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
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The online assessment form, and the ICEF report were modified to reflect these changes. Therefore, beginning with the Fall Semester of the 2019-20 academic year, assessment has been conducted according to the new 1-7 student outcomes.

Tables 4, 6, and 8 show the average rating of student performances in all courses in the college during Fall, Spring and Summer Semesters, respectively, according to the new 7 student outcomes. The results are presented graphically in Figures 1, 3, and 5, respectively. As it can be seen the students have achieved the desired outcomes.

Tables 5, 7, and 9 show the comparison of the weighted average scores of student performance between individual program courses, engineering core courses, and college-wide courses according to the new 7 student outcomes during Fall, Spring and Summer Semesters, respectively. The results are presented graphically in Figures 2, 4, and 6, respectively.

As seen with some exceptions of 0% and 100% ratings, most program averages are between 60%-80% and are close to college averages. The most likely reasons for these sharp disparities are: the lack of data with respect to the respective outcomes and programs, and/or the relatively small pool of data available on these respective outcomes and programs.

The relevance ratings given for each course are used as weights in the performance calculations. Since the response rate is somewhat low (some courses are not represented in a balanced way, as a result) some results may not be valid for some programs.

More detailed results are presented below in the program tables, where both relevance ratings and student performance are given for all outcomes. Instructor comments are also included. The programs should review and analyze the results, along with the assessment files at the TAG and UPC levels and make necessary conclusions and adjustments.

Table 1: Response statistics – Fall Semester

Course Assessment Response Statistics –Fall Semester 2020 -21

Departments	Total Faculty	Total Course Sections	Total Response (courses)	Unique Responder	% Response Courses	% Response Faculty
CHEMICAL	21	49	11	6	22.4	28.6
CIVIL	52	86	12	10	14.0	19.2
COMPUTER	37 (23*)	63 (40 **)	40	23	100.0	100.0
ELECTRICAL	38	107	28	12	26.2	31.6
IMSE	16	36	9	5	25.0	31.3
MECHANICAL	40	77	25	16	32.5	40.0
PETROLEUM	16	36	22	8	61.1	50.0
TOTAL	220 (206*)	454 (431 **)	147	80	34.1	36.3
* - Instructors involved in the assessment during this semester per the Department Assessment Plan.						
** - Courses assessed during this semester per Department Assessment plan.						

Table 2: Response statistics – Spring Semester

Course Assessment Response Statistics –Spring Semester 2020-21

Departments	Total Faculty	Total Course Sections	Total Response (courses)	Unique Responder	% Response Courses	% Response Faculty
CHEMICAL	21	50	16	8	32.0	38.1
CIVIL	52	85	11	8	12.9	15.4
COMPUTER	37 (22*)	66 (40**)	47	26	100.0	95.5
ELECTRICAL	38	82	13	7	15.9	18.4
IMSE	16	34	4	3	11.8	18.8
MECHANICAL	40	76	18	11	23.7	27.5
PETROLEUM	16	32	9	5	28.1	31.3
TOTAL	220 (206*)	425 (402 **)	118	68	29.3	33.0

Table 3: Response statistics – Summer Semester

Course Assessment Response Statistics –Summer Semester 2020-21

Departments	Total Faculty	Total Course Sections	Total Response (courses)	Unique Responder	% Response Courses	% Response Faculty
CHEMICAL	23	23	3	2	13.0	8.7
CIVIL	26	26	0	0	0.0	0.0
COMPUTER	26	27	1	1	3.7	3.8
ELECTRICAL	25	28	5	2	17.9	8.0
IMSE	9	11	0	0	0.0	0.0
MECHANICAL	30	31	5	5	16.1	16.7
PETROLEUM	15	16	2	2	12.5	13.3
TOTAL	154	162	16	12	9.8	7.8

COLLEGE: 20/21 Fall

R E S P O N S E

Department	Total Responses	Unique Responder
CHEMICAL	11	6
CIVIL	12	10
COMPUTER	40	23
ELECTRICAL	28	12
IMS	9	5
MECHANICAL	25	16
PETROLEUM	22	8
TOTAL	147	80

Table 4: Student performance – College (Fall 2020-2021) according to the new 1-7 student outcomes (2019-2020 cycle ABET updates)

O	Outcome	5	4	3	2	1	0	Average	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	15	46	41	8	3	36	3.5	**3.5**
		10%	31%	28%	5%	2%	24%	70%	**70%**
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.	19	35	29	6	1	59	3.7	**3.8**
		13%	24%	20%	4%	1%	40%	74%	**76%**
3	Communicate effectively with a range of audiences.	15	26	28	7	1	72	3.6	**3.7**
		10%	18%	19%	5%	1%	49%	72%	**74%**
4	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.	19	18	32	10	1	69	3.6	**3.6**
		13%	12%	22%	7%	1%	47%	72%	**72%**
5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	21	21	17	1	0	89	4	**4.2**
		14%	14%	12%	1%	0%	60%	80%	**84%**
6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	10	28	21	5	1	84	3.6	**3.8**
		7%	19%	14%	3%	1%	57%	72%	**76%**
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	17	35	30	6	3	58	3.6	**3.7**
		12%	24%	20%	4%	2%	39%	72%	**74%**

The weighted average for an outcome is calculated by $\frac{\sum(performance \times relevance)}{\sum relevance}$

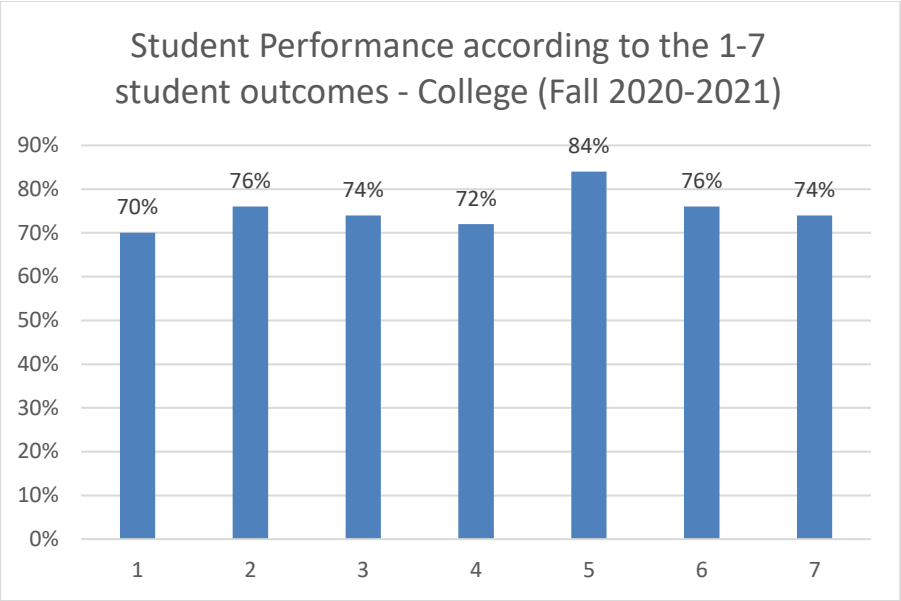
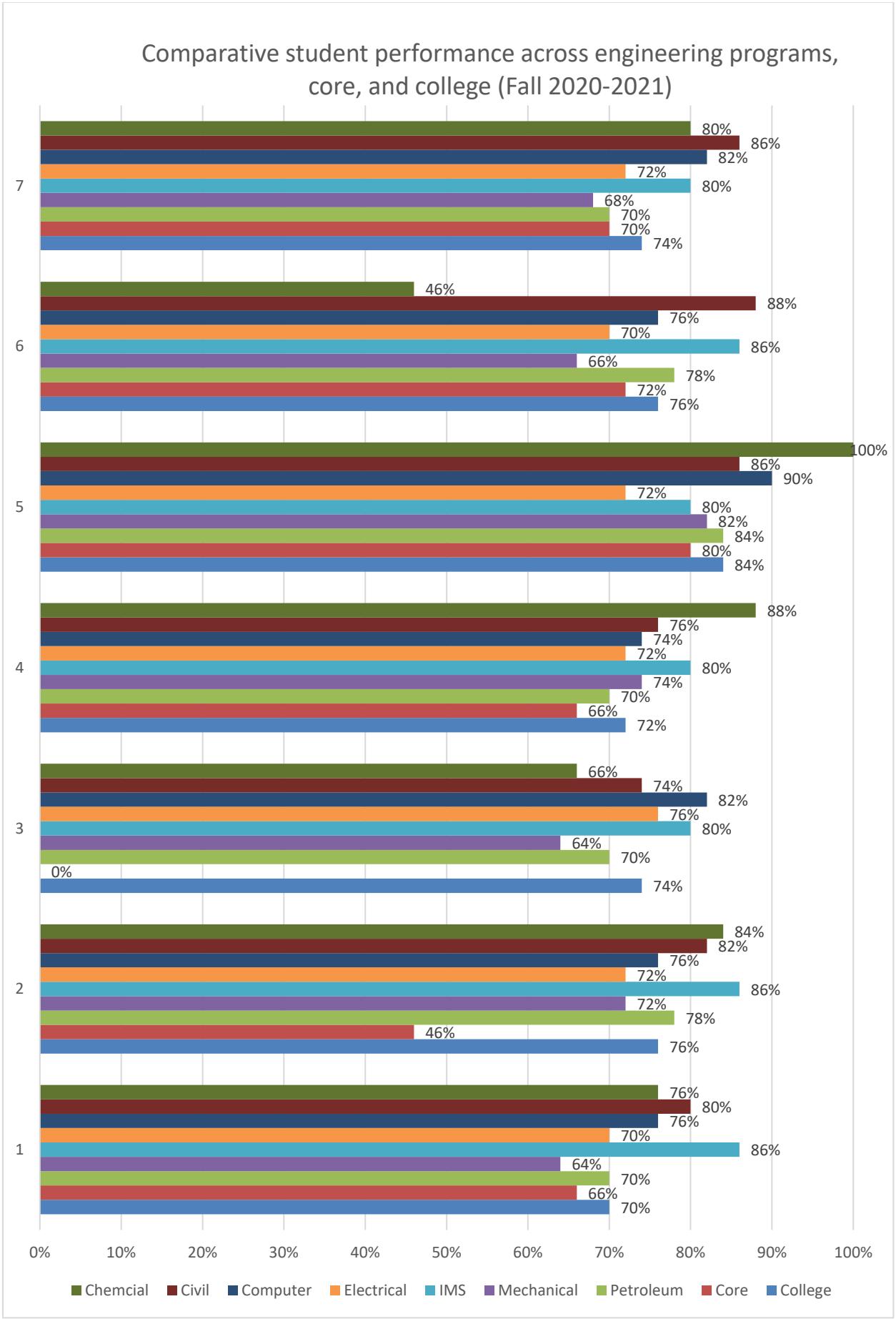


Figure 1: Student performance according to the 1-7 student outcomes – College (Fall 2020-2021)

Table 5: Student performance (weighted averages) – comparison between programs, engineering core, and college (Fall 2020-2021) according to the new 1-7 student outcomes (2020-2021 cycle ABET updates)

O	Outcome	chemical	civil	computer	electrical	ims	mechanical	petroleum	core	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	76%	80%	76%	70%	86%	64%	70%	66%	**70%**
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.	84%	82%	76%	72%	86%	72%	78%	46%	**76%**
3	Communicate effectively with a range of audiences.	66%	74%	82%	76%	80%	64%	70%	0%	**74%**
4	Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which	88%	76%	74%	72%	80%	74%	70%	66%	**72%**

	must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.									
5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	100%	86%	90%	72%	80%	82%	84%	80%	**84%**
6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	46%	88%	76%	70%	86%	66%	78%	72%	**76%**
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	80%	86%	82%	72%	80%	68%	70%	70%	**74%**


Comparative student performance across engineering programs, core, and college (Fall 2020-2021)
7
80%
86%
82%
72%
80%
68%
70%
70%
74%
6
46%
88%
76%
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86%
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80%
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86%
64%
70%
66%
70%
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Chemcial
Civil
Computer
Electrical
IMS
Mechanical
Petroleum
Core
College

Figure 2: Student performance (weighted averages) – comparison between programs, engineering core, and college (Fall 2020-2021) (According to the new 1-7 student outcomes)

COLLEGE: 20/21 Spring

RESPONSE

Department	Total Responses	Unique Responder
CHEMICAL	16	8
CIVIL	11	8
COMPUTER	47	26
ELECTRICAL	13	7
IMS	4	3
MECHANICAL	18	11
PETROLEUM	9	5
TOTAL	118	68

Table 6: Student performance – College (Spring 2019-2020) according to the new 1-7 student outcomes (2020-2021 cycle ABET updates)

O	Outcome	5	4	3	2	1	0	Average	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	14	34	23	13	1	33	3.6	**3.5**
		12%	29%	19%	11%	1%	28%	72%	**70%**
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.	19	36	22	4	2	35	3.8	**3.8**
		16%	31%	19%	3%	2%	30%	76%	**76%**
3	Communicate effectively with a range of audiences.	11	21	16	3	0	67	3.8	**3.9**
		9%	18%	14%	3%	0%	57%	76%	**78%**
4	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.	12	23	21	6	1	55	3.6	**3.8**
		10%	19%	18%	5%	1%	47%	72%	**76%**

5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	16	16	11	1	0	74	4.1	**4.2**
		14%	14%	9%	1%	0%	63%	82%	**84%**
6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	5	16	17	4	1	75	3.5	**3.6**
		4%	14%	14%	3%	1%	64%	70%	**72%**
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	14	20	17	7	1	59	3.7	**3.8**
		12%	17%	14%	6%	1%	50%	74%	**76%**

The weighted average for an outcome is calculated by $\frac{\sum(performance \times relevance)}{\sum relevance}$

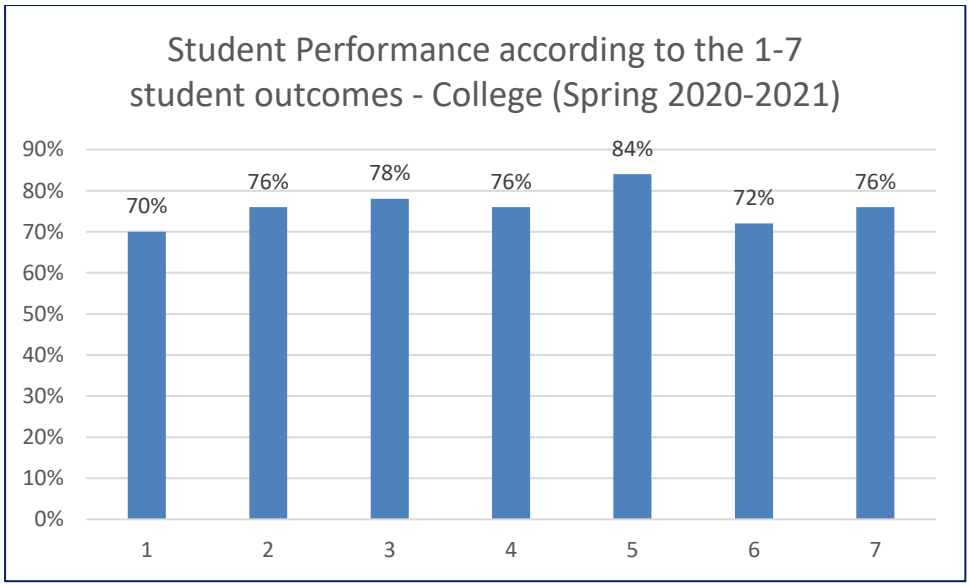


Figure 3: Student performance according to the 1-7 student outcomes – College (Spring 2020-2021)

Table 7: Student performance (weighted averages) – comparison between programs, engineering core, and college (Spring 2020-2021) according to the new 1-7 student outcomes (2020-2021 cycle ABET updates)

O	Outcome	chemical	civil	computer	electrical	ims	mechanical	petroleum	core	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	76%	84%	70%	74%	80%	62%	62%	66%	**70%**
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.	76%	86%	76%	88%	0%	62%	92%	60%	**76%**
3	Communicate effectively with a range of audiences.	76%	76%	82%	86%	80%	66%	80%	0%	**78%**
4	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.	70%	82%	76%	90%	80%	70%	70%	74%	**76%**
5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	82%	86%	88%	86%	80%	76%	76%	80%	**84%**
6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering	56%	100%	70%	82%	80%	68%	60%	64%	**72%**

	judgment to draw conclusions.									
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	88%	78%	88%	70%	0%	64%	64%	68%	**76%**

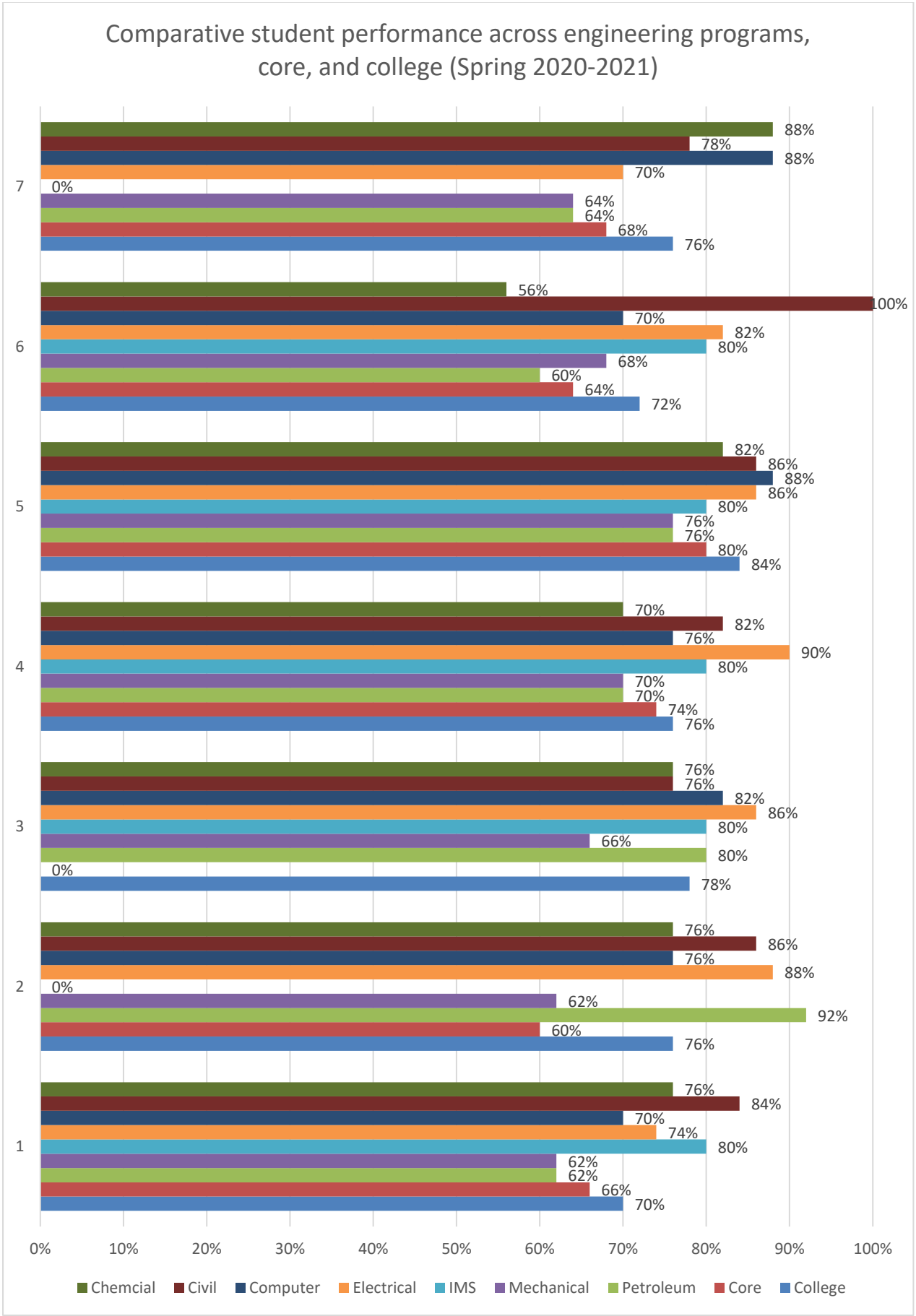


Figure 4: Student performance (weighted averages) – comparison between programs, engineering core, and college (Spring 2020-2021) (According to the new 1-7 student outcomes)

COLLEGE: 20/21 Summer

RESPONSE

Department	Total Responses	Unique Responder
CHEMICAL	3	2
CIVIL	0	0
COMPUTER	1	1
ELECTRICAL	5	2
IMS	0	0
MECHANICAL	5	5
PETROLEUM	2	2
TOTAL	16	12

Table 8: Student performance – College (Summer 2020-2021) according to the new 1-7 student outcomes (2020-2021 cycle ABET updates)

O	Outcome	5	4	3	2	1	0	Average	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	4	4	2	1	0	5	4	4
		25%	25%	13%	6%	0%	31%	80%	80%
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.	3	3	0	0	0	10	4.5	4.5
		19%	19%	0%	0%	0%	63%	90%	90%
3	Communicate effectively with a range of audiences.	0	1	6	0	0	9	3.1	3.2
		0%	6%	38%	0%	0%	56%	62%	64%
4	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.	1	2	4	0	0	9	3.6	3.6
		6%	13%	25%	0%	0%	56%	72%	72%
5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	1	4	2	0	1	8	3.5	3.5
		6%	25%	13%	0%	6%	50%	70%	70%

6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	0	5	3	0	0	8	3.6	**3.7**
		0%	31%	19%	0%	0%	50%	72%	**74%**
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	1	1	6	1	0	7	3.2	**3.2**
		6%	6%	38%	6%	0%	44%	64%	**64%**

The weighted average for an outcome is calculated by $\frac{\sum(performance \times relevance)}{\sum relevance}$

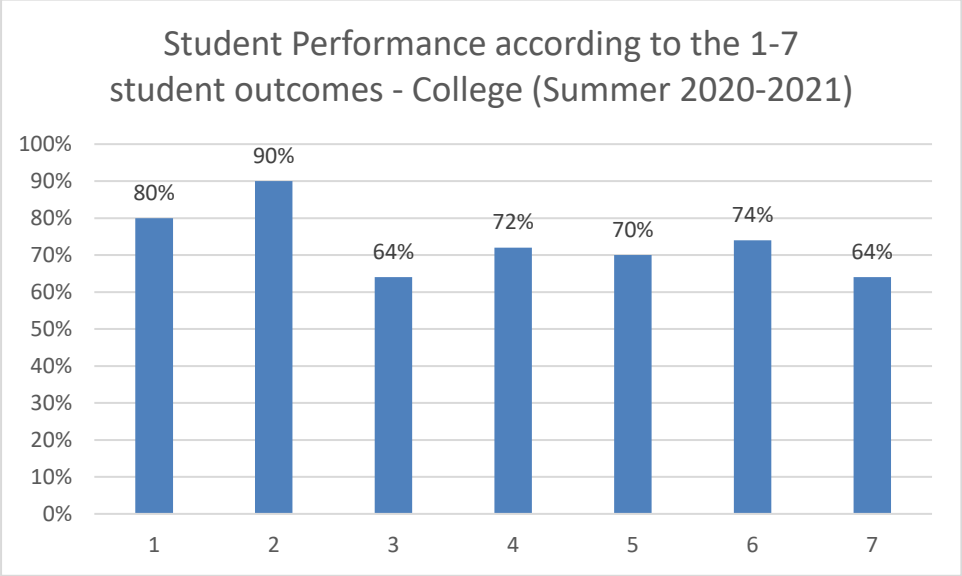


Figure 5: Student performance according to the 1-7 student outcomes – College (Summer 2020-2021)

Table 9: Student performance (weighted averages) – comparison between programs, core, and college (Summer 2020-2021) according to the new 1-7 student outcomes (2020-2021 cycle ABET updates)

O	Outcome	chemical	civil	computer	electrical	ims	mechanical	petroleum	core	Weighted Average
1	Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	92%	0%	0%	76%	0%	80%	80%	76%	**80%**
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.	80%	0%	100%	0%	0%	90%	100%	0%	**90%**
3	Communicate effectively with a range of audiences.	0%	0%	0%	60%	0%	72%	60%	0%	**64%**
4	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.	0%	0%	0%	0%	0%	80%	60%	76%	**72%**
5	Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	0%	0%	0%	76%	0%	80%	20%	80%	**70%**
6	Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering	74%	0%	0%	76%	0%	80%	0%	60%	**74%**

	judgment to draw conclusions.									
7	Acquire and apply new knowledge as needed, using appropriate learning strategies.	0%	0%	0%	68%	0%	0%	60%	54%	**64%**

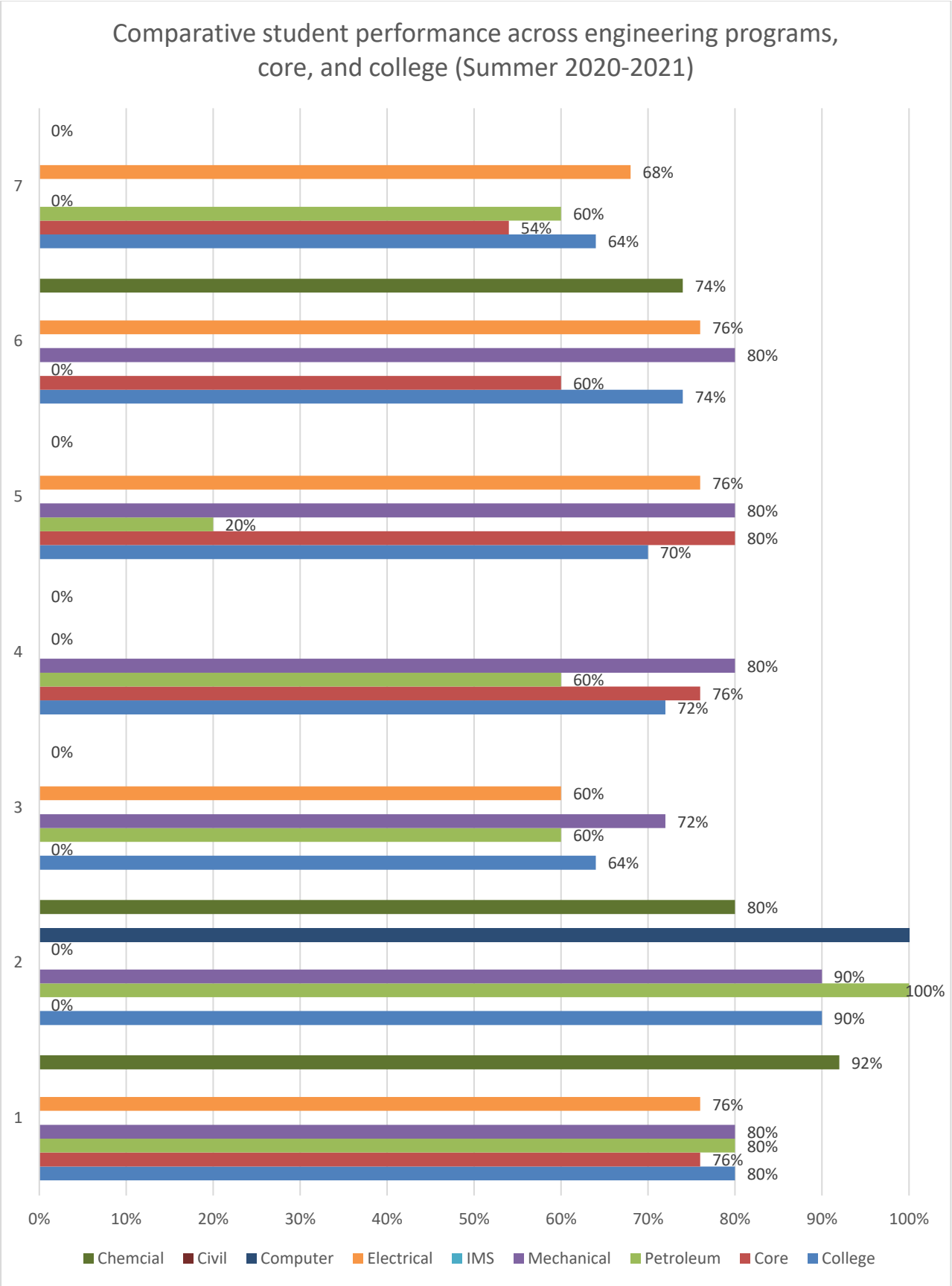


Figure 6: Student performance (weighted averages) – comparison between programs, engineering core, and college (Summer 2020-2021) (According to the new 1-7 student outcomes)

Program results of the online course assessment

for the academic year 2020-2021

Chemical Engineering Program

Fall semester 20/21

Instructors: **6**

Courses: **11**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0640-211	Chemical Engineering Principles I	H	L		L			
0640-241	Fluid Mechanics	M	M				M	
0640-241	Fluid Mechanics	M	M				M	
0640-440	Mass Transfer Operations	H	H				L	
0640-473	Polymer Engineering							
0640-475	Gas Sweetening							
0640-491	Plant Design	M	H	H	M	H		H
0640-491	Plant Design	M	H	H	M	H		H
0640-491	Plant Design	M	H	H	M	H		H
0640-493	Equipment Design		H	M				M

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0640-211	Chemical Engineering Principles I	3	3		3			
0640-241	Fluid Mechanics	3	4				3	
0640-241	Fluid Mechanics	3	3					
0640-440	Mass Transfer Operations	5	5				1	
0640-473	Polymer Engineering	5	4	4	3	5	3	4
0640-475	Gas Sweetening	3	4	5	3	4	4	3
0640-491	Plant Design	4	4	3	5	5		4
0640-491	Plant Design	4	4	3	5	5		4
0640-491	Plant Design	4	5	4	4	5		4
0640-493	Equipment Design		4	3				4

	Weighted Average	3.8	4.2	3.3	4.4	5	2.3	4

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0640-211	Chemical Engineering Principles I	Of the 3 F/FA students, I have 1 FA and 2 F students in this section. I noticed poor performance of students in exams, but slightly better performance in quizzes and much better performance in assignments. The class participation through teams is very poor, the attendance is ok (in terms of names attending the class), but when I start calling their names, I either don't get an answer, or a request to repeat my question (which shows poor attention during class). The students mentioned that recording the class was beneficial in case they wanted to review or study. I think I need a better way to keep them participating in class and make sure they're paying attention. In-terms of keeping their attention and focus, on-campus classes are much easier Online classes. I also noticed high assignments grades compared to the performance on quizzes and exams. This might suggest that students are coping the solutions and are not spending enough time understanding the assignments.
0640-241	Fluid Mechanics	Course was OK with good attendance rate which I checked them regularly by calling their names
0640-440	Mass Transfer Operations	The students were not given computer aided design (ASPIN-HYSYS) assignment to design and analyze rigorous multi-component industry-scale mass transfer equipment because of COVID-19 pandemic and the limited access to computation facilities at Kuwait University. Online education proved to be very good for the students in general, they displayed better understanding of the material learned and encouraged online cooperation between the students which in my opinion explain the high performance of the students.

Spring Semester 20/21

Instructors: **8**

Courses: **16**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0640-211	Chemical Engineering Principles I	H	L		L			
0640-241	Fluid Mechanics	M	M				M	
0640-304	Introduction to Environmental Engineering	M	M		M	L		M
0640-324	Kinetics and Reactor Design (A)	H	H					
0640-324	Kinetics and Reactor Design (A)	H	H					
0640-345	Mass Transfer	H	M	L		L	L	
0640-345	Mass Transfer	H	M	L		L	L	
0640-351	Process Dynamics and Control	H	M				L	
0640-391	Chemical Process Synthesis	M	H	M	L	H		H
0640-440	Mass Transfer Operations	H	H				L	
0640-443	Mass Transfer Operations Laboratory							
0640-471	Gas Engineering							
0640-491	Plant Design	M	H	H	M	H		H
0640-491	Plant Design	M	H	H	M	H		H
0640-491	Plant Design	M	H	H	M	H		H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0640-211	Chemical Engineering Principles I	3	3		3			
0640-241	Fluid Mechanics	3	3				3	
0640-304	Introduction to Environmental Engineering	4	4		4	4		5
0640-324	Kinetics and Reactor Design (A)	4	4					
0640-324	Kinetics and Reactor Design (A)	3	3					
0640-345	Mass Transfer	4	5	4	1	3	2	3

0640-345	Mass Transfer	4	5	4		3	2	
0640-351	Process Dynamics and Control	5	4				3	
0640-391	Chemical Process Synthesis	5	4	4	4	5		5
0640-440	Mass Transfer Operations	4	4				4	
0640-443	Mass Transfer Operations Laboratory	5	4	4		5	5	5
0640-471	Gas Engineering	3	4	5	4	5	3	5
0640-491	Plant Design	3	3	3	4	4		4
0640-491	Plant Design	4	4	4	3	4		4
0640-491	Plant Design	4	4	4	3	4		4
	Weighted Average	**3.8**	**3.8**	**3.8**	**3.5**	**4.1**	**2.8**	**4.4**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0640-440	Mass Transfer Operations	The overall performance of the students was good.
0640-443	Mass Transfer Operations Laboratory	Student performance in general was very satisfactory.

Summer Semester 20/21

Instructors: **2**

Courses: **3**

R E L E V A N C E

Course Number	Course Name	1	2	3	4	5	6	7
0640-241	Fluid Mechanics	M	M				M	
0640-351	Process Dynamics and Control	H	M				L	

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0640-241	Fluid Mechanics	4	4				4	
0640-351	Process Dynamics and Control	5	4				3	
	Weighted Average	**4.6**	**4**	**0**	**0**	**0**	**3.7**	**0**

Remarks and Suggestions

No data available.

Civil Engineering Program

Fall Semester 20/21

Instructors: **10**

Courses: **12**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7

0620-252	Engineering Materials	L	M	L	L		H	
0620-312	Environmental Engineering	H	H	L	L	L	H	
0620-312	Environmental Engineering	H	H	L	L	L	H	
0620-371	Structural Analysis II	H		M				L
0620-373	Reinforced Concrete I	M	H	H	M			L
0620-373	Reinforced Concrete I	M	H	H	M			L
0620-414	Hydraulic Engineering	H	H	M		M		H
0620-451	Foundation Engineering	H	H	L	L	M	L	L
0620-490	Capstone Design Course	L	H	H	M	M		M

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0620-252	Engineering Materials	3	4	3	4		4	
0620-312	Environmental Engineering	5	5	5	5	5	5	
0620-312	Environmental Engineering	4	4	3	4	3	5	
0620-371	Structural Analysis II	4	3					4
0620-373	Reinforced Concrete I	3	3	3	4			3
0620-373	Reinforced Concrete I	4	4	3	3			
0620-414	Hydraulic Engineering	5	5	4		5		5
0620-451	Foundation Engineering	3	3	3	3	3	2	2
0620-490	Capstone Design Course	5	5	5	4	5		5
	Weighted Average	**4**	**4.1**	**3.7**	**3.8**	**4.3**	**4.4**	**4.3**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0620-312	Environmental Engineering	This is the first core course in environmental engineering that civil engineering students t follow. The department has to offer elective courses in environmental engineering that are included in the curriculum are rarely offered by the department.
0620-371	Structural Analysis II	NA

0620-373	Reinforced Concrete I	The student's performance was less in comparison with previous semesters because of the online teaching. The course was challenging to the students more than typical, but I am satisfied with the performance given the circumstances.
0620-373	Reinforced Concrete I	Better to maintain in-class exams rather than online exams
0620-451	Foundation Engineering	Due to Covid-19 pandemic and online teaching, students were not able to do site work as done in previous semesters. Also, quality of learning and application of design o foundations was not properly done as in previous semesters

Spring Semester 20/21

Instructors: **8**

Courses: **11**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0620-201	Introduction to Design	M	H	H	M	M		M
0620-201	Introduction to Design	M	H	H	M	M		M
0620-312	Environmental Engineering	H	H	L	L	L	H	
0620-371	Structural Analysis II	H		M				L
0620-373	Reinforced Concrete I	M	H	H	M			L
0620-373	Reinforced Concrete I	M	H	H	M			L
0620-435	Construction Engineering and Management	M	M	H		M		H
0620-473	Reinforced Concrete II	M	H	H				L
0620-490	Capstone Design Course	L	H	H	M	M		M

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0620-201	Introduction to Design	4	5	4	5	4		3
0620-201	Introduction to Design	4	5	4	5	4		3
0620-312	Environmental Engineering	5	5	4	5	5	5	
0620-371	Structural Analysis II	5		5				5

0620-373	Reinforced Concrete I	4	5	4	3			
0620-373	Reinforced Concrete I	3	3	3	3			3
0620-435	Construction Engineering and Management	4	3	4		4		4
0620-473	Reinforced Concrete II	3	3	2				5
0620-490	Capstone Design Course	5	5	5	4	5		5
	Weighted Average	**4.2**	**4.3**	**3.8**	**4.1**	**4.3**	**5**	**3.9**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0620-371	Structural Analysis II	Students have shown outstanding performance throughout the course.
0620-373	Reinforced Concrete I	The course should have a design project in which the students are introduced to the design of a concrete building as a complete system. It is suggested to include design of columns and foundations in this course to achieve this objective. The currently adopted textbook refers a very old version (2008) of the ACI code and should be updated. Students were lacking the knowledge of computation of loads and follow the load path in various structural components (slab to beam to girder to column to foundation). This is supposed to be covered in the Structural Analysis 1 (CE 271) course. TAG coordinator, please ensure coverage of this topic in CE 271.
0620-373	Reinforced Concrete I	It was not easy to assess items 4 and 7 because these are typically done in class by direct discussion with students.
0620-435	Construction Engineering and Management	Male students comfortable in on-line discussions.
0620-473	Reinforced Concrete II	Difficulties faced due to the online course presentations. Tools available are not adequate for a free flow in the class.

Summer Semester 20/21

No Data Available

Computer Engineering Program

Fall Semester 20/21

Instructors: **23**

Courses: **40**

R E L E V A N C E

Course Number	Course Name	1	2	3	4	5	6	7
0612-207	Data Structures	H					H	
0612-207	Data Structures	H					H	
0612-210	Computer Ethics and Professional Practice			H	H			H
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-264	Digital Logic Laboratory		H	H		H	H	
0612-264	Digital Logic Laboratory		H	H		H	H	
0612-264	Digital Logic Laboratory		H	H		H	H	
0612-264	Digital Logic Laboratory		H	H		H	H	
0612-300	Design and Analysis of Algorithms	H	H					
0612-300	Design and Analysis of Algorithms	H	H					
0612-325	Human Computer Interaction		H	H	H			
0612-325	Human Computer Interaction		H	H	H			
0612-341	Database Systems-I	H	H		H			
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-364	Microprocessors Laboratory		H	H		H	H	
0612-364	Microprocessors Laboratory		H	H		H	H	
0612-364	Microprocessors Laboratory		H	H		H	H	
0612-368	Computer Organization		H					
0612-368	Computer Organization		H					

0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-445	Operating System Principles	H	H				H	
0612-451	Wireless and Mobile Networking	H	H	H	H			
0612-456	Computer Networks II		H				H	H
0612-456	Computer Networks II		H				H	H
0612-468	Computer Architecture		H					
0612-468	Computer Architecture		H					
0612-469	Computer Architecture Laboratory		H	H			H	
0612-469	Computer Architecture Laboratory		H	H			H	
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H		
0612-495	Capstone Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0612-207	Data Structures						4	
0612-207	Data Structures	3					3	
0612-210	Computer Ethics and Professional Practice			2	3			3
0612-262	Fundamentals of Digital Logic		3					
0612-262	Fundamentals of Digital Logic		3					
0612-262	Fundamentals of Digital Logic		4					
0612-264	Digital Logic Laboratory			4				

0612-264	Digital Logic Laboratory			5				
0612-264	Digital Logic Laboratory		5	4		4	3	
0612-264	Digital Logic Laboratory		5	4		4	3	
0612-300	Design and Analysis of Algorithms		3					
0612-300	Design and Analysis of Algorithms	3	3					
0612-325	Human Computer Interaction		4	4	4			
0612-325	Human Computer Interaction		4		3			
0612-341	Database Systems-I		4		5			
0612-363	Introduction to Embedded Systems		3					
0612-363	Introduction to Embedded Systems		3					
0612-363	Introduction to Embedded Systems		4					
0612-364	Microprocessors Laboratory			3				
0612-364	Microprocessors Laboratory		3					
0612-364	Microprocessors Laboratory		3					
0612-368	Computer Organization		4					
0612-368	Computer Organization		3					
0612-395	Computer Systems Engineering	4	4	3	3	4		3
0612-395	Computer Systems Engineering	4	5	4	5	5	5	5
0612-395	Computer Systems Engineering	3	3	3	3	3		3
0612-395	Computer Systems Engineering	4	5	5	2	5	2	5
0612-395	Computer Systems Engineering	4	4	4	5	5		4
0612-445	Operating System Principles		3				3	
0612-451	Wireless and Mobile Networking	3	2	4	2			
0612-456	Computer Networks II		2				4	2
0612-456	Computer Networks II						3	4
0612-468	Computer Architecture		4					
0612-468	Computer Architecture	2	3	2	3	3	2	2
0612-469	Computer Architecture Laboratory		4	4			3	
0612-469	Computer Architecture Laboratory		4	5			4	
0612-495	Capstone Design	5	5	5	5	5	5	5
0612-495	Capstone Design	4	5	5	4	5	5	5

0612-495	Capstone Design	4	5	5	4	5	5	5
0612-495	Capstone Design		5		4			
0612-495	Capstone Design	4	5	5	4	5	5	5
	Weighted Average	**3.8**	**3.8**	**4.1**	**3.7**	**4.5**	**3.8**	**4.1**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0612-210	Computer Ethics and Professional Practice	Elevate the course to be a senior level course so the students would accumulate language and intellectual thinking to assimilate notions such as secular morality, civility (e.g., privacy, rights, freedom, etc.).
0612-300	Design and Analysis of Algorithms	Most students have shown a reasonable, but perhaps rudimentary, understanding of the fundamental concepts for designing and analyzing their solutions in this class. Based on their solutions to the assignment problems and office hour discussions, it appears that students' studying techniques heavily relied on searching the web for similar problems, which is encouraged as this will expose them to more examples, but they lack the willingness to explore the material in the book, which actually offers an intensive and closer look at the problems they are working on. Furthermore, given the online nature of the class, it is not easy to gauge the interest and understanding of the students, with the quizzes being the most direct method of quick evaluation.
0612-341	Database Systems-I	The course lab need to incorporate more lab sessions on the final DB application development.
0612-368	Computer Organization	Students were asked to design a mini RISC-V single cycle data-path. The instruction set was given and a well define problem statement was provided. Students had the freedom to choose alternative design components and how to build the components: structural or behavioural with their choice of HDL programing language: VHDL/Verilog. The students implemented and simulated their design using Quartus 13.1 software and demonstrated their results. Different phases of submissions were carried out during this course where feedback is given to each team. Students must consider the feedback, modify and update the documentation on the final phase. In addition, two oral demonstrations were held and the students were evaluated and given feedback. The students submitted a report that fully documented their work.
0612-395	Computer Systems Engineering	Please refer to evaluation of outcomes 4 and 7 to see the suggestions related to future offerings.

0612-395	Computer Systems Engineering	Report writing skills needs to be emphasized in english courses.
0612-456	Computer Networks II	None
0612-468	Computer Architecture	None
0612-495	Capstone Design	Students applied basic science and engineering concepts in evaluating the alternative designs and rank them based on matrix ranking. This goes to all design stages. In addition, many calculations are needed based on the project nature. The whole course is based on teamwork. Teams consist from 3-4 students and the work is divided among them. The students test, evaluate and combine all parts to build the complete corresponding design. Different phases of report submissions were carried out during this course where feedback is given to each team. Students must consider the feedback, modify and update the documentation on the next submission. In addition, 4-5 oral presentations held in class and the students were evaluated and given feedback. Students need applied the latest technology used in terms of Hardware/Software to select the suitable components. This is approved by comparing different technologies. Students built the prototype of the design, tested it, analyzed the results and documented the whole process with additional manuals.

Spring Semester 20/21

Instructors: **26**

Courses: **47**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0612-201	Object-Oriented Paradigm						H	
0612-207	Data Structures	H					H	
0612-207	Data Structures	H					H	
0612-207	Data Structures	H					H	
0612-221	Software Engineering I	H	H	H	H	H		
0612-221	Software Engineering I	H	H	H	H	H		
0612-221	Software Engineering I	H	H	H	H	H		
0612-221	Software Engineering I	H	H	H	H	H		

0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-262	Fundamentals of Digital Logic		H					
0612-264	Digital Logic Laboratory		H	H		H	H	
0612-325	Human Computer Interaction		H	H	H			
0612-325	Human Computer Interaction		H	H	H			
0612-325	Human Computer Interaction		H	H	H			
0612-325	Human Computer Interaction		H	H	H			
0612-356	Computer Networks I	H					H	
0612-356	Computer Networks I	H					H	
0612-356	Computer Networks I	H					H	
0612-356	Computer Networks I	H					H	
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-363	Introduction to Embedded Systems		H					
0612-368	Computer Organization		H					
0612-368	Computer Organization		H					
0612-368	Computer Organization		H					
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-395	Computer Systems Engineering	H	H	H	H	H	H	H
0612-445	Operating System Principles	H	H				H	
0612-445	Operating System Principles	H	H				H	
0612-453	Cryptography and Network Security	H	H	H	H			H
0612-468	Computer Architecture		H					

0612-468	Computer Architecture		H					
0612-469	Computer Architecture Laboratory		H	H			H	
0612-469	Computer Architecture Laboratory		H	H			H	
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H	H	H
0612-495	Capstone Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0612-201	Object-Oriented Paradigm						3	
0612-207	Data Structures	3					3	
0612-207	Data Structures						4	
0612-207	Data Structures						3	
0612-221	Software Engineering I		3					
0612-221	Software Engineering I	3	3	3	3	3		
0612-221	Software Engineering I	3	3	3	3	3		
0612-221	Software Engineering I		4		4			
0612-262	Fundamentals of Digital Logic		3					
0612-262	Fundamentals of Digital Logic		3					
0612-262	Fundamentals of Digital Logic		4					
0612-262	Fundamentals of Digital Logic		3					
0612-262	Fundamentals of Digital Logic		2					
0612-262	Fundamentals of Digital Logic		4					
0612-264	Digital Logic Laboratory		5	4		4	5	
0612-325	Human Computer Interaction		3		4			
0612-325	Human Computer Interaction		4	4	4			
0612-325	Human Computer Interaction		4	4	4			
0612-325	Human Computer Interaction		5		5			
0612-356	Computer Networks I	3					4	

0612-356	Computer Networks I	3					3	
0612-356	Computer Networks I						4	
0612-356	Computer Networks I						3	
0612-363	Introduction to Embedded Systems		3					
0612-363	Introduction to Embedded Systems		4					
0612-363	Introduction to Embedded Systems		4					
0612-363	Introduction to Embedded Systems		4					
0612-363	Introduction to Embedded Systems		3					
0612-368	Computer Organization		4					
0612-368	Computer Organization		4					
0612-368	Computer Organization		2					
0612-395	Computer Systems Engineering	4	5	5	4	5		5
0612-395	Computer Systems Engineering	4	5	5	4	5		5
0612-395	Computer Systems Engineering	4	4	4	2	5		4
0612-395	Computer Systems Engineering	5	5	5	5	5		5
0612-445	Operating System Principles	2	3				2	
0612-445	Operating System Principles	3	3				3	
0612-453	Cryptography and Network Security	3			3			4
0612-468	Computer Architecture		5					
0612-468	Computer Architecture		4					
0612-469	Computer Architecture Laboratory		4				4	
0612-469	Computer Architecture Laboratory		4				4	
0612-495	Capstone Design	4	4	3	3	4	3	4
0612-495	Capstone Design	4	5	4	4	5	4	4
0612-495	Capstone Design	4	4	4	4	4	4	4
0612-495	Capstone Design	4	5	5	4	5	4	5
	Weighted Average	**3.5**	**3.8**	**4.1**	**3.8**	**4.4**	**3.5**	**4.4**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0612-201	Object-Oriented Paradigm	For 201 (OO programming paradigm), a project with multi phases is recommended so that a student can understand the basic building blocks of a complex program.
0612-221	Software Engineering I	An interaction with real stake holders is recommended on a course project to increase realistic requirement elicitations and evaluate user experience on produced SW artifacts.
0612-262	Fundamentals of Digital Logic	The requirements of this outcome is done by the students as a practical project in the lab. And there is a special assessment for the digital lab.
0612-262	Fundamentals of Digital Logic	none
0612-356	Computer Networks I	-
0612-363	Introduction to Embedded Systems	9 out of 29 registered students stopped attending the classes , hence got FA grade . I think the administration should look into this phenomenon.
0612-368	Computer Organization	Students were asked to design a smaller basic RISC-V processor. The instruction set was given and a well-defined problem statement was provided. Different phases of submissions were carried out during this course where feedback is given to each team. Students must consider the feedback, modify and update the documentation on the final phase. The project consists of three phases, phase 1 is designing the data-path units. Phase 2 is integrating the functional units implemented in the phase I to build a single-cycle data-path. In the final phase of the project, the student should divide the data-path in to five stages to implement a pipeline data-path. Students had the freedom to choose alternative design components and how to build the components: structural or behavioral with their choice of HDL programing language: VHDL/Verilog. The students implemented and simulated their design (single cycle and pipeline) using Quartus 13.1 software and demonstrated their results. In addition, two oral demonstrations were held and the students were evaluated and given feedback. The students submitted a report that fully documented their work.
0612-368	Computer Organization	NA
0612-395	Computer Systems Engineering	The templates need to be revised.
0612-495	Capstone Design	Students have problem with writing reports (english). Moreover, it seems students do not understand the meaning of some of realistic constraints such as availability. Some students tends to have problem presenting in front of people and needs further activities to increase their self esteem when delivering talks.
0612-495	Capstone Design	The templates and the rest of the course material need to revised

Summer Semester 20/21

Instructors: **1**

Courses: **1**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0612-363	Introduction to Embedded Systems		H					

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0612-363	Introduction to Embedded Systems		5					
	Weighted Average	**0**	**5**	**0**	**0**	**0**	**0**	**0**

Remarks and Suggestions

No data available.

Electrical Engineering Program

Fall Semester 20/21

Instructors: **12**

Courses: **28**

R E L E V A N C E

Course Number	Course Name	1	2	3	4	5	6	7
0610-212	Engineering Math	H						H
0610-213	Linear Circuits Analysis	M						H
0610-233	Electronics I	M						M
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-312	Signals and Systems	H						H
0610-312	Signals and Systems	H						H
0610-312	Signals and Systems	H						H
0610-320	Electromagnetic Field Theory	H						H
0610-333	Electronics II	H						H
0610-334	Electronics Laboratory II			M		M	H	M
0610-334	Electronics Laboratory II			M		M	H	M
0610-334	Electronics Laboratory II			M		M	H	M
0610-374	Control Laboratory I	H	M	M	M	M	H	

0610-381	Communication Theory	H						H
0610-385	Introduction to DSP	H		M		M	M	H
0610-416	Instrumentation and Measurements	M						M
0610-420	Antenna and Propagation	H		M		M		H
0610-432	Analog Integrated Circuits	H						M
0610-433	Electronics III	H		M				H
0610-433	Electronics III	H		M				H
0610-460	Introduction to Communication Networks	H		M		M	M	H
0610-472	Control Theory II	H	M		M	M		M
0610-477	Optimization Techniques	H			M		M	M
0610-497	Engineering Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0610-212	Engineering Math	4						3
0610-213	Linear Circuits Analysis	2						2
0610-233	Electronics I	4						4
0610-297	Corner-Stone Design	3	4	4	3	4	4	4
0610-297	Corner-Stone Design	4	4	5	4	4	4	4
0610-297	Corner-Stone Design							
0610-297	Corner-Stone Design	3	3	4	4	4	4	3
0610-312	Signals and Systems	3						4
0610-312	Signals and Systems	4						4
0610-312	Signals and Systems	3						4
0610-320	Electromagnetic Field Theory	4						4
0610-333	Electronics II	3						4
0610-334	Electronics Laboratory II			4		3	3	3
0610-334	Electronics Laboratory II			3		3	3	5
0610-334	Electronics Laboratory II			4		4	4	4
0610-374	Control Laboratory I	4	3	4	3	3	4	
0610-381	Communication Theory	3						4

0610-385	Introduction to DSP	4		3		3	3	4
0610-416	Instrumentation and Measurements	3						3
0610-420	Antenna and Propagation	3						3
0610-432	Analog Integrated Circuits	4						5
0610-433	Electronics III	3		3				3
0610-433	Electronics III	2						2
0610-460	Introduction to Communication Networks	5		4		3	2	4
0610-472	Control Theory II	4						4
0610-477	Optimization Techniques	3			3		3	3
0610-497	Engineering Design	4	4	3	4	4	4	3
	Weighted Average	**3.5**	**3.6**	**3.8**	**3.6**	**3.6**	**3.5**	**3.6**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0610-213	Linear Circuits Analysis	Unfortunately, I have found that the students have become more careless and do not understand that ENGR205 and EE213 are the fundamentals of the EE courses. We have to do something about it
0610-297	Corner-Stone Design	This is similar to Spring20/21 So there is no need to repeat the same assessment
0610-420	Antenna and Propagation	Although some students found this course useful and interesting, they failed to make connection between theory and application, in this case, between EE320 and EE420.
0610-460	Introduction to Communication Networks	Note: for Outcome 6, the course has no lab/experimental component.

Spring Semester 20/21

Instructors: **7**

Courses: **13**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-297	Corner-Stone Design	H	H	H	H	H	H	H
0610-312	Signals and Systems	H						H
0610-320	Electromagnetic Field Theory	H						H
0610-333	Electronics II	H						H
0610-374	Control Laboratory I	H	M	M	M	M	H	
0610-410	Active Filter Design	H	M					M
0610-428	Wireless Communication Networks	H		M		M	M	H
0610-472	Control Theory II	H	M		M	M		M
0610-497	Engineering Design	H	H	H	H	H	H	H
0610-497	Engineering Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0610-297	Corner-Stone Design	5	5	5	5	5	5	4

0610-297	Corner-Stone Design	3	4	5	5	4	4	4
0610-312	Signals and Systems	4						4
0610-320	Electromagnetic Field Theory	2						2
0610-333	Electronics II	3						3
0610-374	Control Laboratory I	4	4	4	4	4	4	
0610-410	Active Filter Design	4	4					4
0610-428	Wireless Communication Networks	4		3		3	3	3
0610-472	Control Theory II	4	4		4	4		4
0610-497	Engineering Design	4	5	4	4	5	4	4
0610-497	Engineering Design							
	Weighted Average	**3.7**	**4.4**	**4.3**	**4.5**	**4.3**	**4.1**	**3.5**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0610-320	Electromagnetic Field Theory	Students are not serious towards their university education and learning. They just strive for getting a grade!
0610-428	Wireless Communication Networks	A field trip to telecommunication tower to show some of the equipment mentioned in the course is something will be considered. Introducing a lab for the course is something to be considered as well. The course should be offered every spring semester.

Summer Semester 20/21

Instructors: **2**

Courses: **5**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0610-233	Electronics I	M						M
0610-234	Electronics Laboratory I			M		M	H	M
0610-234	Electronics Laboratory I			M		M	H	M
0610-234	Electronics Laboratory I			M		M	H	M
0610-385	Introduction to DSP	H		M		M	M	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0610-233	Electronics I	5						5
0610-234	Electronics Laboratory I			3		4	4	3
0610-234	Electronics Laboratory I			3		4	4	3
0610-234	Electronics Laboratory I			3		4	4	3
0610-385	Introduction to DSP	3		3		3	3	3
	Weighted Average	**3.8**	**0**	**3**	**0**	**3.8**	**3.8**	**3.4**

Remarks and Suggestions

No Data Available.

Industrial & Management Systems Engineering Program

Fall Semester 20/21

Instructors: **5**

Courses: **9**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0660-321	Work Design and Measurement	H	H		H		H	
0660-352	Production Cost Analysis							
0660-474	Accounting and Finance for Engineering	H		H	H	H		
0660-481	Systems Simulation	H	H	H		H	H	H
0660-481	Systems Simulation	H	H	H		H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0660-321	Work Design and Measurement	5	5				5	
0660-352	Production Cost Analysis							
0660-474	Accounting and Finance for Engineering	4		4	4	4		
0660-481	Systems Simulation	4	4			4	4	4
0660-481	Systems Simulation	4	4			4	4	4
	Weighted Average	**4.3**	**4.3**	**4**	**4**	**4**	**4.3**	**4**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0660-474	Accounting and Finance for Engineering	• Students need more training in professional writing. • Most students, through this course, enhanced their presentation skills. • Some students need to enhance their English proficiency and presentation skills, during this course the students were also encouraged to assess and discuss the work of other students during the presentations. • APA style of writing and how to conduct research had been discussed with the students. • Students understand the importance of ethics in the engineering profession • In-class discussions for different forms of unethical

		conduct in financial reporting and what to expect as future engineering managers • Reading assignment for CFA code of ethics • The class discussion extends the students ability to think of examples about the impact of the study. Also, class exercises and project` for assessing different local and global companies, the students were acted as financial analysts for these companies and proposed solutions for improvement and determined if these solutions are applicable. • Examples of companies: KPC, Walmart, Toyota, ACICO,..etc.

Spring Semester 20/21

Instructors: **3**

Courses: **4**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0660-381	Data and Decision Analysis	H					H	
0660-471	Engineering Management			H	H	H		

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0660-381	Data and Decision Analysis	4					4	
0660-471	Engineering Management			4	4	4		
	Weighted Average	**4**	**0**	**4**	**4**	**4**	**4**	**0**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0660-471	Engineering Management	Remarks: • Students need more training in professional writing. • Most students, through this course, enhanced their presentation skills. • Some students need to enhance their English proficiency and presentation skills, during this course the students were also encouraged to assess and discuss the work of other students during the presentations. • APA style of writing and how to conduct research had been discussed with the students. • In engineering manager discussions,

		the students interviewed engineers asking them about their career and in case of an ethical dilemma. • In the reading, the students read and present different subjects related to the course. • Students understand the importance of ethics in the engineering profession • In-class discussions for different forms of corruption and what to expect as future engineering managers • In engineering manager discussions, the students interviewed engineers asking them about their career and in case of an ethical dilemma. • The class discussion in teams (class exercise) extends the students' ability to think of examples about the impact of the study. • In all group assignments, the students implemented creating a collaborative environment to meet the required objective for each assignment. • Also, the case-studies depict an application for international companies with different cases (IKEA, Kellogg's, Harrods), the students were acted as managers for this company and proposed solutions for improvement and determined if these solutions are applicable in Kuwait. • Examples of students project DMAIC for Talabat Co., KAIZEN for National industries Co., Decision Tree for AlAhlia SwitchGear Co. • Students interviewed managers with an engineering background and had a useful discussion about social problems that they will contribute to solving in their future career

Summer Semester 20/21

No Data Available

Mechanical Engineering Program

Fall Semester 20/21

Instructors: **16**

Courses: **25**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0630-241	Materials Science and Metallurgy	H			L		L	L
0630-241	Materials Science and Metallurgy	H			L		L	L
0630-241	Materials Science and Metallurgy	H			L		L	L
0630-259	Introduction to Design	L	H	H	M	H		M
0630-311	Theory of Machines	H	M	L				M
0630-311	Theory of Machines	H	M	L				M
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-361	Project Planning and Management							
0630-415	Mechanical Vibrations	H	M	M	L			L
0630-417	Control of Mechanical Systems	H	H	M		L		L
0630-417	Control of Mechanical Systems	H	H	M		L		L
0630-421	Heat Transfer	H	M	M				
0630-421	Heat Transfer	H	M	M				
0630-424	Air conditioning and Refrigeration	M	H	M	M	L		L
0630-459	Engineering Design	H	H	H	H	H	M	H
0630-459	Engineering Design	H	H	H	H	H	M	H
0630-475	Thermal Science Lab. II		M	H	L	M	H	

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7

0630-241	Materials Science and Metallurgy	3			3		3	3
0630-241	Materials Science and Metallurgy	4			3		3	3
0630-241	Materials Science and Metallurgy	3			2		3	3
0630-259	Introduction to Design	4	4	3	3	4		4
0630-311	Theory of Machines	3	2	3				1
0630-311	Theory of Machines	3	3	3				3
0630-353	Manufacturing Processes	3	4	4	4	4		
0630-353	Manufacturing Processes	4	3	3	3	4		
0630-353	Manufacturing Processes	4	4		5			
0630-361	Project Planning and Management	5			5	5		5
0630-415	Mechanical Vibrations	1	2	2	2			2
0630-417	Control of Mechanical Systems	2	3	2		3		4
0630-417	Control of Mechanical Systems	4	3	3		3		3
0630-421	Heat Transfer	4	4	3				
0630-421	Heat Transfer	3	3	3				
0630-424	Air conditioning and Refrigeration	3	4	3	3	3		3
0630-459	Engineering Design	4	5	4	5	5	4	5
0630-459	Engineering Design	3	4	4	4	4	2	4
0630-475	Thermal Science Lab. II		5	4	5	5	4	
	Weighted Average	**3.2**	**3.6**	**3.2**	**3.7**	**4.1**	**3.3**	**3.4**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0630-241	Materials Science and Metallurgy	The performance of the students was average and satisfactory. Five students achieved the outcomes of the course
0630-241	Materials Science and Metallurgy	In general, the students had satisfactory performance in exams and short tests throughout the semester. I had some students with excellent performance who were eager to learn and ask questions about the subject. However, there was a large number of students with poor performance. Recorded and live lectures and other

		course materials were made available to students using MS Teams. Short tests, bonus quiz and midterm exam were carried out using MOODLE. Also, course website using MOODLE included many solved problems and examples, animations and links to useful materials science websites.
0630-241	Materials Science and Metallurgy	Online exams are not a good idea.....suggest online lectures and on campus exams
0630-259	Introduction to Design	Focus in the Matlab rather than wasting time on the Microsoft Word lectures. Also extend the assignments to be in a form of mini projects.
0630-311	Theory of Machines	online exams is not a good idea .....hard to control
0630-353	Manufacturing Processes	This covid-19 class suffered from the epidemic situation and hindered the ability of students to work on their mini project especially the teams that needed to visit local manufacturing companies. Overall the students did work hard and the overall students performance is very good. Still the issue of communicating and writing in English is lacking in most of theses 3rd year level students.
0630-353	Manufacturing Processes	Online course was conducted this semester. Videos as well as virtual factory tour were included to engage students and gain their interest. A group of students performed very well as they were attentive during class. However, a few students showed lack of effort and this fact was eventually reflected in the test grades.
0630-361	Project Planning and Management	A large number of the students in this section were in their final semester and they performed very well. The course was conducted online with opportunity for class discussions and active participation. Five tests were conducted throughout the semester, so the students were constantly studying to stay updated on the material covered.
0630-417	Control of Mechanical Systems	This was relatively large class. Everything in class was done remotely due to Covid-19 conditions. Most students were not motivated to excel. They just wanted to pass the class, and they did by doing some minimal work. Self-learning activities were successful.
0630-421	Heat Transfer	NONE
0630-421	Heat Transfer	Online homework is hard to grade and it is hard to give meaningful feedback to students. Better online tools and standardized homework and quiz submission will help. Students struggling with basic concepts, especially heat transfer by radiation. I propose establishing a tutoring program for our students.
0630-424	Air conditioning and Refrigeration	I am teaching ME 424 for the second time virtually during Fall 2020 in which around 33 students were registered. I managed to use the previously recorded lecture videos for this semster. However, minor students complain about

		the recorded video and rather to have more live lectures. This course is an applied course and therefore, a cap should be set on the number of students to ensure the understanding of the course's contents. In addition, applied courses are difficult to be understandable online, and it is preferable to be on-campus. However, preparing for online exams was much convenient for grading and recording. The students were interested in this course when we spoke about Kuwait's practice in HVAC. However, some students lack the motive to interact with any topic outside the courses' curriculum. Some students do not interact or perform the task without any promised reward (i.e., bonus points). As for the course's project, some students lack the ability to defend their own statements during the oral presentations. I gave two midterms and one final exam and the students performed fine in general. In summary, my recommendation is to keep the number of students low for this course all the time and move to classical teaching method rather than online. This is a very applied course and students enjoy the application aspect of it.
0630-459	Engineering Design	This semester was relatively short compared to the very long one last spring. It was executed entirely online due to COVID-19 conditions. The main drawback was the inability to produce and test physical prototypes or proof of concept models. The students should have early exposure to solid modeling and analysis software such as solidworks.

Spring Semester 20/21

Instructors: **11**

Courses: **18**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0630-241	Materials Science and Metallurgy	H			L		L	L
0630-241	Materials Science and Metallurgy	H			L		L	L
0630-311	Theory of Machines	H	M	L				M
0630-322	Engineering Thermodynamics II	H	M		M	L		L
0630-341	Materials Science and Metallurgy II							
0630-351	Mechanical Design I	H	M		L			L
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-415	Mechanical Vibrations	H	M	M	L			L
0630-417	Control of Mechanical Systems	H	H	M		L		L
0630-421	Heat Transfer	H	M	M				
0630-424	Air conditioning and Refrigeration	M	H	M	M	L		L
0630-451	Mechanical Design II	H	H	M	M	L		M
0630-459	Engineering Design	H	H	H	H	H	M	H
0630-475	Thermal Science Lab. II		M	H	L	M	H	

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0630-241	Materials Science and Metallurgy	2			3		3	3
0630-241	Materials Science and Metallurgy	4			3		3	3
0630-311	Theory of Machines	3	3	2				3
0630-322	Engineering Thermodynamics II	1	1		2			3
0630-341	Materials Science and Metallurgy II	4	4	3	3	3	3	3
0630-351	Mechanical Design I	3	3		3			3
0630-353	Manufacturing Processes	5	4	3	4	3		
0630-353	Manufacturing Processes	5	4	3	4	3		
0630-415	Mechanical Vibrations	2	1	2	3			1

0630-417	Control of Mechanical Systems	4	3	3		3		2
0630-421	Heat Transfer	2	2	3				
0630-424	Air conditioning and Refrigeration	3	4	3	3	3		3
0630-451	Mechanical Design II	2	3	3	3	3		3
0630-459	Engineering Design	4	4	5	5	5	3	5
0630-475	Thermal Science Lab. II		5	4	5	5	4	
	Weighted Average	**3.1**	**3.1**	**3.3**	**3.5**	**3.8**	**3.4**	**3.2**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0630-241	Materials Science and Metallurgy	The performance of the students was weak to satisfactory. Seven students achieved the outcomes of the course. The problems given in the exams were similar to homework and examples given in class, yet students were not able to perform well. My conclusion is that the students are having difficulties with online teaching and they are not spending enough time in studying. Many times it was obvious that they did not read the questions carefully. It shows lack of concentration and comprehension.
0630-241	Materials Science and Metallurgy	In general, the students had performed well in exams and short tests throughout the semester. I had a good number of students with excellent performance who were eager to learn and ask questions about the subject. However, there were few students who had performed poorly in exams, particularly in the final exam. Recorded and live lectures and other course materials were made available to students using MS Teams. The short tests and midterm exam were carried out using MOODLE. The final exam was given on campus (written test). Also, the course website using MOODLE included many solved problems and examples, animations, and links to useful materials science websites.
0630-322	Engineering Thermodynamics II	1) Most of the students have weak background in Thermodynamics 1 and/or they took it a long time ago. 2) Students do not read the textbook. 3) Students weak in English. 4) Some students do not attend the class. 5)Need to enforce students to take Thermo 2 immediately after finishing Thermo 1.
0630-341	Materials Science and Metallurgy II	The performance of students was generally very good since most of the students had a good background from the preliminary course (ME 241 Materials Science & Metallurgy). I had a good number of students with excellent performance who were eager to learn and ask questions about the subject. Many students performed well in exams and quizzes. The number of students with poor performance was very low. There was a

		major assignment to students (conducted as groups) to select a topic on advanced engineering materials (see examples of assignment report). Recorded and live lectures and other course materials were made available to students using MS Teams. The short tests and midterm exam were carried out using MOODLE. The final exam was given on campus (written test). Also, the course website in MOODLE included many worked problems, examples, and links to useful materials science websites and videos.
0630-351	Mechanical Design I	The students show a good sign of interesting in the material. However, lack of knowledge in the mechanics of material affected the performance of the majority. 20-30% of the covered materials were given in the mechanics of material, material science, and manufacturing courses (chapters 1 and 2, three quarters of chapter 3, and half of the chapter 4). Therefore, I emphasized in the materials that the students did not cover it in the previous courses such as Castigliano's method, buckling, failure theories, and fatigue analysis.
0630-353	Manufacturing Processes	Class was conducted online with the exception of the Final Exam which was on-campus. Most students performed very well as many of them were senior students from the Industrial Engineering Department. They put in a lot of effort in studying for this class.
0630-353	Manufacturing Processes	This class was conducted online. All students were required to keep their cameras switched on and actively participate. This helped most of them in retaining the material presented. Many did very well as they actively participated during class and studied for their exams. The Final Exam was conducted on-campus.
0630-421	Heat Transfer	I propose establishing a tutoring program for heat transfer. Most of the students have difficulty with simple algebra and calculus.
0630-424	Air conditioning and Refrigeration	I am teaching ME 424 for the fifth time and the third time virtually during Spring 2021 in which around 37 students were registered. I managed to use the previously recorded lecture videos for this semester. However, very few students complain about the recorded videos and prefer live lectures, but the majority were toward the former. This course is an applied course and therefore, a cap should be set on the number of students to ensure the understanding of the course's contents. In addition, applied courses are difficult to be understandable online, and it is preferable to be on-campus. However, preparing for online exams was much convenient for grading and recording. The students were interested in this course when we spoke about Kuwait's practice in HVAC, and especially when discussing the COVID-19 pandemic and IAQ. However, some students lack the motive to interact with any topic outside the courses' curriculum. Some students do not interact or perform the task without any promised reward (i.e., bonus points). As for the course's project, some students lack the ability to defend their own statements during the oral

		presentations. I gave two midterms and one final exam and the students performed fine in general. In summary, my recommendation is to keep the number of students low for this course all the time and move to classical teaching method rather than online. This is a very applied course and students enjoy the application aspect of it.
0630-459	Engineering Design	This semester was the second full semester under Covid-19 conditions which was executed entirely online. The main drawback was the inability to produce and test physical prototypes or proof of concept models. Although the students were able to produce relatively good virtual prototypes mainly using Solidworks with some external help, they could have done better should they had early exposure to solid modeling and analysis software such as solidworks.

Summer Semester 20/21

Instructors: **5**

Courses: **5**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0630-353	Manufacturing Processes	H	M	M	L	M		
0630-475	Thermal Science Lab. II		M	H	L	M	H	

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0630-353	Manufacturing Processes	4	4	3	3	3		
0630-475	Thermal Science Lab. II		5	4	5	5	4	
	Weighted Average	**4**	**4.5**	**3.6**	**4**	**4**	**4**	**0**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0630-353	Manufacturing Processes	In general, the students had good-to-very good performance in exams and short tests. Few students did poorly in exams and short tests. The assignment focused on long-life learning and communication skills related to manufacturing processes and product making (see assignment report). Due to the COVID pandemic, no trips to local manufacturers were made during the summer semester. Instead, only a visit was made to the local mechanical workshop in the College of Engineering and Petroleum. In addition, live lectures and other online course materials were given using MS Teams. The short tests were carried out using MOODLE. The midterm and final exams were held on campus (written tests). Also, the course website using MOODLE included many solved problems and examples, animations, and links to useful manufacturing videos.

Petroleum Engineering Program

Fall Semester 20/21

Instructors: **8**

Courses: **22**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-241	Fluid Mechanics	H	L	L	M	L	L	M
0650-251	Introduction to Design	H	H	H	H	H	H	L
0650-301	Fundamentals of Petroleum Engineering							
0650-301	Fundamentals of Petroleum Engineering							
0650-323	Phase Behavior of Reservoir Fluids	H		L	M	L		M
0650-324	Reservoir Engineering	H			L			M
0650-333	PVT Laboratory	L		H	M	M	H	
0650-341	Oil Well Drilling and Completion	H	M		L	M		M
0650-342	Mud and Cement Laboratory	L		H	M	H	H	
0650-342	Mud and Cement Laboratory	L		H	M	H	H	
0650-354	Well Logging	M	L	L	L	L	H	H
0650-355	Well Logging Laboratory	M	L	L	L	L	H	H
0650-355	Well Logging Laboratory	M	L	L	L	L	H	H
0650-425	Natural Gas Reservoir Engineering	H		H	M			M
0650-427	Secondary Recovery	H	M	M	M	H	M	H
0650-432	Well Testing	H		L	M		H	M
0650-496	Well Design	H	H	H	H	H	H	H
0650-496	Well Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-241	Fluid Mechanics	4	1	1	2	2	4	3

0650-251	Introduction to Design	5	5	4	3	4	4	5
0650-301	Fundamentals of Petroleum Engineering	4	4	5	5	4	4	5
0650-301	Fundamentals of Petroleum Engineering	4	4	5	5	4	4	5
0650-323	Phase Behavior of Reservoir Fluids	3		2	3	3		3
0650-324	Reservoir Engineering	1			2			1
0650-333	PVT Laboratory	3		2	2	3	3	
0650-341	Oil Well Drilling and Completion	4	4		4	4		4
0650-342	Mud and Cement Laboratory	4		4	5	5	4	
0650-342	Mud and Cement Laboratory	4		5	5	5	4	
0650-354	Well Logging	3	3	3	4	3	4	3
0650-355	Well Logging Laboratory	3	3	3	3	3	3	3
0650-355	Well Logging Laboratory	3	3	3	3	3	4	4
0650-425	Natural Gas Reservoir Engineering	3		2	1			3
0650-427	Secondary Recovery	4	3	4			4	4
0650-432	Well Testing	3		3	3		3	3
0650-496	Well Design	4	4	4	5	5	5	4
0650-496	Well Design	5	5	5	5	5	5	5
	Weighted Average	**3.5**	**3.9**	**3.5**	**3.5**	**4.2**	**3.9**	**3.5**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0650-251	Introduction to Design	Tools providing course. should be a 300 level course and a prerequisite to 400 courses.
0650-323	Phase Behavior of Reservoir Fluids	calss lecture, quizzes and final exam were given online as requested by university adminstarion. only the midterms were allowed in campus. Therefrore, the was a tolal control and zero cheating in the midterms.
0650-324	Reservoir Engineering	This course is the only required reservoir engineering course. The students should exert a lot of effort to comprehend the course and carry the acquired knowledge through their academic career and to the workplace. The prerequisites of this course are very important. To make most benefit of this class, students should have excellent understanding of rock properties and phase behavior of petroleum fluids. I recommend that this course should be given a higher number,

		i.e., 400 level, so that the students will be more academically prepared to comprehend the material. Furthermore, the students are reluctant to take the extra step of self-learning.
0650-333	PVT Laboratory	Because of Covid 19, students are not coming to campus and doing the lab experiments themselves. They are wathing either a live session of how to conduct the experiment oe a recorded video. That means there is no hand-on experience al all. Additionally, online exams have no controll and can not eleminated cheating.
0650-341	Oil Well Drilling and Completion	The following topics have been covered and discussed in this course: 1. Introduction to Drilling Engineering 2. Rig power system, hoisting system and circulating system 3. Rotary system, well control system, and monitoring system 4. Drilling cost analysis 5. Principal functions and composition of drilling fluids 6. Well cementing application 7. Hydrostatic pressure calculations and application 8. Kick Identification under conditions of risk and uncertainty 9. Estimating friction losses for different flow regimes 10. Jet bit nozzle size selection 11. Pump pressure schedule for well control operations 12. Well completion basic principles and methods
0650-425	Natural Gas Reservoir Engineering	Online quizzes and exam are disaster ro teaching. No matter you do to prevent cheating, the students are able to cheat!!!!!
0650-427	Secondary Recovery	I think student's outcomes # 4 and 7 are not relevant to this course.

Spring Semester 20/21

Instructors: **5**

Courses: **9**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-324	Reservoir Engineering	H			L			M
0650-324	Reservoir Engineering	H			L			M
0650-341	Oil Well Drilling and Completion	H	M		L	M		M
0650-432	Well Testing	H		L	M		H	M
0650-449	Petroleum Economics	M		M	H	L		H
0650-496	Well Design	H	H	H	H	H	H	H

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-324	Reservoir Engineering	2			3			2
0650-324	Reservoir Engineering	2			2			2
0650-341	Oil Well Drilling and Completion	4	4		2	2		2
0650-432	Well Testing	2		3	4		1	3
0650-449	Petroleum Economics	4		3	3	4		4
0650-496	Well Design	5	5	5	5	5	5	5
	Weighted Average	**3.1**	**4.6**	**4**	**3.5**	**3.8**	**3**	**3.2**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0650-432	Well Testing	This course highly requires one of the commercial well testing software such as PanSystem, Kappa, ect.. that are frequently used in the oil industry for well test interpretation. None of these software were available in the department for this semester. Also, a new textbook that covers pressure derivative concepts should be used for the course. The currently used textbook is outdated.
0650-449	Petroleum Economics	The course is an elective now but all student are taking it. The course should be offered every semester. Risk analysis and decision making require good knowledge pf probability and statistics, I suggest making Probability as a prerequisite to the class.

Summer Semester 20/21

Instructors: **4**

Courses: **4**

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-341	Oil Well Drilling and Completion	H	M		L	M		M
0650-425	Natural Gas Reservoir Engineering	H		H	M			M

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0650-341	Oil Well Drilling and Completion	5	5		3	1		3
0650-425	Natural Gas Reservoir Engineering	3		3	3			3
	Weighted Average	**4**	**5**	**3**	**3**	**1**	**0**	**3**

Remarks and Suggestions

None available.

Core Engineering Courses

Fall Semester 20/21

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-204	Strength of Materials	H	M					L
0600-204	Strength of Materials	H	M					L
0600-204	Strength of Materials	H	M					L
0600-208	Engineering Thermodynamics	H			L			
0600-208	Engineering Thermodynamics	H			L			
0600-208	Engineering Thermodynamics	H			L			
0600-209	Engineering Economy	H			M			
0600-209	Engineering Economy	H			M			
0600-209	Engineering Economy	H			M			
0600-209	Engineering Economy	H			M			
0600-209	Engineering Economy							
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING							
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	H				M		L

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-204	Strength of Materials	2	2					1

0600-204	Strength of Materials	3	3					4
0600-204	Strength of Materials	2	2					3
0600-208	Engineering Thermodynamics	2			3			
0600-208	Engineering Thermodynamics	2			3			
0600-208	Engineering Thermodynamics	1			2			
0600-209	Engineering Economy	3			3			
0600-209	Engineering Economy	3			3			
0600-209	Engineering Economy	5			5			
0600-209	Engineering Economy	5			5			
0600-209	Engineering Economy							
0600-304	Engineering Probability and Statistics	3			2		3	3
0600-304	Engineering Probability and Statistics	4			3		4	4
0600-304	Engineering Probability and Statistics	4			3		3	3
0600-304	Engineering Probability and Statistics	5			2		4	4
0600-304	Engineering Probability and Statistics	3			3		3	3
0600-304	Engineering Probability and Statistics	4			3		4	4
0600-304	Engineering Probability and Statistics	4			3		4	4
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	4		3				3
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	5				4		5
	Weighted Average	**3.3**	**2.3**	**0**	**3.3**	**4**	**3.6**	**3.5**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0600-204	Strength of Materials	This course was delivered fully online through Teams. Weekly lectures, tutorials and practice sessions were conducted by the instructor as well as the TA. Video lectures from last semester and videos of solution of suggested homework practice problems were also available to the students. Two mid-term exams were conducted on campus while the final exam was conducted on-line. Relatively weak class performance may be attributed to lack of student-instructor interaction. Some students also tried to use unfair means during the online exam and was appropriately dealt with. Student

		motivation to attend online lecture and class participation was less as compared to the Spring 2019-20 semester.
0600-208	Engineering Thermodynamics	Quizzes only are not enough... Students need to practice problems under supervision-- tutoring program will be helpful --a different strategy should also be developed to encourage students to practice problem-solving. Computer programs, such as EES, should be given more time and used to enhance students' understanding of the basic concepts. Students have difficulty with units--- which should be addressed in future teaching of this course.
0600-208	Engineering Thermodynamics	NONE
0600-208	Engineering Thermodynamics	1- Students weak in English. 2- Students do not read their textbook. 3- Several students copy their HW. 4- The number of Cheating Students is increasing. 5- Then number of students per section should be decreased to allow more time between the professor and his/her students for discussions and interactions (<=25).
0600-304	Engineering Probability and Statistics	1- Students do not read the textbook. 2- Students are weak in multiple integration. 3- It is better to have a common Tutorial sessions for all students. 4- Individual project is highly recommended for this course. 5- Full MCQs exam is not recommended for such a course. 7- The textbook need to be revised.
0600-304	Engineering Probability and Statistics	Students are very good in using specialized software and engineering tools related to the course, i.e., programmable hand-held calculators. However, most of them have problems in English communication especially reading comprehension, which is essential in this course to interpret the problems and formulate the solution. Relevance of students outcomes should be revised especially student outcome 1 related to complex problems. Students are made aware of the effect of ethical probabilistic decision making on engineering problems, environment and society at large.
0600-304	Engineering Probability and Statistics	Students are very good in using specialized software and engineering tools related to the course, i.e., programmable hand-held calculators. However, most of them have problems in English communication especially reading comprehension, which is essential in this course to interpret the problems and formulate the solution. Relevance of students outcomes should be revised especially student outcome 1 related to complex problems. Students are made aware of the effect of ethical probabilistic decision making on engineering problems, environment and society at large.
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	Students have to expose more on coding and programming. Most of the students took the calculus, linear algebra, and differential equation long time ago so they show some struggling in understanding the concept of the numerical method. I strongly recommend to increase the weight of the midterms grades to 40% and

		decrease the final weight to 30%. The remaining 30% will be distributed as 15% lab activity, 7.5% MATLAB quizzes, and 7.5% in-class MATLAB written quizzes or MATLAB assignments. The proposed distribution of the grades will make sure that the students who is not strong enough on MATLAB and does not have adequate knowledge in MATLAB will not pass the class.
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	The class has 30 students, most of them did very well in this semester. Out of the 5 F/FA students, 3 did not show up for the final and got FA grade, and 2 students with F grade. I noticed the students performance was enhancing throughout the semester, and I've noticed a very good/excellent performance in the final exam, compared to the previous semesters. I should mention that the lectures were online hosted through MS team, and all exams were conducted on campus.

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-204	Strength of Materials	H	M					L
0600-204	Strength of Materials	H	M					L
0600-208	Engineering Thermodynamics	H			L			
0600-208	Engineering Thermodynamics	H			L			
0600-209	Engineering Economy	H			M			
0600-209	Engineering Economy	H			M			
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	H				M		L
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING							
0600-308	Numerical Methods in Engineering	H						L

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-204	Strength of Materials	4	4					
0600-204	Strength of Materials	2	2					3
0600-208	Engineering Thermodynamics	2			3			
0600-208	Engineering Thermodynamics	2			3			
0600-209	Engineering Economy	5			5			
0600-209	Engineering Economy	5			5			
0600-304	Engineering Probability and Statistics	3			3		3	2
0600-304	Engineering Probability and Statistics	3			4		3	4

0600-304	Engineering Probability and Statistics	3			4		4	4
0600-304	Engineering Probability and Statistics	2			2		2	2
0600-304	Engineering Probability and Statistics	4			2		4	4
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	3				4		4
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	4		3				3
0600-308	Numerical Methods in Engineering	5						5
	Weighted Average	**3.3**	**3**	**0**	**3.7**	**4**	**3.2**	**3.4**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0600-204	Strength of Materials	This batch of students understood the concepts of strength of materials to a good level as demonstrated by their performance in exams. Tutorial sessions by the TAs are likely to further improve student performance. Students are of the opinion that the video recording of the lectures is helpful in understanding the concepts.
0600-208	Engineering Thermodynamics	The student's performance is not improving. We should consider a tutoring program for ENG208. Quizzes only are not enough. Students need to practice problems under supervision-- tutoring program will be helpful --a different strategy should also be developed to encourage students to practice problem-solving. Computer programs, such as EES, should be given more time and used to enhance students' understanding of the basic concepts. Students have difficulty with units--- which should be addressed in future teaching of this course
0600-208	Engineering Thermodynamics	Below average group
0600-304	Engineering Probability and Statistics	Students are week in math and analytical skills
0600-304	Engineering Probability and Statistics	Students are very good in using specialized software and engineering tools related to the course, i.e., programmable hand-held calculators. However, most of them have problems in English communication especially reading comprehension, which is essential in this course to interpret the problems and formulate the solution. Relevance of students outcomes should be revised especially student outcome 1 related to complex problems. Students are made aware of the effect of ethical probabilistic decision making on engineering problems, environment and society at large.

0600-304	Engineering Probability and Statistics	Students are very good in using specialized software and engineering tools related to the course, i.e., programmable hand-held calculators. However, most of them have problems in English communication especially reading comprehension, which is essential in this course to interpret the problems and formulate the solution. Relevance of students outcomes should be revised especially student outcome 1 related to complex problems. Students are made aware of the effect of ethical probabilistic decision making on engineering problems, environment and society at large.
0600-304	Engineering Probability and Statistics	Students are weak in mathematical skills and not serious about learning new engineering concepts. They only strive to get a grade.
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	Students have to expose more on coding and programming. Most of the students took the calculus, linear algebra, and differential equation long time ago so they show some struggling in understanding the concept of the numerical method. I strongly recommend to increase the weight of the midterms grades to 40% and decrease the final weight to 30%. The remaining 30% will be distributed as 15% lab activity, 7.5% MATLAB quizzes, and 7.5% in-class MATLAB written quizzes or MATLAB assignments. The proposed distribution of the grades will make sure that the students who is not strong enough on MATLAB and does not have adequate knowledge in MATLAB will not pass the class.
0600-308	Numerical Methods in Engineering	None

Summer Semester 20/21

RELEVANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-208	Engineering Thermodynamics	H			L			
0600-209	Engineering Economy	H			M			
0600-304	Engineering Probability and Statistics	H			L		M	M
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	H				M		L

PERFORMANCE

Course Number	Course Name	1	2	3	4	5	6	7
0600-208	Engineering Thermodynamics	4			4			
0600-209	Engineering Economy	4			4			
0600-304	Engineering Probability and Statistics	2			3		3	2
0600-307	APPLIED NUMERICAL METHODS AND PROGRAMMING	5				4		4
	Weighted Average	**3.8**	**0**	**0**	**3.8**	**4**	**3**	**2.7**

Remarks and Suggestions

Course Number	Course Name	Remarks and Suggestions
0600-208	Engineering Thermodynamics	Excellent group
0600-304	Engineering Probability and Statistics	I have a low density class (Only 6 female students). Their performance was relatively low. They took many summer courses and couldn't manage between them. The class didn't have a TA which add additional difficulty to the course

Instructor Class Evaluation Form

Kuwait University

College of Engineering & Petroleum

Instructor Class Evaluation Form

Course Number and Title:
Instructor:
Semester:
Number of times that you taught this course at KU:

EVALUATION METHOD	**GRADING SYSTEM**
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
TOTAL	*100 %*

	GRADE DISTRIBUTION													
	A	A–	B+	B	B–	C+	C	C–	D+	D	F *or* FA	Sum	I	W
Weight (W)	4.0	3.6	3.3	3.0	2.6	2.3	2.0	1.6	1.3	1.0	0.0	–	–	–
No. of Students (N)												**ΣN =**		
N*W												**Σ(W*N) =**		

CLASS GPA = Σ (W* N) / Σ N = _____

CLASS GPA without (F or FA) = _____

Program Outcomes	Relevance				Performance					Explanation Activities and Practices	Interpretation & Evidence
	Not Relevant	Somewhat Relevant	Moderately Relevant	High Relevant	Very Weak	Weak	Satisfactory	Very Good	Excellent		
1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
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.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
3. Communicate effectively with a range of audiences.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
4. 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.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
6. Develop and conduct appropriate experimentation analyze and interpret data, and use engineering judgment to draw conclusions.	☐	☐	☐	☐	☐	☐	☐	☐	☐		
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.	☐	☐	☐	☐	☐	☐	☐	☐	☐		

Remarks and Suggestions:

_____
_____
_____

Instructions for Course Assessment

Kuwait University
College of Engineering and petroleum
Office of Academic Assessment

Instructions for Course Assessment

Introduction

All instructors at the college should carry out course assessment and submit a course assessment file to the departmental assessment coordinators at the end of the term. In the following some guidelines on how to prepare an assessment file are given:

Objectives of Course Assessment

- To obtain direct measurements of student performance
- To assure that students are acquiring the required outcomes
- To assure that learning experiences are consistent with the outcomes
- To establish the required feedback loops

The items to be included in the course assessment file

- A hardcopy of completed instructor class evaluation form (ICEF) submitted online.
- A copy of the list of final grades
- Course syllabus including the following information as a minimum
    - Instructor contact details and office hours
    - Textbook and references
    - Tentative course outline
    - Dates of mid-term and final exams
    - Grading policy
- A list of course outcomes and their relationship with the college or program outcomes (Course description and classification)
- A copy of final exam and major term project(s)
- Summary data and analysis from various assessment tools (e.g., oral and written report evaluation, teamwork, self evaluations)
- Samples of student works supporting the ICEF (e.g., key assignments, homework, exams, project reports, essays etc.)
- Any other supporting material demonstrating student achievement (e.g., sample class portfolios, video recordings, etc.)

Instructor Class Evaluation Form

The main assessment tool used for the course assessment is the Instructor Class Evaluation Form. This form reports the grade distribution as well as the assessment of program student outcomes served by the course. First, the instructors are asked to indicate the level of importance of each outcome as it relates to the course. Normally, this rating should have been already assigned by the Teaching Area Group using the following guidelines:

H (highly relevant (3)): Demonstrating this outcome is critical for the students to perform successfully; or the students may benefit significantly from this course toward the outcome (formal instruction, practice, assessment).

M (Moderately relevant (2)): Demonstrating this outcome has considerable impact on the overall performance of the student, or the students may benefit moderately from this course toward the outcome (informal instruction, practice, and assessment).

L (Somewhat relevant (1)): Demonstrating this outcome has only minor impact on the overall performance of the student. However, there are opportunities to observe this outcome (practice and assessment).

The instructors then evaluate student performance relative to what is normally expected from them at their level according to the following scale:

- Students' performance was very weak (1)
- Students' performance was weak (2)
- Students' performance was satisfactory (3)
- Students' performance very good (4)
- Students' performance excellent (5)

The best method of evaluation of the student achievement is to assess individual students relative to the outcomes. Then, an average rating can be obtained for the whole class. The rating should be justified by referring to specific student works or assessment results.

The instructors are also asked to provide feedback on the course content and outcomes, instructional and assessment methods. They also comment on the achievement of program outcomes and indicate any deficiencies observed.

Assessment Methods

The assessment methods include but not limited to the following:

- Performance Appraisals (e.g., written and oral presentations, teamwork, lab experiments, artwork, etc.)
- Surveys (Online tools, or custom designed forms seeking student perception of learning gains, or their opinions on certain aspects)
- Traditional assessment methods (Exams, homework, project, etc.)

Assessment Tools

The following is a list of available assessment instruments to be used in course assessment. Instructors are encouraged to use standard tools as much as possible to facilitate analysis. However, these tools can be modified to suit a specific course, or additional tools can be adopted.

- Written report evaluation form or rubric
- Oral presentation evaluation form or rubric
- Lab report evaluation form or rubric
- Teamwork evaluation form or rubric
- Term Project evaluation form or rubric
- Final Exam evaluation form or rubric

The instructors are encouraged to submit summary statistical data in addition to the copies of the completed forms.

APPENDIX B:
EXIT SURVEY RESULTS

For the Academic year 2020-2021

Introduction:

This report presents the College of Engineering and Petroleum Exit Survey Results for the academic year 2020-2021. The exit survey form, given in Appendix A, was provided to students online. Graduating students presenting their capstone projects during the engineering design day must provide proof of completing the survey to the Engineering Training and of Alumni Center (ETAC).

The survey is maintained and conducted by the Office of Academic Assessment (OAA). The overall college results are analyzed in the following pages. The data for individual departmental results is given in Appendices B-H, and they are provided accordingly for further analysis and reporting as part of their program assessment process.

Survey Statistics:

The exit survey form contains five parts covering different aspects that the College of Engineering and Petroleum consider important for students to assess. The first part is about the assessment of engineering student skills where the first 13 questions are common among all departments, and the rest are customized by each program. The second part is about the assessment of the importance of educational objectives to the careers of graduating students. The third part is about the assessment of the learning environment. The fourth part covers the assessment of support services, and the fifth part is a general assessment that includes open ended questions.

A total of **459** students participated in the exit survey during the academic year 2020-2021. Table 1 shows the number of students who participated in the survey according to department, along with cumulative college-wide figures.

Table 1 Exit survey participation statistics for the academic year 2020-2021

Departments	Total Responses	Total Students Graduated	Percentage
CHEMICAL	65	101	64%
CIVIL	32	181	18%
COMPUTER	100	102	98%
ELECTRICAL	154	161	95%
IMSE	31	42	73%
MECHANICAL	21	144	15%
PETROLEUM	56	57	98%
TOTAL	459	788	58%

Survey Results:

Table 2 shows students' intentions for their future plans. Most of the students (81%) expect to work for the government, 53% for the private sector, 31% of the students are planning or at least thinking of joining a graduate program, and 32% start their own business.

Table 3 shows students' feedback for the first group of questions in the exit survey, which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average rating and the satisfaction index (SI) out of 5 and as percentage for each item which is the percentage of the students who evaluated themselves as well prepared and very well prepared. An SI value lower than 50 % may be considered to indicate dissatisfaction.

Table 2 Students Future Plans

Plans	N	%
Intend to work in the government sector.	**371**	**81%**
Intend to work in the private sector.	**244**	**53%**
Intend to go to graduate school.	**142**	**31%**
Intend to start my own business	**146**	**32%**
Intend to do other things	**55**	**12%**
Complete studying		
Complete studying		
Continuing my study (master)		
Complete Master		
Ss		
Learn new languages and new skills.		
Postgraduate		
Be a mom		
I want to get a master inshallah		
Public relations		
i will go to london to study graphic designer		
I want to figure what I am interested in more in computer engineering field		
-		
no		
Petrol		
study to get master and doctorate		
maybe		

To complete my study graduate degree to be an TA
I intend to get a masters degree
I will attend to kuwait airport
No

Table 3 Assessment of the outcome attributes acquired at Kuwait University – Engineering programs

The following skills, abilities or attributes were assessed for contribution towards student outcomes 1-7.

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

Following the mapping procedure outlined in Table 3, outcome assessment results are shown in Table 4 according to the ABET student outcomes (1-7); acquired at Kuwait University for graduates of all Engineering programs.

Table 4 Assessment of the Student Outcomes (1-7) acquired at Kuwait University – ALL Engineering programs

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.01 80%	3.32 66%
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	4.03 81%	3.16 63%
3	an ability to communicate effectively with a range of audiences	4.20 84%	3.54 71%
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	4.16 83%	3.46 69%
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	4.27 85%	3.66 73%
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.07 81%	3.24 65%
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.14 83%	3.45 69%

Figure 1 shows the average rating and satisfaction index for the new student outcomes. As it can be seen, the students are satisfied by the outcomes acquired at the college and university.

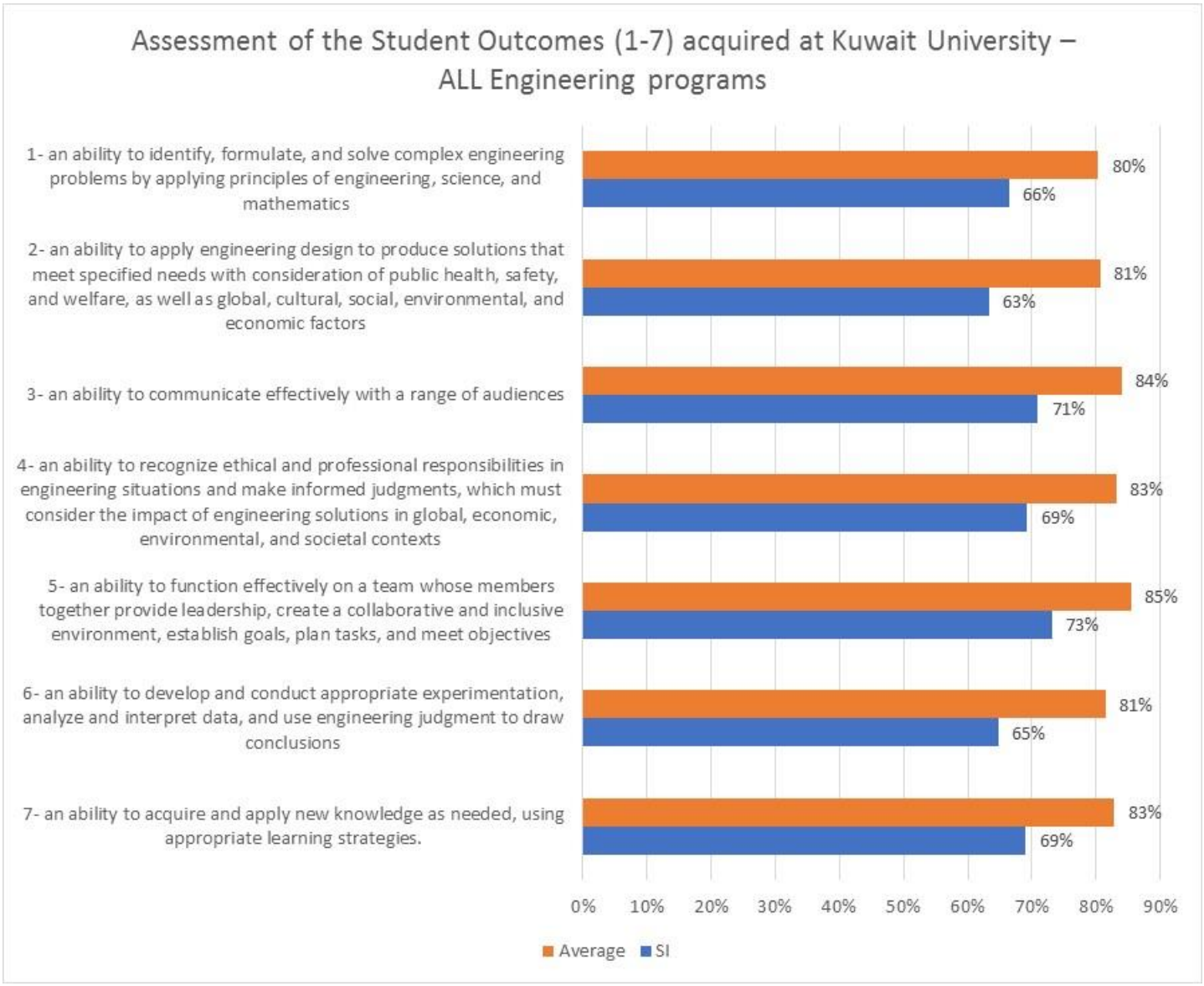


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 5 shows students' feedback for the group of questions about how important the educational objectives are to their careers. Figure 2 shows the average rating and satisfaction index for this group of questions.

Table 5 Assessment of the relevance of Educational Objectives – All Engineering programs

#	Outcome	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)	226	121	93	11	4	4.2	3.55
		50%	27%	20%	2%	1%	84%	71%
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).	211	122	98	18	4	4.1	3.41
		47%	27%	22%	4%	1%	83%	68%
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	207	133	92	17	5	4.1	3.45
		46%	29%	20%	4%	1%	83%	69%
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	182	129	104	29	10	4.0	3.14
		40%	28%	23%	6%	2%	80%	63%
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	172	102	126	34	12	3.9	2.84
		39%	23%	28%	8%	3%	77%	57%
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	190	121	99	31	8	4.0	3.19
		42%	27%	22%	7%	2%	80%	64%

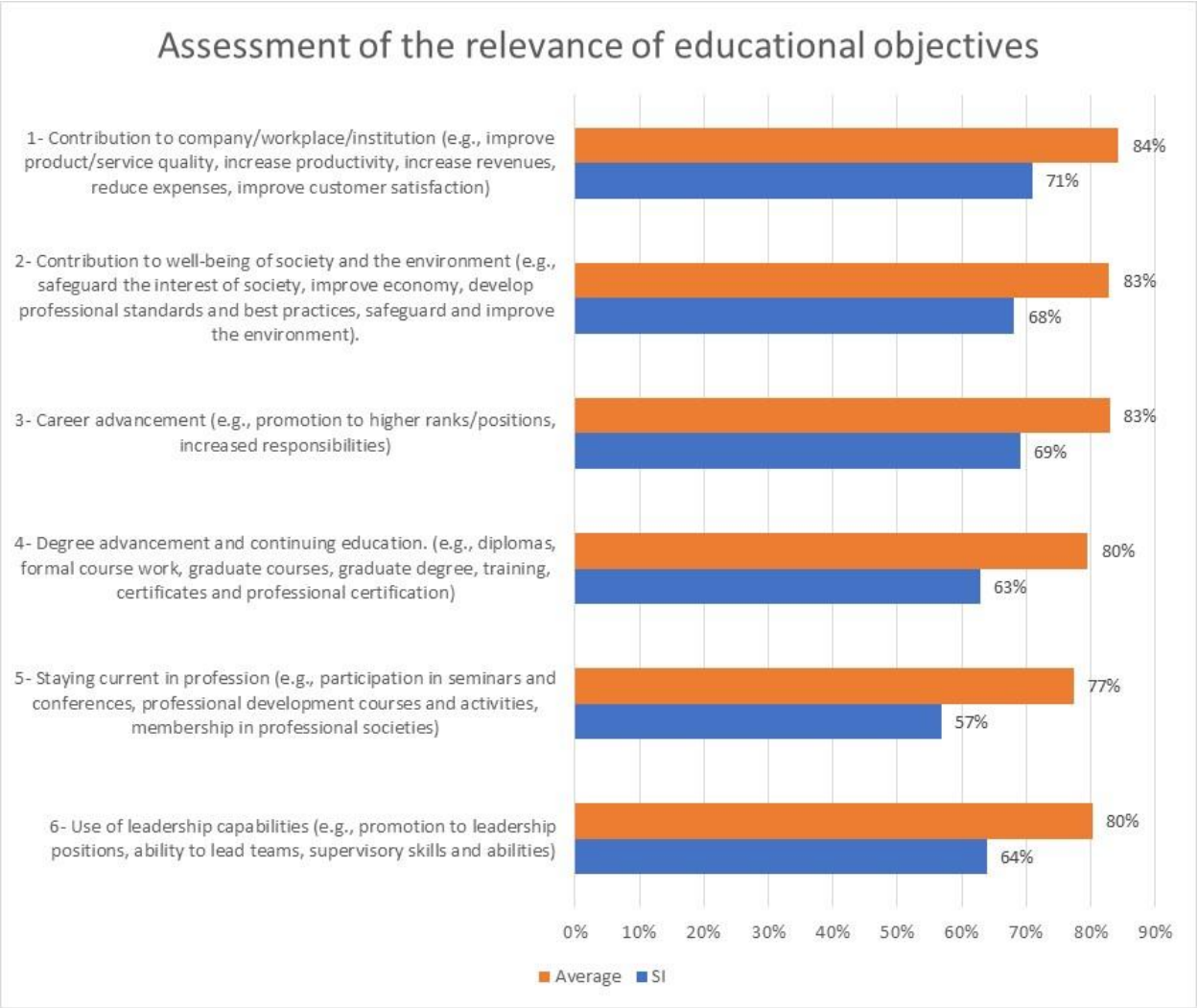


Figure 2 Assessment of the relevance of Educational Objectives at Kuwait University

Table 6 shows students' feedback for the group of questions about their level of satisfaction for the learning Environment at Kuwait University. Figure 3 shows the average rating and satisfaction index for this group of questions.

Notice that while the averages are at satisfactory levels the SIs are low, which indicates that students are generally not very satisfied with the learning Environment at Kuwait University. Looking at the results, we can see that the satisfaction index is low (mostly below 50%) for the following:

1.

- Quality of instruction and support for learning provided by the faculty members in: science.
- Quality of advice by the staff with respect to: career planning
- Quality of the facilities: classroom, science laboratories, engineering laboratories, computing facilities, and libraries.

Table 6 Assessment of the learning environment at Kuwait University - Engineering programs

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	155	97	119	53	31	4	3.6	**2.8**
		34%	21%	26%	12%	7%	1%	72%	**56%**
2	- Computers (Programming and usage of software packages)	126	121	124	59	21	8	3.6	**2.7**
		27%	26%	27%	13%	5%	2%	72%	**54%**
3	- Humanities and Social sciences	128	115	133	44	16	23	3.7	**2.8**
		28%	25%	29%	10%	3%	5%	74%	**56%**
4	- General Engineering	158	123	127	38	8	5	3.8	**3.1**
		34%	27%	28%	8%	2%	1%	76%	**62%**
5	- Engineering within major	195	118	105	31	6	4	4	**3.4**
		42%	26%	23%	7%	1%	1%	80%	**68%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		155	114	127	37	12	14	3.8	**3**
		34%	25%	28%	8%	3%	3%	76%	**60%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	160	94	129	39	14	23	3.8	**2.9**
		35%	20%	28%	8%	3%	5%	76%	**58%**
8	- Career planning	136	86	124	50	31	32	3.6	**2.6**
		30%	19%	27%	11%	7%	7%	72%	**52%**
D. Equity of treatment by:									

9	- Academic administrators	143	107	134	43	18	14	3.7	**2.8**
		31%	23%	29%	9%	4%	3%	74%	**56%**
10	- Faculty	138	103	152	41	18	7	3.7	**2.7**
		30%	22%	33%	9%	4%	2%	74%	**54%**
11	- Teaching assistants and engineers	159	112	129	42	12	5	3.8	**3**
		35%	24%	28%	9%	3%	1%	76%	**60%**
12	- Fellow students	150	114	137	40	8	10	3.8	**2.9**
		33%	25%	30%	9%	2%	2%	76%	**58%**
E. Quality of the facilities:									
13	- Classrooms	123	91	137	65	36	7	3.4	**2.4**
		27%	20%	30%	14%	8%	2%	68%	**48%**
14	- Science laboratories	107	94	136	81	32	9	3.4	**2.2**
		23%	20%	30%	18%	7%	2%	68%	**44%**
15	- Engineering Laboratories	124	95	134	61	37	8	3.5	**2.4**
		27%	21%	29%	13%	8%	2%	70%	**48%**
16	- Computing facilities	120	94	146	61	31	7	3.5	**2.4**
		26%	20%	32%	13%	7%	2%	70%	**48%**
17	- Libraries	150	99	129	56	16	9	3.7	**2.8**
		33%	22%	28%	12%	3%	2%	74%	**56%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	83	67	59	40	23	187	3.5	**2.8**
		18%	15%	13%	9%	5%	41%	70%	**56%**
19	- Ease of communication with instructors during online learning	99	48	62	42	20	188	3.6	**2.7**
		22%	10%	14%	9%	4%	41%	72%	**54%**
20	- Quality of learning in online laboratory classes	70	49	73	42	30	195	3.3	**2.3**
		15%	11%	16%	9%	7%	42%	66%	**46%**
21	- Online capstone design experience and collaboration with team members	93	56	67	35	17	191	3.6	**2.8**
		20%	12%	15%	8%	4%	42%	72%	**56%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	61	41	71	49	46	191	3.1	**1.9**
		13%	9%	15%	11%	10%	42%	62%	**38%**
23		72	61	79	36	21	190	3.5	**2.5**

	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	16%	13%	17%	8%	5%	41%	70%	**50%**

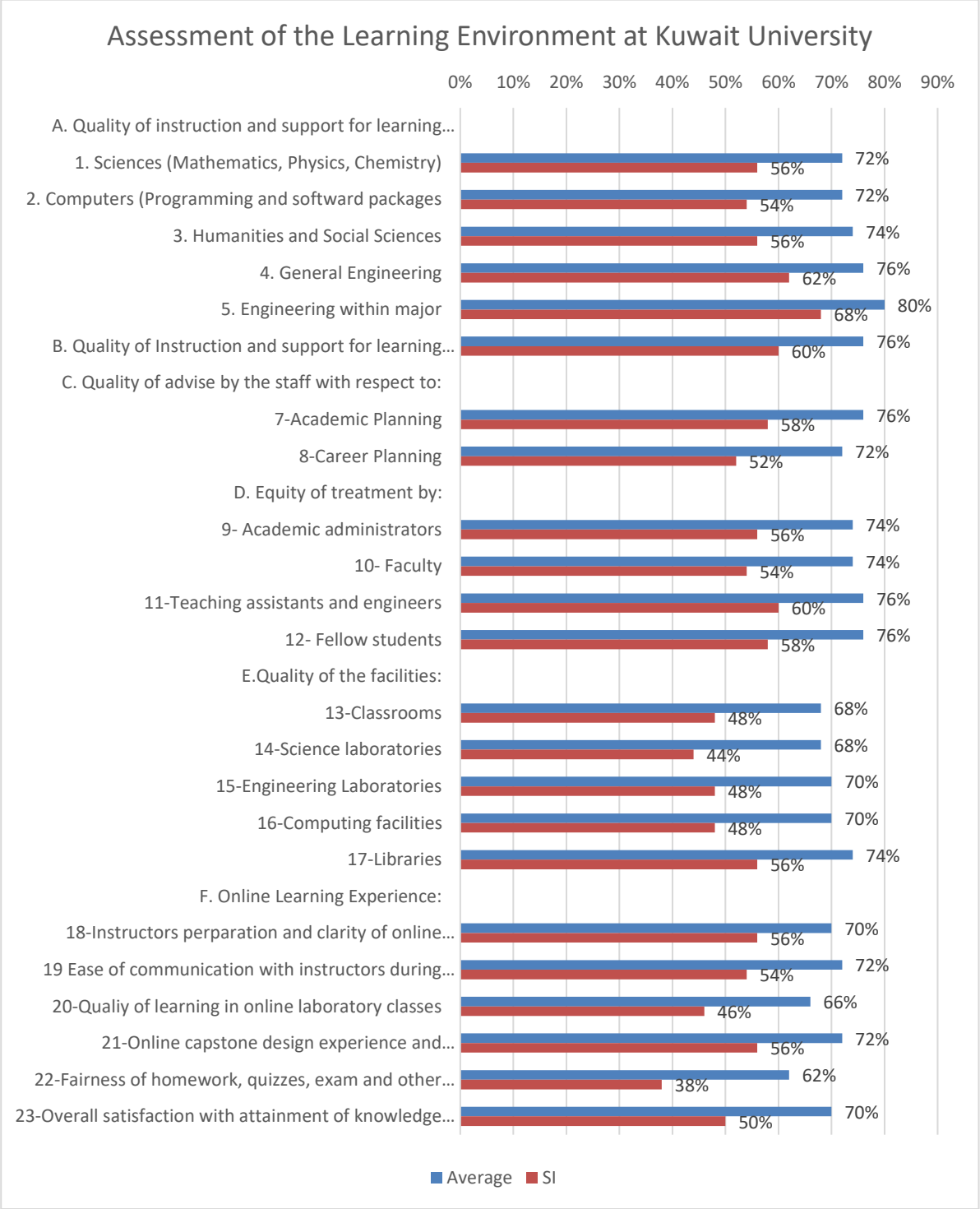


Figure 3 Assessment of the learning Environment at Kuwait University

Table 7 shows students' feedback for the group questions about the students' assessment of the Support Services at Kuwait University. Figure 4 shows the average rating and satisfaction index for this group of questions. The table also shows the amount of interaction they had with each item. As it can be seen the students are generally not satisfied with:

- Other Services: food services, parking, recreation and athletics.

Table 7 Assessment of the Support Services at Kuwait University – Engineering programs

#	Item		5	4	3	2	1	0	Average	SI	3	2	1
	A. Academic Services:												
1	Admissions/Registrar		106	148	106	46	22	31	3.6	3	45	72	43
			23%	32%	23%	10%	5%	7%	72%	60%	10%	16%	9%
2	Training office		119	129	89	27	13	82	3.8	3.3	29	45	84
			26%	28%	19%	6%	3%	18%	76%	66%	6%	10%	18%
3	Libraries		134	168	85	29	11	32	3.9	3.5	43	69	46
			29%	37%	19%	6%	2%	7%	78%	70%	9%	15%	10%
4	Bookstores		112	173	88	41	17	28	3.7	3.3	38	72	51
			24%	38%	19%	9%	4%	6%	74%	66%	8%	16%	11%
	B. Administrative Offices:												
5	Students' affairs office in your department		145	153	78	33	11	39	3.9	3.5	33	64	53
			32%	33%	17%	7%	2%	8%	78%	70%	7%	14%	12%
6	Administrative offices in the college		124	166	88	29	10	42	3.9	3.5	24	72	54
			27%	36%	19%	6%	2%	9%	78%	70%	5%	16%	12%
	C. Other Services:												
7	Health services		117	127	73	47	20	75	3.7	3.2	14	46	92
			25%	28%	16%	10%	4%	16%	74%	64%	3%	10%	20%
8	Food services		120	132	97	59	34	17	3.6	2.9	73	59	23
			26%	29%	21%	13%	7%	4%	72%	58%	16%	13%	5%
9	Parking		72	66	63	81	148	29	2.6	1.6	92	38	28
			16%	14%	14%	18%	32%	6%	52%	32%	20%	8%	6%
10	Recreation and athletics		74	86	67	59	75	98	3.1	2.2	12	32	112
			16%	19%	15%	13%	16%	21%	62%	44%	3%	7%	24%
11	Others		67	49	48	15	15	265	3.7	3	17	15	61

			15%	11%	10%	3%	3%	58%	74%	**60%**	4%	3%	13%

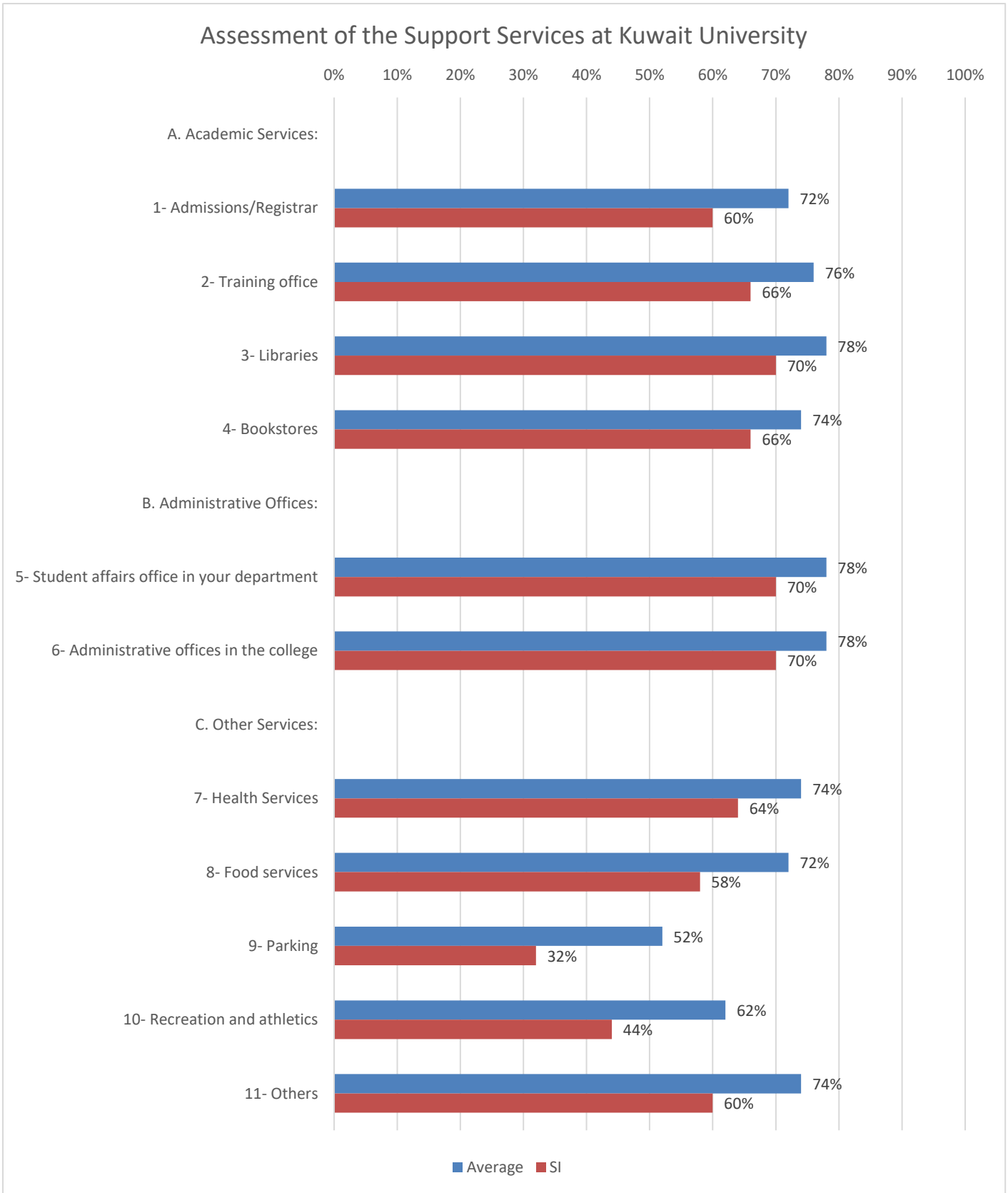


Figure 4 Assessment of the Support Services at Kuwait University

Tables 8-11 show the differences among departments for each of the four groups of questions mentioned above. Figures 5-8 show the average rating for each of the four groups of questions.

Table 8 Differences among Engineering Departments – Student outcomes

#	Outcome		chemical	civil	computer	electrical	ims	mechanical	petroleum	College
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	Average Rating	4.00	3.90	4.00	3.95	4.00	4.15	4.10	4.01
		Satisfaction Index	3.25	3.40	3.05	3.00	3.20	3.80	3.55	3.32
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	Average Rating	4.05	4.45	3.85	3.85	3.85	4.05	4.10	4.03
		Satisfaction Index	3.2	3.90	3.05	2.85	2.65	3.20	3.30	3.16
3	an ability to communicate effectively with a range of audiences	Average Rating	4.20	4.65	4.10	4.00	4.10	4.05	4.30	4.20
		Satisfaction Index	3.35	4.45	3.50	3.20	3.40	3.30	3.60	3.54
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	Average Rating	4.15	4.65	4.15	4.00	4.05	3.90	4.20	4.16
		Satisfaction Index	3.4	4.40	3.45	3.60	3.20	2.65	3.55	3.46
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan	Average Rating	4.25	4.75	4.25	4.15	4.05	4.20	4.25	4.27
		Satisfaction Index	3.45	4.70	3.60	3.35	3.40	3.45	3.65	3.66

	tasks, and meet objectives									
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	Average Rating	3.95	4.60	3.95	3.95	3.80	4.15	4.10	4.07
		Satisfaction Index	2.8	4.40	3.15	3.05	2.75	3.25	3.25	3.24
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	Average Rating	4.15	4.55	4.15	4.00	4.10	4.05	4.00	4.14
		Satisfaction Index	3.45	4.10	3.40	3.25	3.35	3.35	3.25	3.45

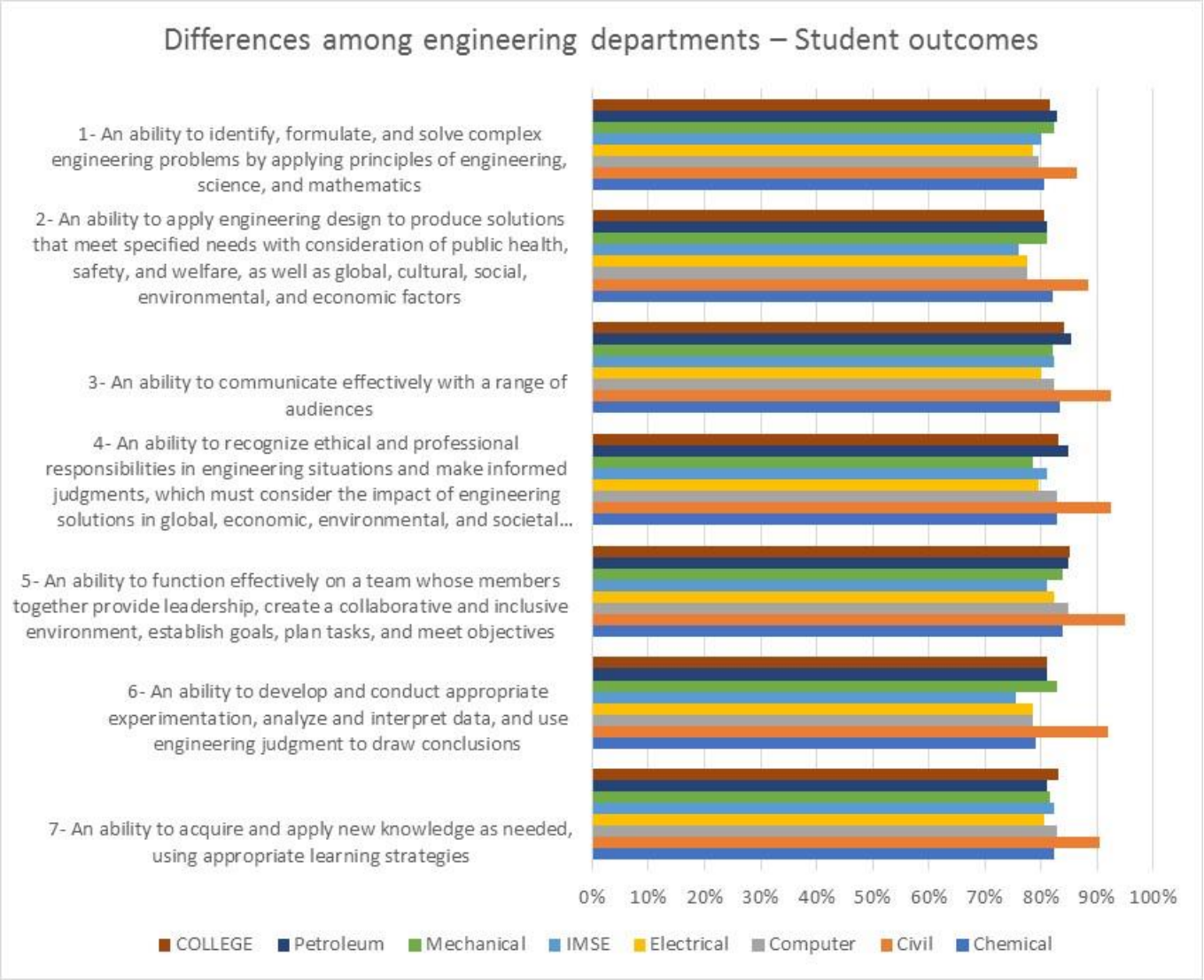


Figure 5 Differences among engineering departments – Student outcomes

Table 9 Differences among departments – Relevance of Educational Objectives

#	Objective elements	Chemical		Civil		Computer		Electrical		ISME		Mechanical		Petroleum		College	
		Avg.	SI	Avg.	SI	Avg	SI	Avg	SI	Avg	SI	Avg	SI	Avg	SI	Avg	SI
1	Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)	4.3	3.8	4.2	3.5	4.0	3.2	4.2	3.5	4.3	3.6	4.1	3.7	4.5	4.0	4.2	3.55
		85%	76%	83%	70%	80%	63%	85%	70%	86%	72%	83%	73%	90%	80%	84%	71%
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).	4.3	3.6	4.3	3.7	4.1	3.4	4.1	3.3	3.9	3.0	4.0	3.3	4.2	3.6	4.1	3.41
		85%	72%	85%	73%	82%	68%	82%	66%	79%	61%	81%	66%	85%	72%	83%	68%
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	4.1	3.3	4.2	3.4	4.1	3.3	4.2	3.6	4.0	3.4	4.1	3.5	4.2	3.6	4.1	3.45
		82%	66%	83%	68%	82%	66%	85%	72%	81%	68%	83%	70%	84%	71%	83%	69%
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	4.0	3.1	4.3	3.6	3.7	2.7	4.0	3.2	3.7	2.6	4.0	3.0	4.3	3.7	4.0	3.14
		79%	62%	85%	71%	75%	55%	81%	65%	74%	53%	79%	60%	85%	74%	80%	63%
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	3.7	2.4	3.9	3.0	3.7	2.6	4.0	3.0	3.5	2.0	4.0	2.9	4.2	3.7	3.9	2.84
		74%	49%	78%	60%	74%	51%	80%	60%	69%	40%	79%	57%	84%	74%	77%	57%
6		3.8	2.8	4.0	3.2	3.8	2.8	4.1	3.3	4.0	3.2	3.9	3.2	4.3	4.0	4.0	3.19

	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	77%	57%	79%	64%	75%	55%	83%	67%	80%	63%	78%	64%	87%	79%	80%	64%

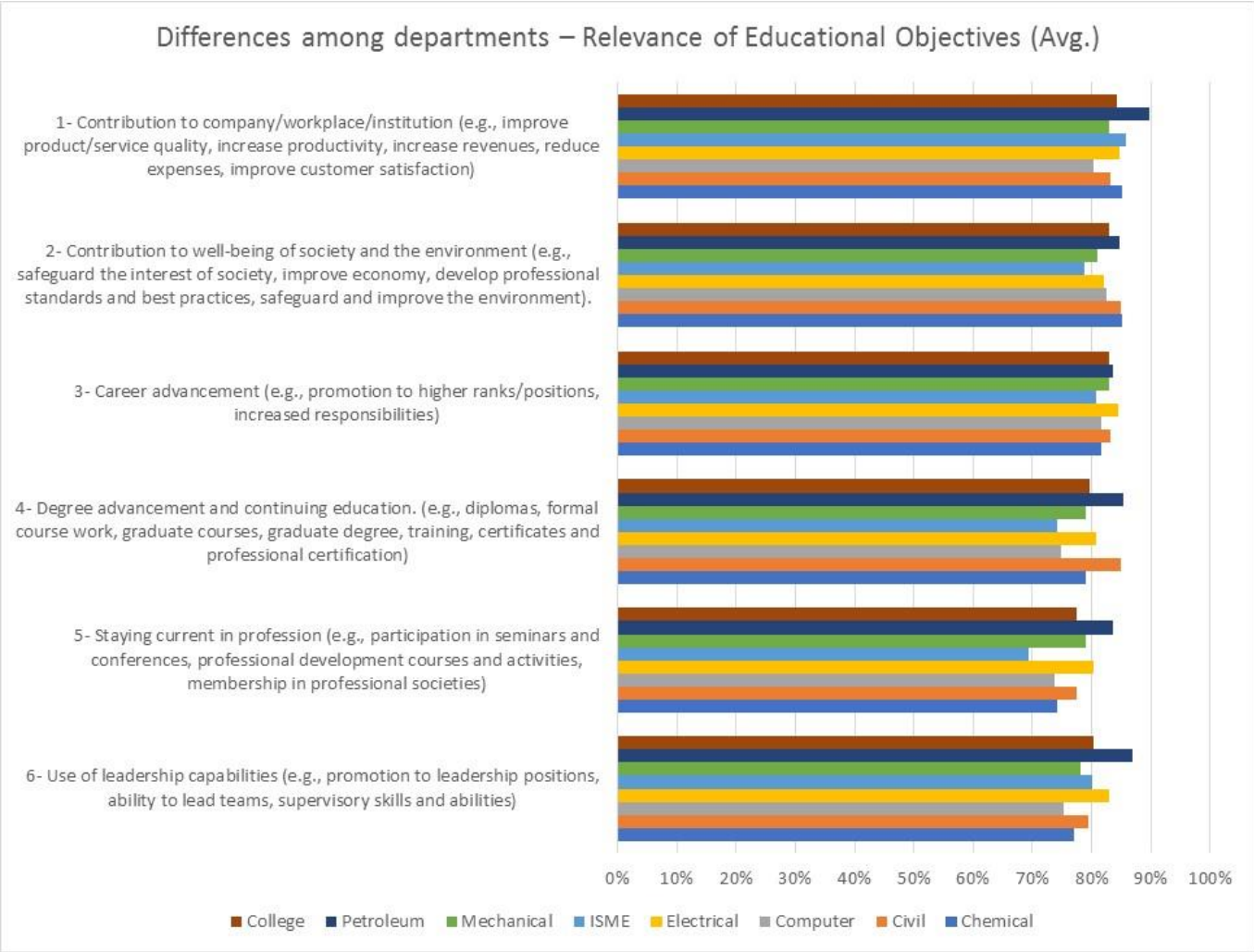


Figure 6 Differences among departments – Relevance of Educational Objectives

Table 10 Differences among departments – Learning environment

#	Outcomes		chemical	civil	computer	electrical	ims	mechanical	petroleum	College
A. Quality of instruction and support for learning provided by the faculty members in:										
1	- Sciences (Mathematics, Physics, Chemistry)	Average Rating	76%	70%	68%	74%	66%	70%	82%	72%
		Satisfaction Index	62%	54%	50%	54%	38%	62%	70%	56%
2	- Computers (Programming and usage of software packages)	Average Rating	74%	66%	78%	70%	60%	72%	76%	72%
		Satisfaction Index	58%	32%	66%	54%	22%	52%	62%	54%
3	- Humanities and Social sciences	Average Rating	70%	76%	74%	74%	68%	74%	74%	74%
		Satisfaction Index	50%	60%	58%	56%	48%	52%	60%	56%
4	- General Engineering	Average Rating	76%	80%	74%	78%	74%	76%	84%	76%
		Satisfaction Index	64%	72%	54%	58%	58%	58%	84%	62%
5	- Engineering within major	Average Rating	76%	88%	78%	82%	84%	72%	84%	80%
		Satisfaction Index	64%	84%	66%	68%	80%	62%	74%	68%
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		Average Rating	74%	78%	76%	78%	72%	70%	78%	76%
		Satisfaction Index	58%	68%	62%	60%	50%	52%	66%	60%
C. Quality of advise by the staff with respect to:										
7	- Academic planning	Average Rating	70%	76%	78%	78%	74%	64%	80%	76%
		Satisfaction Index	44%	64%	60%	58%	62%	46%	70%	58%

8	- Career planning	Average Rating	68%	72%	72%	76%	64%	58%	74%	72%
		Satisfaction Index	42%	54%	56%	52%	50%	36%	62%	52%
D. Equity of treatment by:										
9	- Academic administrators	Average Rating	72%	76%	76%	74%	72%	64%	76%	74%
		Satisfaction Index	50%	60%	60%	56%	50%	42%	66%	56%
10	- Faculty	Average Rating	72%	76%	72%	74%	72%	66%	74%	74%
		Satisfaction Index	54%	62%	54%	52%	42%	38%	62%	54%
11	- Teaching assistants and engineers	Average Rating	78%	80%	72%	78%	78%	70%	78%	76%
		Satisfaction Index	64%	72%	56%	58%	54%	48%	68%	60%
12	- Fellow students	Average Rating	76%	84%	76%	76%	72%	68%	78%	76%
		Satisfaction Index	58%	72%	60%	56%	40%	48%	70%	58%
E. Quality of the facilities:										
13	- Classrooms	Average Rating	72%	66%	66%	72%	60%	52%	78%	68%
		Satisfaction Index	52%	46%	44%	48%	28%	20%	66%	48%
14	- Science laboratories	Average Rating	70%	66%	66%	68%	60%	50%	76%	68%
		Satisfaction Index	50%	46%	40%	44%	28%	26%	64%	44%
15	- Engineering Laboratories	Average Rating	68%	66%	68%	72%	62%	50%	76%	70%
		Satisfaction Index	52%	44%	46%	52%	28%	30%	62%	48%
16	- Computing facilities	Average Rating	70%	66%	70%	70%	60%	60%	76%	70%

		Satisfaction Index	44%	46%	48%	50%	24%	34%	64%	48%
17	- Libraries	Average Rating	76%	74%	70%	76%	68%	66%	80%	74%
		Satisfaction Index	60%	62%	48%	56%	40%	48%	68%	56%
F. Online Learning Experience:										
18	- Instructors prepartion and clarity of online instructions	Average Rating	62%	74%	68%	74%	66%	68%	78%	70%
		Satisfaction Index	38%	68%	46%	60%	40%	60%	74%	56%
19	- Ease of communication with instructors during online learning	Average Rating	68%	72%	72%	74%	66%	84%	74%	72%
		Satisfaction Index	46%	52%	54%	56%	46%	80%	60%	54%
20	- Quality of learning in online laboratory classes	Average Rating	64%	66%	64%	66%	60%	72%	78%	66%
		Satisfaction Index	34%	46%	44%	46%	36%	60%	60%	46%
21	- Online capstone design experience and collaboration with team members	Average Rating	64%	80%	72%	72%	60%	76%	86%	72%
		Satisfaction Index	40%	74%	50%	54%	30%	80%	80%	56%
22	- Fairness of homework, quizzes, exam and other online assessment activities	Average Rating	64%	66%	56%	64%	50%	60%	62%	62%
		Satisfaction Index	36%	48%	28%	42%	26%	40%	44%	38%
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	Average Rating	64%	76%	66%	70%	62%	68%	76%	70%
		Satisfaction Index	44%	68%	42%	50%	36%	60%	56%	50%


Differences among departments- learning environment
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
A. Quality of instruction and support for learning…
1. Sciences (Mathematics, Physics, Chemistry)
2. Computers (Programming and softward packages
3. Humanities and Social Sciences
4. General Engineering
5. Engineering within major
B. Quality of Instruction and support for learning given…
C. Quality of advise by the staff with respect to:
7-Academic Planning
8-Career Planning
D. Equity of treatment by:
9- Academic administrators
10- Faculty
11-Teaching assistants and engineers
12- Fellow students
E.Quality of the facilities:
13-Classrooms
14-Science laboratories
15-Engineering Laboratories
16-Computing facilities
17-Libraries
F. Online Learning Experience:
18-Instructors prepartion and clarity of online…
19-Ease of communication with instructors during…
20-Quality of learning in online laboratory classes
21-Online capstone design experience and…
22-Fairness of homework, quizzes, exam and other…
23-Overall satisfaction with attainment of knowledge…
Chemical
Civil
Computer
Electrical
IMS
Mechanical
Petroleum
College

Figure 7 Differences among departments – Learning environment

Table 11 Differences among departments – Support Services

#	Outcomes		chemical	civil	computer	electrical	ims	mechanical	petroleum	College
A. Academic Services:										
1	Admissions/Registrar	Average Rating	72%	72%	74%	74%	70%	62%	76%	72%
		Satisfaction Index	60%	50%	68%	58%	54%	34%	64%	60%
2	Training office	Average Rating	74%	72%	82%	76%	72%	66%	80%	76%
		Satisfaction Index	60%	48%	78%	64%	56%	44%	76%	66%
3	Libraries	Average Rating	78%	74%	78%	78%	70%	74%	84%	78%
		Satisfaction Index	74%	58%	70%	74%	58%	66%	78%	70%
4	Bookstores	Average Rating	78%	74%	76%	74%	66%	68%	80%	74%
		Satisfaction Index	74%	60%	68%	68%	46%	58%	66%	66%
B. Administrative Offices:										
5	Students' affairs office in your department	Average Rating	80%	82%	80%	80%	70%	64%	80%	78%
		Satisfaction Index	72%	74%	76%	72%	54%	48%	74%	70%
6	Administrative offices in the college	Average Rating	74%	78%	80%	78%	68%	72%	80%	78%
		Satisfaction Index	60%	70%	78%	72%	46%	56%	80%	70%

C. Other Services:

7	Health services	Average Rating	70%	80%	74%	76%	66%	64%	80%	74%
		Satisfaction Index	60%	74%	62%	66%	54%	44%	74%	64%
8	Food services	Average Rating	72%	76%	70%	72%	64%	58%	74%	72%
		Satisfaction Index	58%	58%	58%	62%	42%	28%	62%	58%
9	Parking	Average Rating	56%	42%	52%	54%	44%	38%	60%	52%
		Satisfaction Index	38%	16%	32%	34%	22%	14%	42%	32%
10	Recreation and athletics	Average Rating	58%	52%	62%	64%	50%	52%	68%	62%
		Satisfaction Index	40%	30%	48%	48%	26%	26%	56%	44%
11	Others	Average Rating	72%	70%	76%	76%	72%	54%	80%	74%
		Satisfaction Index	72%	50%	64%	60%	40%	34%	62%	60%

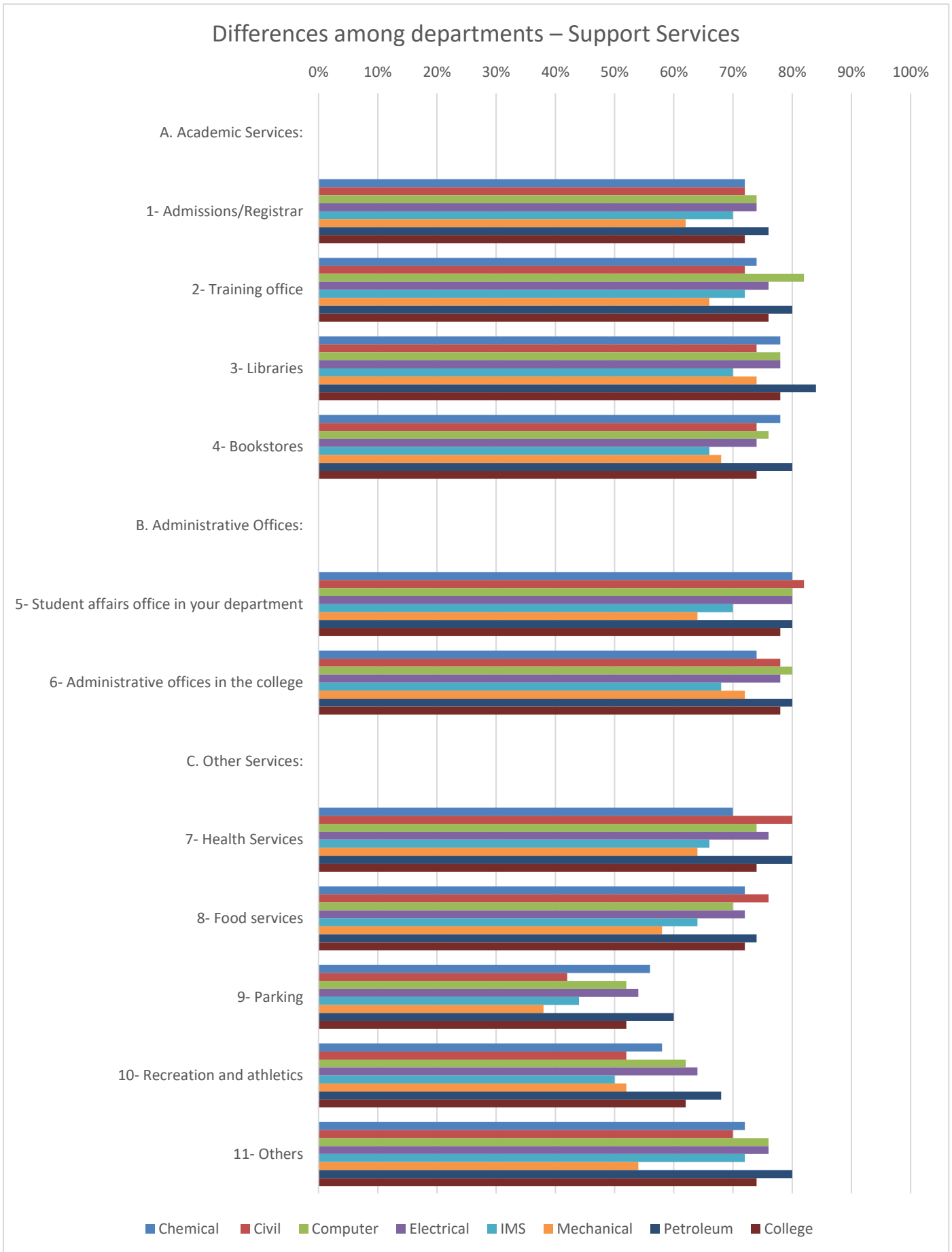

Differences among departments – Support Services
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
A. Academic Services:
1- Admissions/Registrar
2- Training office
3- Libraries
4- Bookstores
B. Administrative Offices:
5- Student affairs office in your department
6- Administrative offices in the college
C. Other Services:
7- Health Services
8- Food services
9- Parking
10- Recreation and athletics
11- Others
Chemical
Civil
Computer
Electrical
IMS
Mechanical
Petroleum
College

Figure 8 Differences among departments – Support Services

Exit Survey Form

Kuwait University

College of Engineering & Petroleum

Office of Academic Assessment

EXIT SURVEY FORM

P.O. Box 5969, Safat 13060, Kuwait http://www.eng.kuniv.edu/oaa/ *Tel: 2498-3331*

The faculty and students of Kuwait University are dedicated to the continuous improvement of undergraduate engineering programs. The information that you provide through this survey will be very helpful in this process. We appreciate your help in filling out this survey. Thank you for your cooperation and support.

Engineering major**:**

☐ Chemical ☐ Civil ☐ Computer ☐ Electrical

☐ Industrial & Management Systems ☐ Mechanical ☐ Petroleum

Name (optional):_____ Gender: ☐ M ☐ F

Year of Graduation: _____

Overall GPA: _____

Future plans (check all that apply)

☐ I intend to work in the government sector.

☐ I intend to work in the private sector.

☐ I intend to go to graduate school.

☐ I intend to start my own business.

☐ I intend to do other things (please specify): _____

Please fill in the tables in the next pages concerning the skills, abilities and attributes that you have acquired while studying Engineering at Kuwait University.

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	☐	☐	☐	☐	☐	☐

2. Educational Objectives

2. 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*	*Cannot rate*
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)	☐	☐	☐	☐	☐	☐

3. Assessment of the Learning Environment at Kuwait University

Please indicate your satisfaction with each of the following aspects of your experience at Kuwait University.

	Level of satisfaction					
	Extremely satisfied	*Very satisfied*	*Satisfied*	*Somewhat satisfied*	*Not satisfied*	*Cannot evaluate*
A. Quality of instruction and support for learning provided by the faculty members in:						
- Sciences (Mathematics, Physics, Chemistry)	☐	☐	☐	☐	☐	☐
- Computers (Programming and usage of software packages)	☐	☐	☐	☐	☐	☐
- Humanities and Social sciences	☐	☐	☐	☐	☐	☐
- General Engineering,	☐	☐	☐	☐	☐	☐
- Engineering within major	☐	☐	☐	☐	☐	☐
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.	☐	☐	☐	☐	☐	☐
C. Quality of advice by the staff with respect to:						
- Academic planning	☐	☐	☐	☐	☐	☐
- Career planning	☐	☐	☐	☐	☐	☐
D. Equity of treatment by:						
- Academic administrators	☐	☐	☐	☐	☐	☐
- Faculty	☐	☐	☐	☐	☐	☐

- Teaching assistants and engineers	☐	☐	☐	☐	☐	☐
- Fellow students	☐	☐	☐	☐	☐	☐
E. Quality of the facilities:						
- Classrooms	☐	☐	☐	☐	☐	☐
- Science laboratories	☐	☐	☐	☐	☐	☐
- Engineering Laboratories	☐	☐	☐	☐	☐	☐
- Computing facilities	☐	☐	☐	☐	☐	☐
- Libraries	☐	☐	☐	☐	☐	☐

	Level of satisfaction					
	Extremely satisfied	*Very satisfied*	*Satisfied*	*Somewhat satisfied*	*Not satisfied*	*Cannot evaluate*
F. Online Learning Experience						
- Instructor's preparation and clarity of online instructions	☐	☐	☐	☐	☐	☐
- Ease of communication with instructors during online learning	☐	☐	☐	☐	☐	☐
- Quality of learning in online laboratory classes	☐	☐	☐	☐	☐	☐

- Online capstone design experience and collaboration with team members	☐	☐	☐	☐	☐	☐
- Fairness of homework, quizzes, exams and other online assessment activities	☐	☐	☐	☐	☐	☐
- Overall satisfaction with attainment of knowledge and engineering skills through online learning	☐	☐	☐	☐	☐	☐

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) _____	☐	☐	☐	☐	☐	☐		☐	☐	☐

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).

_____

Chemical Engineering Program
Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Chemical Engineering**

*** Number of Students participated in the survey:**

CHEMICAL	**65**	**Male**	**8**	**12%**
		Female	**57**	**88%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**49**	**75%**
Intend to work in the private sector.	**39**	**60%**
Intend to go to graduate school.	**14**	**22%**
Intend to start my own business	**12**	**18%**
Intend to do other things	**5**	**8%**
Postgraduate		
study to get master and doctorate		
To complete my study graduate degree to be an TA		

*** Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows

the average score and the satisfaction index out of 5 and as percentage for each item. The results are presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

*** Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

*** Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table 1 Assessment of the outcome attributes acquired at Kuwait University related to Chemical Engineering Program Criteria

#	Outcome Attribute	5	4	3	2	1	Average	SI
1	Competence in tackling Chemical/process engineering problems that are important to local and regional industries.	17	9	10	2	27	2.8	**1.9**
		26%	14%	15%	3%	42%	56%	**38%**

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.0 81%	**3.3** **65%**
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%	**3.2** **64%**
3	an ability to communicate effectively with a range of audiences	4.2 84%	**3.4** **68%**
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%	**3.4** **68%**
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	4.3 84%	**3.5** **69%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.0 79%	**2.8** **56%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.2 83%	**3.5** **69%**

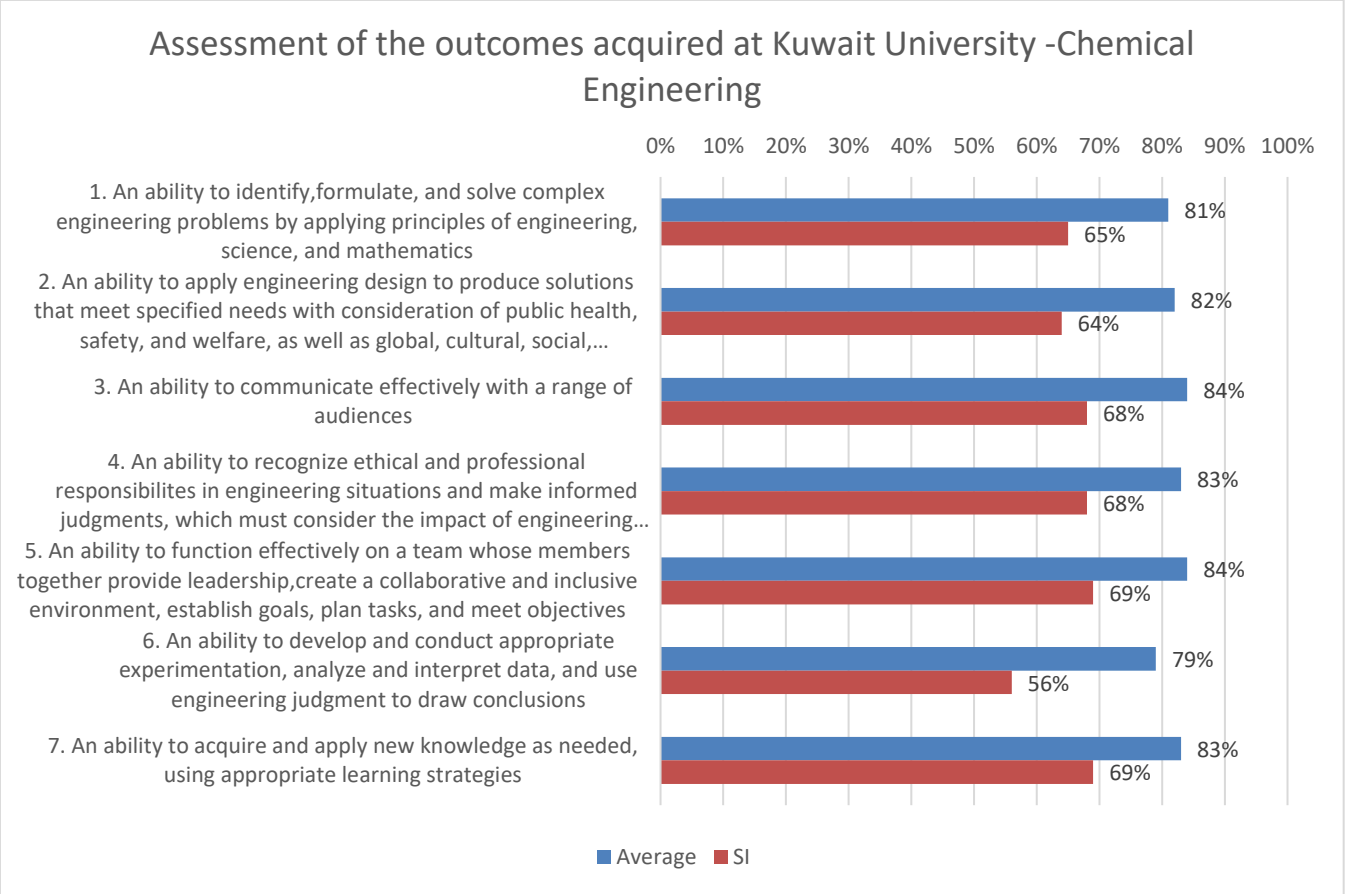


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	35	18	7	4	1	4.3	**3.8**
		54%	28%	11%	6%	2%	85%	**76%**
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).	35	15	13	1	1	4.3	**3.6**
		54%	23%	20%	2%	2%	85%	**72%**
3		28	19	15	1	2	4.1	**3.3**

	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	43%	29%	23%	2%	3%	82%	**66%**
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	25	19	16	3	2	4.0	**3.1**
		38%	29%	25%	5%	3%	79%	**62%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	22	12	24	4	3	3.7	**2.4**
		34%	18%	37%	6%	5%	74%	**49%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	25	15	17	6	2	3.8	**2.8**
		38%	23%	26%	9%	3%	77%	**57%**

Table 4 Level of satisfaction for the learning Environment- Chemical Engineering

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	23	17	16	5	4	0	3.8	**3.1**
		35%	26%	25%	8%	6%	0%	76%	**62%**
2	- Computers (Programming and usage of software packages)	15	22	20	5	2	1	3.7	**2.9**
		23%	34%	31%	8%	3%	2%	74%	**58%**
3	- Humanities and Social sciences	16	15	21	8	3	2	3.5	**2.5**
		25%	23%	32%	12%	5%	3%	70%	**50%**
4	- General Engineering	18	23	20	4	0	0	3.8	**3.2**
		28%	35%	31%	6%	0%	0%	76%	**64%**
5	- Engineering within major	23	18	14	10	0	0	3.8	**3.2**
		35%	28%	22%	15%	0%	0%	76%	**64%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		20	16	16	9	2	2	3.7	**2.9**
		31%	25%	25%	14%	3%	3%	74%	**58%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	17	10	26	7	2	3	3.5	**2.2**
		26%	15%	40%	11%	3%	5%	70%	**44%**
8	- Career planning	18	8	19	12	5	3	3.4	**2.1**
		28%	12%	29%	18%	8%	5%	68%	**42%**
D. Equity of treatment by:									
9	- Academic administrators	17	15	22	6	3	2	3.6	**2.5**
		26%	23%	34%	9%	5%	3%	72%	**50%**
10	- Faculty	18	16	20	7	3	1	3.6	**2.7**
		28%	25%	31%	11%	5%	2%	72%	**54%**
11	- Teaching assistants and engineers	19	23	18	5	0	0	3.9	**3.2**

		29%	35%	28%	8%	0%	0%	78%	**64%**
12	- Fellow students	20	17	20	6	0	2	3.8	**2.9**
		31%	26%	31%	9%	0%	3%	76%	**58%**
E. Quality of the facilities:									
13	- Classrooms	18	16	21	8	2	0	3.6	**2.6**
		28%	25%	32%	12%	3%	0%	72%	**52%**
14	- Science laboratories	16	17	17	11	4	0	3.5	**2.5**
		25%	26%	26%	17%	6%	0%	70%	**50%**
15	- Engineering Laboratories	15	19	16	9	6	0	3.4	**2.6**
		23%	29%	25%	14%	9%	0%	68%	**52%**
16	- Computing facilities	14	14	26	7	3	1	3.5	**2.2**
		22%	22%	40%	11%	5%	2%	70%	**44%**
17	- Libraries	20	19	17	8	0	1	3.8	**3**
		31%	29%	26%	12%	0%	2%	76%	**60%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	6	4	5	9	2	39	3.1	**1.9**
		9%	6%	8%	14%	3%	60%	62%	**38%**
19	- Ease of communication with instructors during online learning	9	3	5	7	2	39	3.4	**2.3**
		14%	5%	8%	11%	3%	60%	68%	**46%**
20	- Quality of learning in online laboratory classes	8	1	7	8	2	39	3.2	**1.7**
		12%	2%	11%	12%	3%	60%	64%	**34%**
21	- Online capstone design experience and collaboration with team members	8	2	5	7	3	40	3.2	**2**
		12%	3%	8%	11%	5%	62%	64%	**40%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	7	2	7	7	2	40	3.2	**1.8**
		11%	3%	11%	11%	3%	62%	64%	**36%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	6	5	6	5	3	40	3.2	**2.2**
		9%	8%	9%	8%	5%	62%	64%	**44%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	13	24	14	7	4	3	3.6	**3**	5	7	7
		20%	37%	22%	11%	6%	5%	72%	**60%**	8%	11%	11%
2	Training office	12	19	15	3	2	14	3.7	**3**	2	1	14
		18%	29%	23%	5%	3%	22%	74%	**60%**	3%	2%	22%
3	Libraries	19	28	11	5	1	1	3.9	**3.7**	5	6	6
		29%	43%	17%	8%	2%	2%	78%	**74%**	8%	9%	9%
4	Bookstores	17	30	11	5	1	1	3.9	**3.7**	5	7	6
		26%	46%	17%	8%	2%	2%	78%	**74%**	8%	11%	9%
B. Administrative Offices:												
5	Students' affairs office in your department	18	23	13	2	1	8	4	**3.6**	3	5	10
		28%	35%	20%	3%	2%	12%	80%	**72%**	5%	8%	15%
6	Administrative offices in the college	14	21	17	4	2	7	3.7	**3**	3	4	10
		22%	32%	26%	6%	3%	11%	74%	**60%**	5%	6%	15%
C. Other Services:												
7	Health services	10	23	9	12	1	10	3.5	**3**	2	2	11
		15%	35%	14%	18%	2%	15%	70%	**60%**	3%	3%	17%
8	Food services	16	21	13	11	2	2	3.6	**2.9**	9	6	2
		25%	32%	20%	17%	3%	3%	72%	**58%**	14%	9%	3%
9	Parking	6	17	10	14	14	4	2.8	**1.9**	11	3	3
		9%	26%	15%	22%	22%	6%	56%	**38%**	17%	5%	5%
10	Recreation and athletics	8	13	12	7	13	12	2.9	**2**	2	0	14

		12%	20%	18%	11%	20%	18%	58%	**40%**	3%	0%	22%
11	Others	2	14	3	2	1	43	3.6	**3.6**	1	1	4
		3%	22%	5%	3%	2%	66%	72%	**72%**	2%	2%	6%

* Open-ended questions (unedited student comments)

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

---

group work and presentations

---

writing and presenting

â€”

---

online meetings

---

working under pressure

Work courses and exploratory trips

Time management Helpful

Leading ship, work in groups, researches, work under pressure

---

Self study and time management

Working speed and fast submitting

Self learning and understanding

Writing reports, team work, using softwares like excel, presenting ideas In an academic way (presentations)

---

working under pressure, time management, independence, team work, self learning

---

Communication, negotiation, and time management

How to Design

---

more skills about discussion.

Self independence Team work

Reports preparation, doing a research and solve advanced mathematics problems.

Problem solving,Written and oral communication,Strong Math Skills,Creativity,Team work

---

Self-reliance and strengthening skills

---

getting tp search more myself to get enough informations

I learned cumputer application and how to research on academic subject.

How to design the equipments

Team leadership

Coding

---

solving scientific problems

Team work, engineering ethics, communication skills, time management, problem solving,

---

know how to solve general engineering problem know to use MATLAB and excel very well

---

Decent mathematic and physics skills, researching for important information for on-working projects, self-learning through books, and identifying what is needed to learn to be a better engineer.

To be hard worker

Patience, responsibility, work under pressure, time commitment, future planning and daily planning

---

new technology

---

using computer programs, reading and understanding scientific papers and researches.

Team work Being self-dependent

Reading skills , writing , discussing , thinking out of the box

---

time management

---

solver mathematics problems, aware of the global problems, teamwork skill

---

Being patient

To study hard and search about informations

Learning to use technology Learn to organize time Easy access to materials and assignments and knowing their time

---

Good thing

Overall mathematical skills Skills in Excel Skills in chemical engineering related programs like Polymath and Hysys

---

Analytics skills

Working under pressure

Writing reports. Time management.

I have learned to be patient, find the fastest solutions in any problem comes in my way and think wisely.

The importance of research and finding different sources to understand topics and concepts

---

communication

---

group work patience

---

confidence - summarizing - collaboration - leadership

Computer facilities

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.

---

practical trips related to department

â€"

---

team working

No thing

Working in facilities in a programs to learn before working as engineer.

It is same

That study without being sad or steesed

---

public speaking

Creativity

---

using more programs in computer.

Field training

Cooperation between students in solving exams, homework, or other activities.

---

oil factories visiiting

Visit the oil sector

Getting to improve my talking skill

On job training I did not have a chance to do.

Knowing how to deal with real equipments not only numbers and calculations

No thing

oral presentation how to find excellent reseaches talking skills how to write an academic research

How to ace presentations and creativity

Excellence in designing requirement for projects (The program doesn't do well in teaching it).

I wish i had trained in some company before I graduate.

visiting real plants.

No

speaking skill, language

.

Presentation in the university

Experience

Real life visits to plants (field trips)

Field training

Creativity - english skills

I believe a dedicated report-writing (proper and professional reports) course would be great.

whatever skills I had before are gone now because I was too busy trying not to fail my courses. I can't remember.

More Elective courses about environmental engineering

presentation

knowing more about safety - being prepared to directly have a job by having training meetings

Other computer programs

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

more project work

better teaching assistants

Practical side

---

i have no comment

Its all good

Keep the students do researches from the beginning to learn how to figure out things. More creativity in teaching and examples in reality. Academic trips to facilities will keep learning more better.

I hope all lectures will posted in academic channls

It is good program

There should have some entertainment things and the assistant should courage the student donâ€™t push hem down with giving very difficult exams because that will reflect very bad on the excellent student and their feeling

---

we need to practice more with oral presentations

Scientific material must be linked to reality in order to improve the engineerâ€™s level and engineering thinking.

I didnâ€™t have any comment

---

attending online courses with another universeties

Relieving pressure on engineering students.

More Car parking

Increasing practical applications and increasing visits to the oil sector

---

I have enjoyed my time in this university

- More on job training that would be useful for the sudent. - The flexibility in the attendance in view of the trafic in the statr of Kuwait.

More courses about how safety is important in chemical engineering

---

No thing

Thanks

I wrote them in the previous question

Adopting an advisory program for university students to advice them about course registeration accourding to there GPA. Holding workshops and small projects that relate theoretical and practical aspects. Establishing university clubs and activities that will develop students skills.

---

let student work with doctors to improve their skills

I suggest that the academy focus on teaching students on real life works and project throughout the program rather than just solving problems and do little work on projects.

Try to make the grading policy in our side

---

more group work

---

reducing required chapters in each course so that we can understand better

---

Thanks a lot for your effort ;)

I don't have any comment or suggestions

---

good service, improve the quality of education

Improve registration system + motivate the students by giving bounce

---

Processing the university system during the registration period Change the distribution of grades so that the grades are on practical skills more than exams

---

Make it mandatory for students to intern in their field to train for job life and its requirements Be more fair when it comes to different professors teaching the same course. Students with the same performance can get totally different grades at the end of a semester simply because professors grade differently. This extremely affects studentsâ€™ GPAs and does not reflect a fair learning environment.

Provide summer internship so it can help the students with their CVs and career life

---

Bring efficient engineers - improve laboratories and teaching skills -

---

Focusing more on skills instead of grades.

---

they need to give us exams with the same level of what they are teaching us, not more complicated. they have to allow the students to make mistakes to learn from it, not to be graded for it. they need to understand that students have more than one subject to study, also their personal life isn't that good to concentrate with all that, we are humans after all.

The online system portal need to be modified and enhanced and the problem with the registration courses need to be viewed there is times when there is no enough sections

Civil Engineering Program
Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Civil Engineering**

*** Number of Students participated in the survey:**

CIVIL	**32**	**Male**	**4**	**13%**
		Female	**28**	**88%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**29**	**91%**
Intend to work in the private sector.	**13**	**41%**
Intend to go to graduate school.	**16**	**50%**
Intend to start my own business	**13**	**41%**
Intend to do other things	**5**	**16%**
maybe		

*** Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

*** Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

*** Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table 1 Assessment of the outcome attributes acquired at Kuwait University related to the Civil Engineering Program Criteria

#	Outcome Attributes	5	4	3	2	1	Average	SI
1	Proficiency in design at the entry level and recognition of professional practice issues in recognized major areas of civil engineering.	1	0	0	0	31	1.1	**0.2**
		3%	0%	0%	0%	97%	22%	**0%**

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	3.9 87%	**3.4** **68%**
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	4.5 89%	**3.9** **78%**
3	an ability to communicate effectively with a range of audiences	4.7 93%	**4.5** **89%**
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	4.7 93%	**4.4** **88%**
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	4.8 95%	**4.7** **94%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.6 92%	**4.4** **89%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.6 91%	**4.1** **82%**

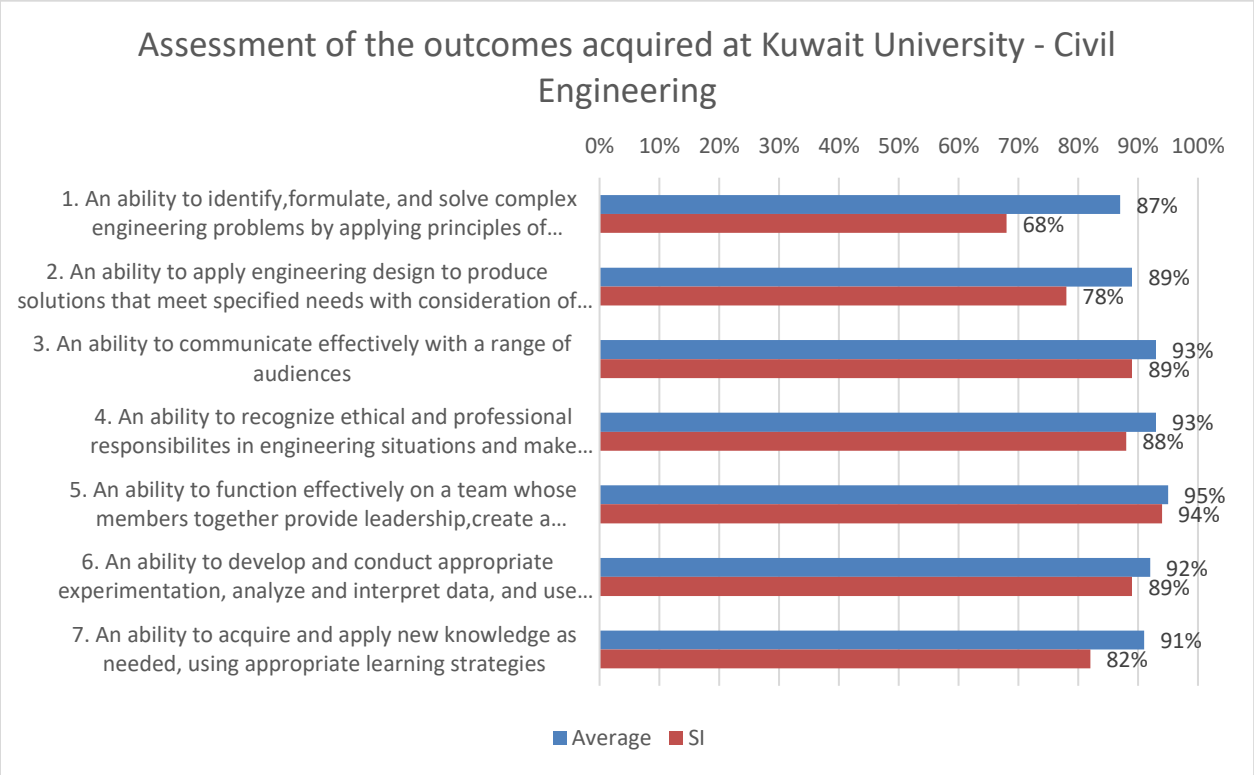


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	16	8	6	1	1	4.2	**3.5**
		50%	25%	19%	3%	3%	83%	**70%**
2	Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional	17	8	6	0	1	4.3	**3.7**
		53%	25%	19%	0%	3%	85%	**73%**

	standards and best practices, safeguard and improve the environment).							
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	17	6	7	1	1	4.2	**3.4**
		53%	19%	22%	3%	3%	83%	**68%**
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	18	6	7	0	1	4.3	**3.6**
		56%	19%	22%	0%	3%	85%	**71%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	12	9	7	3	1	3.9	**3.0**
		38%	28%	22%	9%	3%	78%	**60%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	15	7	5	4	1	4.0	**3.2**
		47%	22%	16%	13%	3%	79%	**64%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	9	8	8	3	4	0	3.5	**2.7**
		28%	25%	25%	9%	13%	0%	70%	**54%**
2	- Computers (Programming and usage of software packages)	6	4	16	5	1	0	3.3	**1.6**
		19%	13%	50%	16%	3%	0%	66%	**32%**
3	- Humanities and Social sciences	7	10	9	2	0	4	3.8	**3**
		22%	31%	28%	6%	0%	13%	76%	**60%**
4	- General Engineering	11	12	7	2	0	0	4	**3.6**
		34%	38%	22%	6%	0%	0%	80%	**72%**
5	- Engineering within major	18	9	4	1	0	0	4.4	**4.2**
		56%	28%	13%	3%	0%	0%	88%	**84%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		11	10	7	3	0	1	3.9	**3.4**
		34%	31%	22%	9%	0%	3%	78%	**68%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	7	12	8	3	0	2	3.8	**3.2**
		22%	38%	25%	9%	0%	6%	76%	**64%**
8	- Career planning	8	9	9	3	2	1	3.6	**2.7**
		25%	28%	28%	9%	6%	3%	72%	**54%**
D. Equity of treatment by:									
9	- Academic administrators	12	7	8	5	0	0	3.8	**3**
		38%	22%	25%	16%	0%	0%	76%	**60%**
10	- Faculty	12	8	7	4	1	0	3.8	**3.1**
		38%	25%	22%	13%	3%	0%	76%	**62%**
11	- Teaching assistants and engineers	13	10	6	3	0	0	4	**3.6**
		41%	31%	19%	9%	0%	0%	80%	**72%**

12	- Fellow students	16	7	7	2	0	0	4.2	**3.6**
		50%	22%	22%	6%	0%	0%	84%	**72%**
E. Quality of the facilities:									
13	- Classrooms	6	9	9	6	2	0	3.3	**2.3**
		19%	28%	28%	19%	6%	0%	66%	**46%**
14	- Science laboratories	6	8	9	5	3	1	3.3	**2.3**
		19%	25%	28%	16%	9%	3%	66%	**46%**
15	- Engineering Laboratories	9	5	9	4	5	0	3.3	**2.2**
		28%	16%	28%	13%	16%	0%	66%	**44%**
16	- Computing facilities	7	7	9	3	5	1	3.3	**2.3**
		22%	22%	28%	9%	16%	3%	66%	**46%**
17	- Libraries	10	10	5	6	1	0	3.7	**3.1**
		31%	31%	16%	19%	3%	0%	74%	**62%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	8	13	4	6	0	1	3.7	**3.4**
		25%	41%	13%	19%	0%	3%	74%	**68%**
19	- Ease of communication with instructors during online learning	9	7	10	4	1	1	3.6	**2.6**
		28%	22%	31%	13%	3%	3%	72%	**52%**
20	- Quality of learning in online laboratory classes	9	5	10	1	6	1	3.3	**2.3**
		28%	16%	31%	3%	19%	3%	66%	**46%**
21	- Online capstone design experience and collaboration with team members	14	9	4	3	1	1	4	**3.7**
		44%	28%	13%	9%	3%	3%	80%	**74%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	8	7	6	7	3	1	3.3	**2.4**
		25%	22%	19%	22%	9%	3%	66%	**48%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	7	14	8	2	0	1	3.8	**3.4**
		22%	44%	25%	6%	0%	3%	76%	**68%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	8	7	11	3	1	2	3.6	**2.5**	5	9	2
		25%	22%	34%	9%	3%	6%	72%	**50%**	16%	28%	6%
2	Training office	6	4	9	1	1	11	3.6	**2.4**	2	3	11
		19%	13%	28%	3%	3%	34%	72%	**48%**	6%	9%	34%
3	Libraries	7	11	11	2	0	1	3.7	**2.9**	5	9	2
		22%	34%	34%	6%	0%	3%	74%	**58%**	16%	28%	6%
4	Bookstores	6	11	8	2	1	4	3.7	**3**	1	9	6
		19%	34%	25%	6%	3%	13%	74%	**60%**	3%	28%	19%
B. Administrative Offices:												
5	Students' affairs office in your department	11	8	6	1	0	6	4.1	**3.7**	4	6	6
		34%	25%	19%	3%	0%	19%	82%	**74%**	13%	19%	19%
6	Administrative offices in the college	9	12	7	2	0	2	3.9	**3.5**	2	11	3
		28%	38%	22%	6%	0%	6%	78%	**70%**	6%	34%	9%
C. Other Services:												
7	Health services	8	9	3	3	0	9	4	**3.7**	2	4	10
		25%	28%	9%	9%	0%	28%	80%	**74%**	6%	13%	31%
8	Food services	10	8	11	2	0	1	3.8	**2.9**	12	3	1
		31%	25%	34%	6%	0%	3%	76%	**58%**	38%	9%	3%
9	Parking	3	2	6	5	16	0	2.1	**0.8**	11	4	1
		9%	6%	19%	16%	50%	0%	42%	**16%**	34%	13%	3%
10	Recreation and athletics	3	4	4	4	8	9	2.6	**1.5**	0	3	13

		9%	13%	13%	13%	25%	28%	52%	**30%**	0%	9%	41%
11	Others	2	2	3	0	1	24	3.5	**2.5**	1	0	6
		6%	6%	9%	0%	3%	75%	70%	**50%**	3%	0%	19%

* Open-ended questions (unedited student comments)

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

---

good knowledge of Microsoft programs

Time respecting, team work, search for information

I learned a lot of skills from them and developed many of them using Excel, AutoCAD, shear diagram programs and others, which help to achieve in the least possible time

---

Presentation Skills - Critical Thinking - Problem Solving - Analysis and Design Skills

---

Responsibility, leadership, Ability to solve problems

Leadership

Improve my capabilities and think for things and issues in academic way. teamwork. work under pressure. identify problems and provide suitable solutions.

Communication skills and leadership

Problems solving Critical thinkining Linking different ideas to formulate a sufficient approach How to use various engineering softwares for analysis or deisgn Innovation Time management Analyzing and interpreting data

---

leadership, use modern tools, PAITENCE

I learned to manage my time and to work as part of a team. I also learned how to lead a team and how to plan and conduct society meetings.

---

communication skills Time management critical thinking and problem solving

---

Engineering ethics, design foundations

Group work , social communicate and sudden problems solving

I learned to be independent, to be prepared and assertive.

Leadership - Discussion and application of studies

Teamwork, understanding of some engineering softwares, leadership, and presentation skills.

Improve my knowledge

Respect

I gained a lot of very important skills in the program. for example management skills, communication skills, and critical thinking.

..

time management

WORKING UNDER PRESSURE.

Teamwork , having my work done

Critical thinking

Using Microsoft office and other online applications and research engines

Deliver oral presentations. Ability to use technology for communication purposes.

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.

photoshop knowledge

Application of what learnt in real life, design programs

Perhaps there are other programs that I did not know about

Practical Experience

Fun academic activities

Confidence for presentations

Making trips. Field work to get some experience before graduation.

Career information

I didn't get the chance to intern as a student and to see what a real engineering job would be like

---

honestly what i noticed from my experience in COEP that some faculty members lack giving the students the confidence and believe in them, which gives the student a feeling that he is not supported by the instructor. -hopefully this point in the relationship between the students and instructors gets better.

We didnt get the chance to give many presentations and so we lack presentation skills

---

We didnt learn how to apply our study in real life, we just have theoretical skills

---

Civil Engineering programs for modelling and computer applications

---

Learning more about engineering softwares.

English language development

The lack of projects and presentations in our years of study.

Lack of projects

I wished there were more group work projects, volunteering programs to enter.

...

We didnâ€™t half much practical studying, most of our studying was on theory

Advanced structure engineering

Using laboratory equipments and learn more about them

I had the chance to learn all the skills while taking 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):

Perhaps adding materials to explain the programs that facilitate finding solutions in a short time

---

Making site visits as a compulsory part of some of the civil engineering courses. Making the "Engineering Training" Course compulsory, or at least emphasize its importance more. Providing more restricted electives for students.

More academic activities

---

stability. patience. more researches.

-add more subjects related to each major (elective) to allow more knowledge for the students for the capstone project as well as their professional life later on. -allow students to work on researches (provide them with softwares and assistance of engineers) while having their bachelors degree to prepare them well for their masters degree if wanted. - rate the students more on skills not only on grades since grades are not a full tool of rate for engineers since engineering depends on skills mostly. -allow faculty members to give advices for the students to prepare them for the professional life later on since they are more experienced in the profession.

It would be great if there were more field trips to construction sites (or to places related to the major).

There should be supervision over the doctors and the level of exams should be at the same level of teaching and explanation in the class

---

Add more subject that related to civil engineering programs.

I suggest to increase the training courses for students in different majors to prepare them well before graduation.

Add a semester to develop English language and writing skills

---

I suggest that professors and doctors assign more presentations and projects to work on individually and with groups. This will surely help students gain a wide range of skills and build their confidence with time.

Using more software

All perfect

---

i would like it if the KU portal changed to a new more improved website and also adding more seats in sections.

...

---

more site visits for civil engineers would be useful

Including more practical learning

NA

Easier way to communicate with registration and administration

having multiple means of student evaluation, such as exams, presentations and papers.

Computer Engineering Program
Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Computer Engineering**

*** Number of Students participated in the survey:**

COMPUTER	**100**	**Male**	**11**	**11%**
		Female	**89**	**89%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**82**	**82%**
Intend to work in the private sector.	**48**	**48%**
Intend to go to graduate school.	**38**	**38%**
Intend to start my own business	**31**	**31%**
Intend to do other things	**10**	**10%**
i will go to london to study graphic designer		
I want to figure what I am interested in more in computer engineering field		
-		
no		
Developer		

* **Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

* **Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

* **Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table 1 Assessment of the outcome attributes acquired at Kuwait University related to the Computer Engineering Program Criteria

#	Outcome Attributes	5	4	3	2	1	Average	SI
1	A knowledge of mathematics through differential and integral calculus, and basic, computer, and engineering sciences, necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components, as appropriate to computer engineering.	36	34	25	5	0	4	**3.2**
		36%	34%	25%	5%	0%	80%	**64%**
2	A knowledge of discrete mathematics.	36	32	26	4	2	4	**3.1**
		36%	32%	26%	4%	2%	80%	**62%**

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.0 80%	**3.1** **62%**
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	3.9 78%	**3.1** **61%**
3	an ability to communicate effectively with a range of audiences	4.1 83%	**3.5** **70%**
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%	**3.5** **69%**
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	4.3 85%	**3.6** **72%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.0 79%	**3.2** **63%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.2 83%	**3.4** **69%**

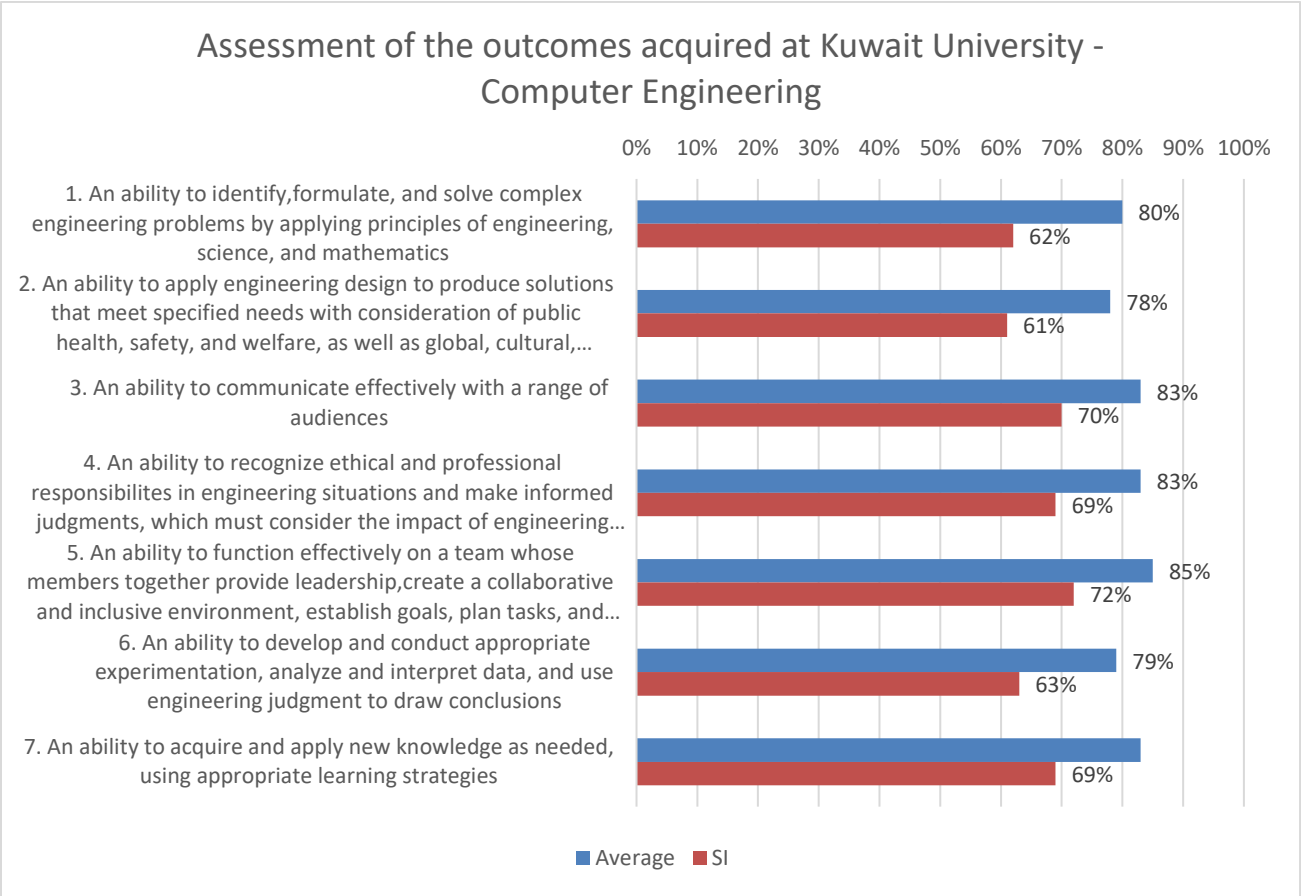


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	37	32	26	3	1	4.0	**3.2**
		37%	32%	26%	3%	1%	80%	**63%**
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).	42	30	20	5	0	4.1	**3.4**
		43%	31%	21%	5%	0%	82%	**68%**
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	41	30	23	5	0	4.1	**3.3**
		41%	30%	23%	5%	0%	82%	**66%**

4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	29	31	23	14	1	3.7	**2.7**
		30%	32%	23%	14%	1%	75%	**55%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	27	27	29	8	4	3.7	**2.6**
		28%	28%	31%	8%	4%	74%	**51%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	25	36	26	8	2	3.8	**2.8**
		26%	37%	27%	8%	2%	75%	**55%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	22	28	28	14	8	0	3.4	**2.5**
		22%	28%	28%	14%	8%	0%	68%	**50%**
2	- Computers (Programming and usage of software packages)	34	32	25	7	2	0	3.9	**3.3**
		34%	32%	25%	7%	2%	0%	78%	**66%**
3	- Humanities and Social sciences	28	28	29	9	3	3	3.7	**2.9**
		28%	28%	29%	9%	3%	3%	74%	**58%**
4	- General Engineering	27	27	32	12	2	0	3.7	**2.7**
		27%	27%	32%	12%	2%	0%	74%	**54%**
5	- Engineering within major	35	30	27	7	1	0	3.9	**3.3**
		35%	30%	27%	7%	1%	0%	78%	**66%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		28	32	29	7	2	2	3.8	**3.1**
		28%	32%	29%	7%	2%	2%	76%	**62%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	37	19	26	9	2	7	3.9	**3**
		37%	19%	26%	9%	2%	7%	78%	**60%**
8	- Career planning	29	22	26	7	8	8	3.6	**2.8**
		29%	22%	26%	7%	8%	8%	72%	**56%**
D. Equity of treatment by:									
9	- Academic administrators	34	25	27	8	5	1	3.8	**3**
		34%	25%	27%	8%	5%	1%	76%	**60%**
10	- Faculty	29	25	30	13	3	0	3.6	**2.7**
		29%	25%	30%	13%	3%	0%	72%	**54%**
11	- Teaching assistants and engineers	26	29	28	13	4	0	3.6	**2.8**

		26%	29%	28%	13%	4%	0%	72%	**56%**
12	- Fellow students	32	27	32	8	1	0	3.8	**3**
		32%	27%	32%	8%	1%	0%	76%	**60%**
E. Quality of the facilities:									
13	- Classrooms	20	23	33	13	11	0	3.3	**2.2**
		20%	23%	33%	13%	11%	0%	66%	**44%**
14	- Science laboratories	19	21	37	16	7	0	3.3	**2**
		19%	21%	37%	16%	7%	0%	66%	**40%**
15	- Engineering Laboratories	22	24	34	13	7	0	3.4	**2.3**
		22%	24%	34%	13%	7%	0%	68%	**46%**
16	- Computing facilities	27	20	36	9	8	0	3.5	**2.4**
		27%	20%	36%	9%	8%	0%	70%	**48%**
17	- Libraries	30	17	28	18	6	1	3.5	**2.4**
		30%	17%	28%	18%	6%	1%	70%	**48%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	15	12	17	11	5	40	3.4	**2.3**
		15%	12%	17%	11%	5%	40%	68%	**46%**
19	- Ease of communication with instructors during online learning	21	11	14	10	4	40	3.6	**2.7**
		21%	11%	14%	10%	4%	40%	72%	**54%**
20	- Quality of learning in online laboratory classes	13	13	13	13	7	41	3.2	**2.2**
		13%	13%	13%	13%	7%	41%	64%	**44%**
21	- Online capstone design experience and collaboration with team members	21	9	16	12	1	41	3.6	**2.5**
		21%	9%	16%	12%	1%	41%	72%	**50%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	9	8	15	18	9	41	2.8	**1.4**
		9%	8%	15%	18%	9%	41%	56%	**28%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	12	13	20	13	2	40	3.3	**2.1**
		12%	13%	20%	13%	2%	40%	66%	**42%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	23	40	15	9	5	8	3.7	**3.4**	14	19	15
		23%	40%	15%	9%	5%	8%	74%	**68%**	14%	19%	15%
2	Training office	27	35	13	3	1	21	4.1	**3.9**	12	12	26
		27%	35%	13%	3%	1%	21%	82%	**78%**	12%	12%	26%
3	Libraries	26	37	19	7	1	10	3.9	**3.5**	15	20	15
		26%	37%	19%	7%	1%	10%	78%	**70%**	15%	20%	15%
4	Bookstores	23	39	17	10	2	9	3.8	**3.4**	14	22	13
		23%	39%	17%	10%	2%	9%	76%	**68%**	14%	22%	13%
B. Administrative Offices:												
5	Students' affairs office in your department	34	38	10	10	2	6	4	**3.8**	13	20	13
		34%	38%	10%	10%	2%	6%	80%	**76%**	13%	20%	13%
6	Administrative offices in the college	27	41	14	4	2	12	4	**3.9**	8	23	15
		27%	41%	14%	4%	2%	12%	80%	**78%**	8%	23%	15%
C. Other Services:												
7	Health services	23	26	19	8	4	20	3.7	**3.1**	2	16	30
		23%	26%	19%	8%	4%	20%	74%	**62%**	2%	16%	30%
8	Food services	22	34	19	16	7	2	3.5	**2.9**	17	22	8
		22%	34%	19%	16%	7%	2%	70%	**58%**	17%	22%	8%
9	Parking	10	21	18	14	31	6	2.6	**1.6**	22	13	11
		10%	21%	18%	14%	31%	6%	52%	**32%**	22%	13%	11%
10	Recreation and athletics	14	22	11	13	16	24	3.1	**2.4**	2	10	37
		14%	22%	11%	13%	16%	24%	62%	**48%**	2%	10%	37%

11	Others	14	13	9	5	1	58	3.8	**3.2**	9	2	20
		14%	13%	9%	5%	1%	58%	76%	**64%**	9%	2%	20%

* Open-ended questions (unedited student comments)

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

Finding a solution to a problem related to algorithms,Being able to design and analyze a system based on needs and requirements. Being able to use programming skills in help to design a system.

Leadership, teamwork

I learnt how to think and how to design solutions for problems

---

writing academic reports , problem solving ,coding and finding optimal solution for a problem

---

Writing academic reports and solve problems. Program application using Java and c++ language.

I learned coding more than anything and Im good at it also software engineering skills and how to design applications

---

How to describe the needs and objectives of the problems Programming How to connect parts of the solution with each other

---

too many skills I'm greatful for.

Matlab, assembly, Java

Teamwork Being problem solver Always there is alternative solutions (thinking outside the box)

Challenging How to think in right way Patient Spending time in useful think Easy life

Solve problem, be a responsible person

time management, solving technique.

Time management, patience, solving technique.

I have learned Programming languages. I learned how to write a report in a professional way. I learned how the computer works

-Teamwork -problem solving

Patience, then patience. Discipline and respect for time.

Research report -patience-work hard to get results

Presentation skills Searching / searching for answers

communicate with other

Programming and mathematics

Leadership skills, programming skills

Work in a group

Public speaking, problem solving, working under extreme pressure

Problem solving, applying my engineering skills and computer skills in problems that aren't even related to computers, seeing problems from another perspective, self learning, and presentation skills.

Other than learning about the major, i learned how to approach problems to find solutions, work with real clients, work in a team, present my ideas clearly, and how to pick up any new skill.

---

java programming and c++ also I take subject name introduction to internet technologies(0612402) and it's was very useful and I take with CPES many courses such use android and machine learning and I'm up to take more in the future .

Self learning, confidence

I have learned many program languages such as java, c, and HDL.

Programming

Organisation

Organisation

Learn how to work in groups

I learned how to write a program in many languages

C++ Java Bython C And alot

Coding and programming Written and verbal communication Able to deal with problems calmly and efficiently

---

All the programming languages (java, c++ ...). AutoCAD

C++ ,java

Programming languages, working under pressure

---

programming, network

Problem solving Work under pressure presentation skills programming languages hardware knowledge Microsoft office knowledge Analytical skills cooperation skills

---

-programming languages -software modeling & design

---

i learnt to be patient

---

hardware programing / some software programing languages

Patience, Maths, Understanding Networks, programming languages, Health and safety.

- professional writing - working with a teams - the way of thinking improved

---

presentation skills, team work , learned how to think and solve complex problems

---

-programming language - Networking & Security - Computer organization - mathematics

---

Teamwork

Teamwork

Communication and collaboration

learn about coding

Java. Matlab. C++.html

Depend on myself , and understand instead of memorize, programming skills

---

Programming, reports writing skills, HW programming, build and design hardware, and communication and collaboration skills.

---

presentation skills, critical thinking skills, technical writing skills, research skills, communication skills, major-related skills (computer programming, problem solving, software/hardware design)

I learned how to collaborate, solving problems what matter how hard it is, i learned how to organize my priorities and how to be a good leader.

---

focus time management

Workshop for computer IT - basic

---

teamwork and problem-solving

C++, design user interface

Think about design how to make it easy for any age Plan how to start work If we have group work we should collaborate each other

---

C++ Java Html

---

problem solving time management work under stress team work

I learned the skill of writing code

Commitment

Being a hard worker is as good as being clever

patience, group work

Designing websites and application Learning some programming language

Teamwork is useful and enjoyable/ Good writing

The ability to understand and correct errors.. and the speed of learning on any new thing

basic thinking strategies and critical thinking. basic programming. writing skills. ethical vision.

Collaboration and creativity

Analysis- critical thinking- communicating with diffraction personalities.

Report writing , presentation skills , multitasking , leadership

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.

security related subjects in the computer science.

I wanted to learn ML

---

i wish i could learned about Artificial intelligence and Application programming

---

Learning about how to program and design report and artificial intelligence.

I didn't get the Hardware design skills very well and Im not so good on hardware courses

---

.

Nothing in mind

Paythone

Being a member in CPE

Patient How to get my mark from my hard work!

Artificial intelligence

I did not get the chance to learn new programming languages. I did not get the chance to take the new courses.

-More socially active

I did not learn how to design a complete website or design an app and link it. There was just information stuffing. I could not take the field training material

---

Ways to apply the information obtained through the study and realistic parctical side ,cannot take training material

Presentation skills Searching / searching for answers

Physical and math

Wished to learn more about robotics

Adding new qualifying programs

The ability to work in big projects, learn fundamentals of programming

---

None.

None the university does not offer. I wish i cloud have taken more electives from the major.

I wish I've been take elective courses in our department such as data base

---

IOS App and how to create a database to use it.

Machine learning

No thing

No thing

I hope that we learned more about iOS programming

Places for practice activities Advanced course in English to be a good speaker

database, swift and python languages

---

python languge

Paython

Learn python, Ios / Android app development

Not available: cipher security, the latest programming languages

---

I don't recall

---

they did not teach us the practical part of hardware only the theoretical also they did not teach us how to design websites or apps

---

python language / machine learning

- practical major - lack of interactives with the college

---

nothing important

Programming the robot.

What will the work environment be like?

What will the work environment be like?

Find new ways of thinking and problem solving

hackers

Computer ethics, and how to deal with new technologies.

---

social skills (lack of social activities)

I missed the chance to learn Cyber Security course because it is an elective class. I think it is an important course.

---

learn how to have a good presentation

Security course IT

---

fieldwork

Android

Should be more courses about how to do a real application - workshop need improve - CPES would have more training courses not only for IOS application need more about android application and else.

---

apply theoretical studies in real life link what we have studied with the real life situations

---

Learn more programming languages

Learn how to build an app or a website

---

database course

I think they Focus more into theory rather than practical

I want to learn more about connecting to the servers .. I feel like we learned just about basics

---

applications of the academic knowledge . updated knowledge of new technologies and programming languages creating websites/applications

---

Project creativity on campus

Job training

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

---

more projects to be able to fully understand the concepts especially in science (physics) and general engineering subject.

I think if the subjects/projects were competitive more the students will perform better

---

change grading scheme don't relay on exams and homework's only evaluate student understanding and skills.

Changing grading schemes doesn't rely on exams and homework only evaluating students' understanding and skills.

Students have to know the newest coding languages and the last development in the major so they can improve it in future and get benefits from it more than studying the old ways and the old languages and tools

---

It should be More easy and comfortable for students

Nothing, Thank you

I suggest making training courses mandatory in the program.

In my opinion even after the covid pandemic end I hope that Kuwait university continues offering online courses with regular courses which will help the students if they want to register in a course that is in a deferent collage and the student does not have time to go from his college to the other one.

Relieve students from filling in information and actual application of their major.

No thing

Be more helpful with your student

No comments it was a great experience

Be more tough on the students, make more competitive environment in the university so that the students work more and compete

---

When you love what you do you will do your best , Computer engineering is the best thing that happened to me , i wish i was able to improve my courses and learn more . thank you.

No i dont have

---

concentrate on how to link the materials

My opinion is to make the following subjects mandatory. (database, swift and python languages)

---

should encourage the student to

Remove unnecessary courses and replace them with up to date course materials that would help in the major nowadays , eg: provide Ios/Android app development courses as mandatory courses to help in the capstone design project

---

Improve the courses in the major sheet with the latest update in the computer engineering world to keep the student an update about the new technologies

---

Appreciate students so they can give you more and shine Spread the mentality of (grades is not everything) , Examine students in many different ways not only by paper, examine their knowledge in various ways

---

please be updated with what the work field wants, some computer courses are not needed and really outdated

---

I see that the methods used in the university are strong and complete.

- do trips for the computer engineering students - tutorials before exams , especially before finals

---

increase the seats in the course.

Teaching the student what the work environment will be like when he graduates.

Teaching the student what the work environment will be like when he graduates.

Time management

---

make the lab 2 times in week instead of 1

I think that faculty members and teaching assistants need a test every course that assesses their memory and understanding of the subjects they are required to teach.

Collborations between faculty/staff and undergraduate students in research activies and/or real-life projects

---

I suggest to have Cyber Security as a major or minor major in Kuwait University.

To have more project than exams

Change the way of online learning itâ€™s not fair for those who are study very well

---

using online resources

Be lenient with students and answer their questions even online course

---

Need some entertainment and encourage from the faculty and students to do very well in all years and be very comfortable with course not afraid

---

provide elective courses related to advanced technologies like artificial intelligence

---

I hope that all programs will develop to the best

Internship must be mandatory

---

no guidance and guidance

Learning more programming language

Development of the educational level to suit the needs

Homework is important, but too much homeworks makes it difficult for us to study and then do the homework.. Therefore, it makes organizing time difficult and then we get a low grade in the subject

---

mandatory Training Course

NO THING THANK YOU

The grades for the design course should be depending on the participation of the student

Electrical Engineering Program
Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Electrical Engineering**

*** Number of Students participated in the survey:**

ELECTRICAL	**154**	**Male**	**23**	**15%**
		Female	**131**	**85%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**126**	**82%**
Intend to work in the private sector.	**76**	**49%**
Intend to go to graduate school.	**38**	**25%**
Intend to start my own business	**48**	**31%**
Intend to do other things	**24**	**16%**
Complete studying		
Complete studying		
Continuing my study (master)		
Complete Master		
Ss		
Open company		
I want to get a master inshallah		
I intend to get a masterâ€™s degree		
I will attend to kuwait airport		
Get my master and PhD degree		

* **Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

* **Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

* **Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table1 Assessment of the outcome attributes acquired at Kuwait University related to the Electrical Engineering Program Criteria

#	Outcome Attributes	5	4	3	2	1	Average	SI
1	Knowledge of advanced mathematics, typically including differential equations, linear algebra, complex variables, and discrete mathematics.	69	35	37	8	1	4.1	**3.2**
		45%	23%	24%	5%	1%	82%	**65%**
2	An ability to analyze, design, and implement systems containing hardware and software components.	61	31	46	11	4	3.9	**2.8**
		40%	20%	30%	7%	3%	78%	**56%**

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.0 79%	**3.0** **60%**
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	3.9 78%	**2.9** **56%**
3	an ability to communicate effectively with a range of audiences	4.0 80%	**3.2** **64%**
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	4.0 80%	**3.6** **62%**
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 83%	**3.4** **66%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.0 79%	**3.1** **61%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.0 81%	**3.3** **65%**

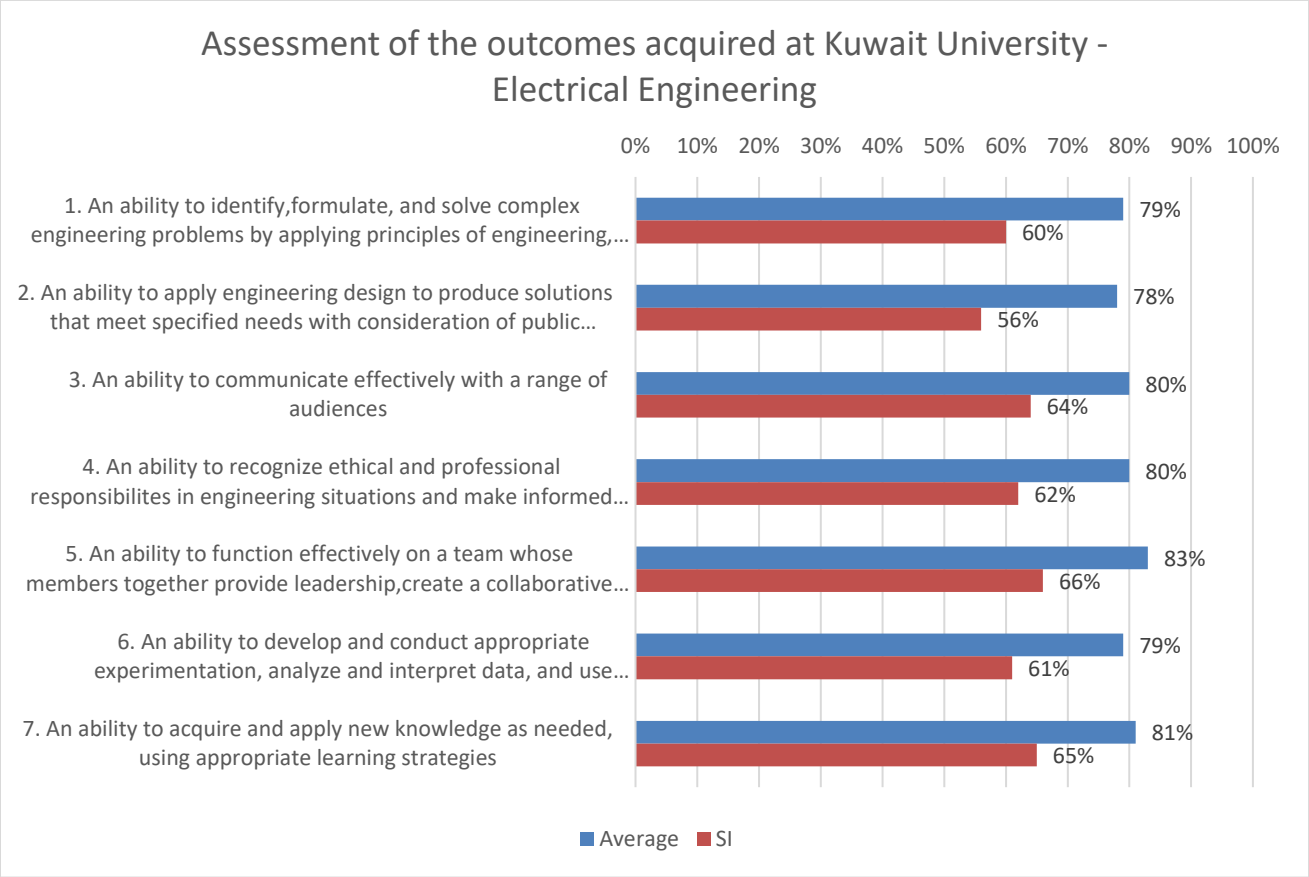


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	77	36	36	1	1	4.2	**3.5**
		51%	24%	24%	1%	1%	85%	**70%**
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).	69	38	37	5	2	4.1	**3.3**
		46%	25%	25%	3%	1%	82%	**66%**
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	75	41	28	5	1	4.2	**3.6**
		50%	27%	19%	3%	1%	85%	**72%**

4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	66	40	33	8	4	4.0	**3.2**
		44%	26%	22%	5%	3%	81%	**65%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	68	26	42	9	2	4.0	**3.0**
		46%	18%	29%	6%	1%	80%	**60%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	70	35	38	2	2	4.1	**3.3**
		48%	24%	26%	1%	1%	83%	**67%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	62	20	44	18	9	1	3.7	**2.7**
		40%	13%	29%	12%	6%	1%	74%	**54%**
2	- Computers (Programming and usage of software packages)	42	42	32	24	13	1	3.5	**2.7**
		27%	27%	21%	16%	8%	1%	70%	**54%**
3	- Humanities and Social sciences	46	35	47	9	6	11	3.7	**2.8**
		30%	23%	31%	6%	4%	7%	74%	**56%**
4	- General Engineering	57	31	51	11	2	2	3.9	**2.9**
		37%	20%	33%	7%	1%	1%	78%	**58%**
5	- Engineering within major	73	30	41	7	2	1	4.1	**3.4**
		47%	19%	27%	5%	1%	1%	82%	**68%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		60	31	49	8	2	4	3.9	**3**
		39%	20%	32%	5%	1%	3%	78%	**60%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	63	24	47	12	3	5	3.9	**2.9**
		41%	16%	31%	8%	2%	3%	78%	**58%**
8	- Career planning	54	22	50	14	4	10	3.8	**2.6**
		35%	14%	32%	9%	3%	6%	76%	**52%**
D. Equity of treatment by:									
9	- Academic administrators	53	29	49	12	6	5	3.7	**2.8**
		34%	19%	32%	8%	4%	3%	74%	**56%**
10	- Faculty	52	26	58	11	4	3	3.7	**2.6**
		34%	17%	38%	7%	3%	2%	74%	**52%**

11	- Teaching assistants and engineers	60	28	50	10	4	2	3.9	**2.9**
		39%	18%	32%	6%	3%	1%	78%	**58%**
12	- Fellow students	53	32	48	14	4	3	3.8	**2.8**
		34%	21%	31%	9%	3%	2%	76%	**56%**
E. Quality of the facilities:									
13	- Classrooms	50	23	46	19	11	5	3.6	**2.4**
		32%	15%	30%	12%	7%	3%	72%	**48%**
14	- Science laboratories	41	25	48	26	10	4	3.4	**2.2**
		27%	16%	31%	17%	6%	3%	68%	**44%**
15	- Engineering Laboratories	49	27	48	16	9	5	3.6	**2.6**
		32%	18%	31%	10%	6%	3%	72%	**52%**
16	- Computing facilities	41	34	49	16	10	4	3.5	**2.5**
		27%	22%	32%	10%	6%	3%	70%	**50%**
17	- Libraries	57	27	50	10	6	4	3.8	**2.8**
		37%	18%	32%	6%	4%	3%	76%	**56%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	37	22	22	9	10	54	3.7	**3**
		24%	14%	14%	6%	6%	35%	74%	**60%**
19	- Ease of communication with instructors during online learning	42	14	21	14	8	55	3.7	**2.8**
		27%	9%	14%	9%	5%	36%	74%	**56%**
20	- Quality of learning in online laboratory classes	25	20	30	12	12	55	3.3	**2.3**
		16%	13%	19%	8%	8%	36%	66%	**46%**
21	- Online capstone design experience and collaboration with team members	31	21	30	7	9	56	3.6	**2.7**
		20%	14%	19%	5%	6%	36%	72%	**54%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	26	15	32	9	17	55	3.2	**2.1**
		17%	10%	21%	6%	11%	36%	64%	**42%**
23		32	17	28	12	10	55	3.5	**2.5**

	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	21%	11%	18%	8%	6%	36%	70%	**50%**			

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	39	43	37	14	7	14	3.7	**2.9**	7	18	14
		25%	28%	24%	9%	5%	9%	74%	**58%**	5%	12%	9%
2	Training office	49	36	31	11	6	21	3.8	**3.2**	7	14	16
		32%	23%	20%	7%	4%	14%	76%	**64%**	5%	9%	10%
3	Libraries	50	55	22	9	7	11	3.9	**3.7**	8	19	10
		32%	36%	14%	6%	5%	7%	78%	**74%**	5%	12%	6%
4	Bookstores	36	62	27	12	8	9	3.7	**3.4**	7	18	13
		23%	40%	18%	8%	5%	6%	74%	**68%**	5%	12%	8%
B. Administrative Offices:												
5	Students' affairs office in your department	51	53	30	8	3	9	4	**3.6**	5	18	10
		33%	34%	19%	5%	2%	6%	80%	**72%**	3%	12%	6%
6	Administrative offices in the college	47	53	28	9	3	14	3.9	**3.6**	3	18	13
		31%	34%	18%	6%	2%	9%	78%	**72%**	2%	12%	8%
C. Other Services:												
7	Health services	45	43	27	11	9	19	3.8	**3.3**	1	14	20
		29%	28%	18%	7%	6%	12%	76%	**66%**	1%	9%	13%
8	Food services	45	45	26	14	16	8	3.6	**3.1**	15	12	9

		29%	29%	17%	9%	10%	5%	72%	**62%**	10%	8%	6%
9	Parking	29	18	20	26	47	14	2.7	**1.7**	22	8	9
		19%	12%	13%	17%	31%	9%	54%	**34%**	14%	5%	6%
10	Recreation and athletics	31	31	27	20	21	24	3.2	**2.4**	1	12	23
		20%	20%	18%	13%	14%	16%	64%	**48%**	1%	8%	15%
11	Others	30	15	20	4	7	78	3.8	**3**	1	6	13
		19%	10%	13%	3%	5%	51%	76%	**60%**	1%	4%	8%

*** Open-ended questions (**unedited student comments**)**

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

Team work at courses

Team work at courses

How to communicate, writting reports

Writing reports skills- communication skills- solving problems- thinking outside the box- coding

---

Psim and feko

.

Working in teams

Working in groups

Programming and math

Patient , ambition

Writing, communicating with others, designing a project (hardware and software)

High learning skills

knowledge of every mathematic science

confidence and take responsibility

confidence and take responsibility

Coding

to be able to solve mathematical and engineering problems

1-Matlab 2-Microsoft office skills 3- report writing 4-C++ 5- background on solar energy

Mathematical skills

.

Simulation

I have learned how to search for information and self learning,how to deal with softwares and how to design and solve problems

team work

team work

Function effectively in teams and Ability to use computing technology in engineering analysis/design.

Patience

Team work, all engineering skills

Team work, all engineering skills

Learned how to analyze and think like engineer , learned to always search and ask the right questions, learned to be a good leader, learned to improve my skills

---

mathematics

Design ,knowledge of Mathematics

---

mathematics

C++ language

Ss

G

Very quick calculation and clear thinking

Solving problems

Mathematical and critical thinking

Patient, ambition

Paitent , Cooperat , Time management

---

commitment self learning problem solving ethics presentation research questioning

---

1-Problem solving skills. 2-Basic circuit knowledge. 3-Critical thinking skills. 4-Teamworking skills. 5-Innovation. 6-Good technical abilities. 7-Numerical skills. 8-Programming skills. 9-Work ethic. 10-Creative thinking skills.

Commitment and desire to learn, Attention to Detail,Critical thinking and problem-solving and Leadership.

To be patient , hard worker

So many skills has been learned

How to solve mathematics, sciences and engineering complex engineering problems

---

I learned how to write reports correctly using programs such as Word, Excel, and PowerPoint

---

how to program and how to think when writing the program and understand the result of each step.Moreover, thinking about the overall program before writing it and what may i need.

I learned what electrical engineering is, and i realize that is the basis of everything. I learned the branches of electrical engineering, How to calculate energy, the types of alternative engergies, and the importance of electrical engineering in communications, as well as applying what i learned through simulation programs or labratories, also I learned how to write a report and how to present a presentation

---

developed in solving engineering problem and using formula and in writing reports

Evaluation

Communication skills and teamwork

Group work

Working in groups Writing reports Designing Writing Matlab codes Spice -simulations

Teamwork ,

Diligence,Honesty and honesty

Engineering sense , leadership, designing

Speed â€‹â€‹in assimilation and implementation

- I have learned that every problem has a solution - I learned how to manage my time - I have learned how to work under pressure - I have learned how to use computer and softwares to solve problems easily

Leadership skills - presentation & writing skills -Group work skills .

AutoCAD , MATLAB, Orcad

I have learn how to draw a road map to thinking well with logical steps. Patient and strong.

Computer Skills: (Microsoft Office Applications -MATLAB -Arduino -Tinkercad -PSPICE -Edsim and others). Personal Skills: (Communication skills -Organizational skills -Ability to work under pressure -Patient -Teamwork skills -Hard worker -Multi tasker -Time management and others).

writing report

I learned how to develop group working skills and communication with others. I also learned how to ask questions whenever I needed help.

---

patience

Programming language and design

Problem solving skills.

Ability to use modern tools technologies in engineering analysis

---

I learned Thinking right and brainstorming also solving engineering problems and Thinking about how to find a solution

---

Discipline , time management , patience , ambition , solve any problem , sense of responsibility , and many other things ...

Designing

Team work , working under the pressure

Communication sills , electrical engineering skills , presentation skills , design skills and critical thinking

---

Working hard and time management

Apply knowledge of mathematics, sciences and engineering to solve complex engineering problems.

patience

Communication skills, critical thinking, engineers can solve complex problem and time management.

1- i learned how to : -mange myself. -improve myself. -communicate with others. -self learning.

Solving problems easly

I have learned lot of things most important how to creative and work with teams to be ready for any job I will be in in the future

---

Work hard_ think smart _ more patience

I learned about electronics, types of filters and how to get them. I also learned about communication and how the signals transmitted and received and the electric towers how the electricity is transmitted. I learned from computer engineering how to write a programs and many useful topics.

---

using technology for communication purposes.

How to solve problems in real life

Thinking , accuracy , speed , understanding

---

everything.

Design

I learned a lot of things such as Coding using Edsim and Quartiz which are a computer programming applications. However, i learned how to paint using AUTOCAD. However, in my major i learned how to connect elements to create electrical devices, And program it using ARDUINO.

Solving complex mathematical and engineering problems, designing engineering systems, Writing and presenting reports and oral presentations

---

.

Patience

I

I have learned and mastered not only solving problems under pressure, but also chilling while solving it! I'm really greatful for all the pressure i faced through this journey. And the second skill is the critical thinking.

Communicational skills

Writing, communication, and leadership skills. Ability to analyze and take responsible decisions.

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.

The coding, MATLAB

English skills

Want more activities

Doing more activities and working more in labs

Physics and math

I dont have any idea

Applying the things studied in real life

Graduation course Practice because of COVID-19

---

groups student

---

be social

---

be social

Simulation

---

anything related to medical field.

Working in the field, like power stations, communication centers.

No thing

Coding

Field trip

---

nothing.

Able with coding

No thing

Reccreation and athleticcs

- labs need to get modified as the scale of the higher l

---

oral

Writing

---

oral

Ss

G

Training very well for job

No thing

I dont hve any idea

Communication skills

---

self confidence

Studying engineering at Kuwait University has developed our engineering skills, as well as student associations and the university. They have done many additional courses that are useful to us in our future careers.

Effectively write a variety of items like short essays, ability to analyze, design, and implement systems containing hardware and software components.

The feature of expressing opinions and listening to students was not present, and there was no application for some of the contents of the courses during their presentation

---

external education like going to field trip to see how electricity are generated or turbine are working , so we need to see how things are going not only by exams and equations

---

Attending external courses and field visits to sites specialized in electrical engineering

---

not having enough skill tp present a topic in front a large numbers of people

---

Didnâ€™t use the english language well

Encouraging the charity work

Team work

....

---

no thing

More projects and more hands on experience specially in communication field

---

No thing

Field work .

Antenna, control 2

I didn’t get enough experience in practical side outside the college.

There is no.

---

improve my English

Getting enough hands on experience in my major

Practical application

Having a robotics lab that prerequisites Design 297 and Design 497.

Understand matlab more deeply

Maybe English classes to improve the language and Few in lectures where there is a presentation that makes the student have a better experience

---

There is no time for HOBBIES :)!!!!!!!

---

programming

Searching skills

No MATLAB learning courses are available while it is important for engineers to take it as a course at the beginning + No presentation and speech skills improvement courses are available (some can be found in EE297 course but it is just filling the information without any real application and students will concern about the grading instead of concentrating on owning these skills) + No Arduino advanced component and welding learning skills are available (just when starting EE497 course , student are forced to do all advanced level systems alone without any real help)

I have learned everything I can think of in this program

English language

Ability to use technology for communication purposes (e.g. Word, Excel, Powerpoint, social media, etc.).

I think i have everything i needed to have.

Work in field

During online courses we didnâ€™t have the opportunity to go to labs and learn the practical part.

---

oral presentations.

The skill that i want to learn is how to draw circuit for home

---

Public speaking Linking theory and practice to practical life

---

nothing.

To work as a team

Actually, There is no thing that i didn't get chance in it. But i hope to learn more and more new things.

No things

I

I wished the college did not remove the C++ course. It could really improve the programming skills for an engineer.

Extra activities clubs for chess or sports or movies

Ability to do more presentations often.

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

Just be good with students

Make sure that there is enough place for every student in single class

---

- Keep the laboratory focused on the practical rather than theoretical. - Increase the no. of students in each class or increase the no. of classes. - Increase no. of elective classes.

The Registration operation was so bad !

Registration the subjects

Be more helpful with your students

Work more on the register system. Please offer more sections for the courses. From time to time I notice some kind of discrimination between students. That's why, KUNIV should watch the faculty members and evaluate them regularly based on their performance and teaching and research, just like what worldwide universities do.

Showing where the things studied is applied especially in laboratory courses and increasing presentations so that the student get used to it

---

Improve the system or the website of the kuwait university

---

computer programming

---

visits to work places are part of the school curriculum

---

visits to work places are part of the school curriculum

Thankyou

---

increase the amount of electives for students to take like first aid kit elective,etc..

I think more field trips to important facilities or field stations would benefit future students. *trips should be compulsory with a grading policy.

Improve the presenting skills and writing reports for the students

---

.

Improve the laboratory learning style

the website of the college (portal)

the website of the college (portal)

everything is great in the academic programs.

No opinion

More parking cars, food services

No thing

Invest in the students, need a good parking

Ss

G

No

No thing in ku

-work more on register system. - Please offer more sections for the courses. -From time to time I notice some kind of discrimination between students. That's why, KUNIV should watch the faculty members and evaluate them regularly based on their performance and teaching and research, just like what worldwide universities do.

More english classes

.

More parking Improve labs Bigger classes

The session should be open to the publicâ€™s participation in the conversation and opinion, and encourage the audience to apply the contents of the course and benefit from it.

I suggest field trips because they are important in education

---

Organizing Trips to the sites, holding courses in the programs that are used during the study. Increase the number of seats,Budgets for graduation projects by the college. As well as not monopolizing the materials for a specific professor

---

intensifying the discussion between students and doctors on engineering topics

---

All professors, engineers and workers must speak English

Encourage students to do sports and join the university sports teams

---

Increase practical side

Take care of athletic facilities so students can get back to a healthy mindset after been pressured by the college logs

---

Diversify the use and teaching of new programs

All engineering student must take field work course .

Be patient with students.

There is no.

We must apply what we study in the reality because or study just in papers!

Improve registration system

---

no comments.

Focus on quality, not quantity, in the scientific material. Integrate traditional education with online education in the coming years, for example in lectures.

I believe that lectures are set at night so that they do not conflict with the studentâ€™s lectures to develop the English language, and if the student takes them for a full year, you present him with a certificate. Therefore, the student is encouraged to take such lectures, which make him more experienced.Also, Arrange trips for each department of the college that benefit the student. Communicate with each student quarterly to be able to follow up on his average and follow up his materials

---

Let students see what they learnt

I dont have any comments

I suggest including two courses for design instead of one (EE297) before the EE497 course which is within just 3-4 months and not enough for completing advanced systems with a lack of resources and help from the department. students need to learn how to weld circuit, use advanced components to apply them to their systems under supervision of the engineer not only by themself online.

I wish that we can focus more on the theoretical part of the subjects , and if training was mandatory

---

More use English languages

A program to encourage students to attend and hold some activities and events to attract students

---

its better to focus on practical learning more than exam stress

---

Everything is good so far.

Prepare us to the future job

There is no balance in our life because we do all of HW,Quizzes,Reports,projects,midterms also final

---

I think that the quizzes, midterms and all exams should be upload as before to be fair.

---

work harder please for next generation's mental sake

The university must check for all doctors a lot of doctors they do not know how to teach

---

Providing advanced equipment

---

nothing.

Bring more doctors so there will be available seets for everyone

---

Kuwait University is a good university, And i hope there is classes for those students who have a talents and hobbies to improve it and try to connect it with their majors that will generate a perfect students and will make them have a positive energy in their courses.

Easier exams.

The programs in Kuwait university is very well

I

I wished there were more things to do practically in our department (i.e. more practical projects), the labotary courses is not enough. Also, variation in elective courses is needed. Other than that, i think KU is an excellent place to graduate from as an engineer!

More recreational stuff

Kuwait university is very well equipped with the facilities and educational services that any student needs to excel in his/her field.

Industrial and Management Systems Engineering Program Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Industrial and Management Systems Engineering**

*** Number of Students participated in the survey:**

IMS	**31**	**Male**	**4**	**13%**
		Female	**27**	**87%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**23**	**74%**
Intend to work in the private sector.	**19**	**61%**
Intend to go to graduate school.	**7**	**23%**
Intend to start my own business	**14**	**45%**
Intend to do other things	**4**	**13%**
Be a mom		
Public relations		
Petrol		

*** Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are

presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

*** Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

*** Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table1 Assessment of the outcome attributes acquired at Kuwait University related to the IMSE Program Criteria

#	Outcome Attributes	5	4	3	2	1	Average	SI
1	A competency to apply Industrial and Management Systems Engineering techniques and tools in divers types of organizations with focus on quality engineering and management, productivity and logistics, ergonomics and safety, and engineering economical decisions.	10	9	10	1	1	3.8	**2.8**
		32%	29%	32%	3%	3%	76%	**56%**

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.0 80%	**3.2** **64%**
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	3.9 76%	**2.7** **53%**
3	an ability to communicate effectively with a range of audiences	4.1 83%	**3.4** **68%**
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	4.1 81%	**3.2** **64%**
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	4.1 81%	**3.4** **68%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	3.8 76%	**2.8** **55%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.1 83%	**3.4** **67%**

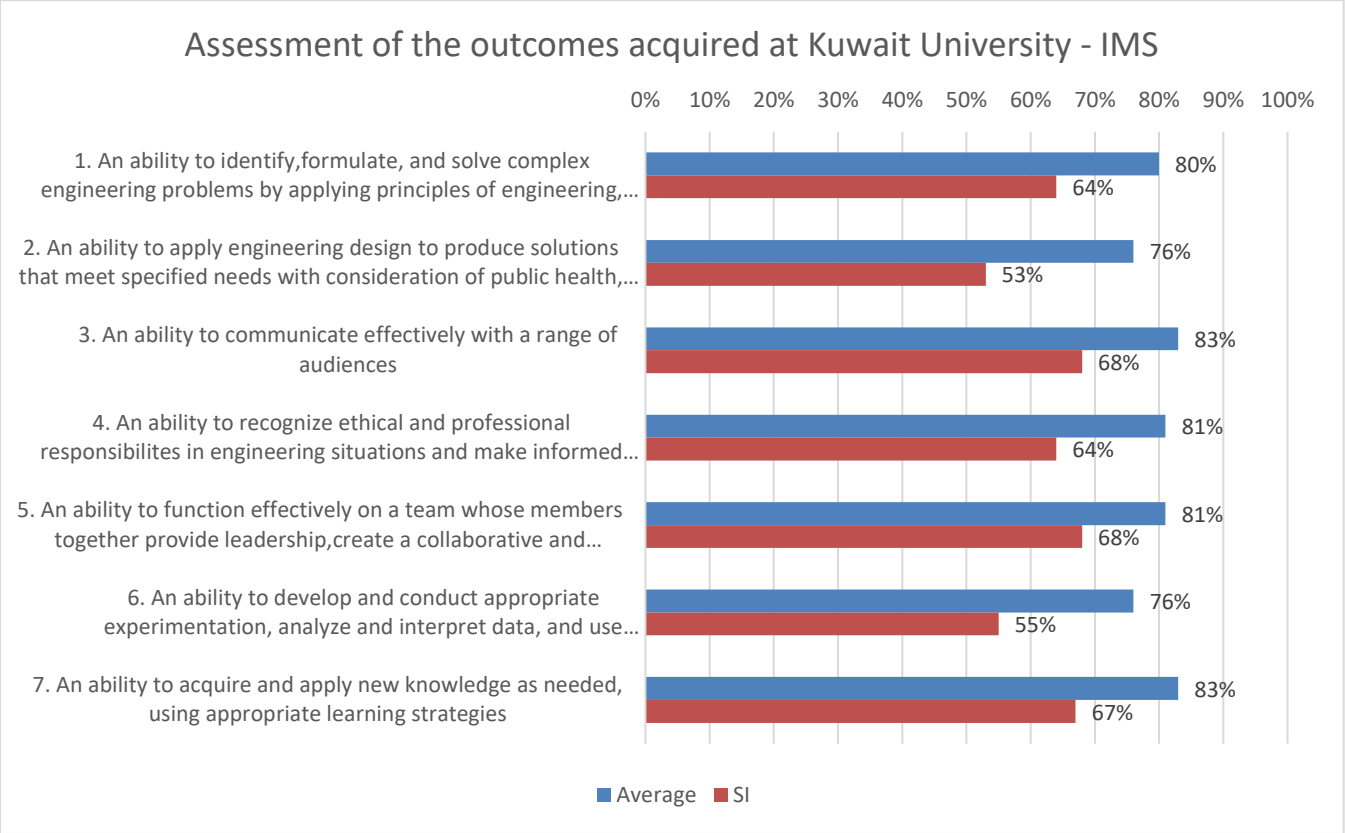


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	16	8	7	0	0	4.3	**3.6**
		52%	26%	23%	0%	0%	86%	**72%**
2	Contribution to well-being of society and the environment (e.g., safeguard the interest of society, improve economy, develop professional	10	11	8	2	0	3.9	**3.0**
		32%	35%	26%	6%	0%	79%	**61%**

	standards and best practices, safeguard and improve the environment).							
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	10	14	5	2	0	4.0	**3.4**
		32%	45%	16%	6%	0%	81%	**68%**
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	10	8	9	2	2	3.7	**2.6**
		32%	26%	29%	6%	6%	74%	**53%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	8	5	11	5	1	3.5	**2.0**
		27%	17%	37%	17%	3%	69%	**40%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	14	7	6	4	0	4.0	**3.2**
		45%	23%	19%	13%	0%	80%	**63%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	7	4	10	6	2	2	3.3	**1.9**
		23%	13%	32%	19%	6%	6%	66%	**38%**
2	- Computers (Programming and usage of software packages)	4	2	12	9	1	3	3	**1.1**
		13%	6%	39%	29%	3%	10%	60%	**22%**
3	- Humanities and Social sciences	5	9	9	4	2	2	3.4	**2.4**
		16%	29%	29%	13%	6%	6%	68%	**48%**
4	- General Engineering	9	8	7	4	1	2	3.7	**2.9**
		29%	26%	23%	13%	3%	6%	74%	**58%**
5	- Engineering within major	12	11	5	1	0	2	4.2	**4**
		39%	35%	16%	3%	0%	6%	84%	**80%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		7	7	11	3	0	3	3.6	**2.5**
		23%	23%	35%	10%	0%	10%	72%	**50%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	6	11	6	3	1	4	3.7	**3.1**
		19%	35%	19%	10%	3%	13%	74%	**62%**
8	- Career planning	4	9	5	5	3	5	3.2	**2.5**
		13%	29%	16%	16%	10%	16%	64%	**50%**
D. Equity of treatment by:									
9	- Academic administrators	5	8	10	3	0	5	3.6	**2.5**
		16%	26%	32%	10%	0%	16%	72%	**50%**
10	- Faculty	6	6	15	0	1	3	3.6	**2.1**
		19%	19%	48%	0%	3%	10%	72%	**42%**
11	- Teaching assistants and engineers	12	3	11	2	0	3	3.9	**2.7**
		39%	10%	35%	6%	0%	10%	78%	**54%**

12	- Fellow students	8	3	14	1	1	4	3.6	**2**
		26%	10%	45%	3%	3%	13%	72%	**40%**
E. Quality of the facilities:									
13	- Classrooms	3	5	11	8	2	2	3	**1.4**
		10%	16%	35%	26%	6%	6%	60%	**28%**
14	- Science laboratories	3	5	12	7	2	2	3	**1.4**
		10%	16%	39%	23%	6%	6%	60%	**28%**
15	- Engineering Laboratories	4	4	14	6	1	2	3.1	**1.4**
		13%	13%	45%	19%	3%	6%	62%	**28%**
16	- Computing facilities	3	4	13	9	1	1	3	**1.2**
		10%	13%	42%	29%	3%	3%	60%	**24%**
17	- Libraries	6	5	11	6	0	3	3.4	**2**
		19%	16%	35%	19%	0%	10%	68%	**40%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	4	4	8	1	3	11	3.3	**2**
		13%	13%	26%	3%	10%	35%	66%	**40%**
19	- Ease of communication with instructors during online learning	4	5	6	3	2	11	3.3	**2.3**
		13%	16%	19%	10%	6%	35%	66%	**46%**
20	- Quality of learning in online laboratory classes	3	3	4	5	2	14	3	**1.8**
		10%	10%	13%	16%	6%	45%	60%	**36%**
21	- Online capstone design experience and collaboration with team members	3	3	7	4	3	11	3	**1.5**
		10%	10%	23%	13%	10%	35%	60%	**30%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	3	2	4	4	7	11	2.5	**1.3**
		10%	6%	13%	13%	23%	35%	50%	**26%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	3	4	6	3	3	12	3.1	**1.8**
		10%	13%	19%	10%	10%	39%	62%	**36%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	3	13	9	5	0	1	3.5	**2.7**	2	6	1
		10%	42%	29%	16%	0%	3%	70%	**54%**	6%	19%	3%
2	Training office	3	12	10	2	0	4	3.6	**2.8**	1	7	2
		10%	39%	32%	6%	0%	13%	72%	**56%**	3%	23%	6%
3	Libraries	3	12	8	2	1	5	3.5	**2.9**	3	2	4
		10%	39%	26%	6%	3%	16%	70%	**58%**	10%	6%	13%
4	Bookstores	2	10	8	5	1	5	3.3	**2.3**	2	3	6
		6%	32%	26%	16%	3%	16%	66%	**46%**	6%	10%	19%
B. Administrative Offices:												
5	Students' affairs office in your department	4	11	9	3	1	3	3.5	**2.7**	2	3	4
		13%	35%	29%	10%	3%	10%	70%	**54%**	6%	10%	13%
6	Administrative offices in the college	4	9	10	4	1	3	3.4	**2.3**	2	5	3
		13%	29%	32%	13%	3%	10%	68%	**46%**	6%	16%	10%
C. Other Services:												
7	Health services	5	9	5	4	3	5	3.3	**2.7**	4	2	4
		16%	29%	16%	13%	10%	16%	66%	**54%**	13%	6%	13%
8	Food services	5	7	10	4	3	2	3.2	**2.1**	6	4	1
		16%	23%	32%	13%	10%	6%	64%	**42%**	19%	13%	3%
9	Parking	4	2	3	5	14	3	2.2	**1.1**	6	3	1
		13%	6%	10%	16%	45%	10%	44%	**22%**	19%	10%	3%
10	Recreation and athletics	3	2	3	4	7	12	2.5	**1.3**	2	2	7
		10%	6%	10%	13%	23%	39%	50%	**26%**	6%	6%	23%
11	Others	4	0	5	0	1	21	3.6	**2**	3	2	5

		13%	0%	16%	0%	3%	68%	72%	**40%**	10%	6%	16%

* Open-ended questions (unedited student comments)

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

Being able to apply the subjects that we studied in a real life problem

---

Applying IE tools in real life applications, report writing, oral presentations

---

That I can solve problems that I may encounter at work .Interact with groups of people on the job , I design solutions to any problem .

Report writing and presentation skills, Statistics, Safety, Time management, Inventory & cost control, Skills about businesses, and Project management.

â€□That I can act and solve problems that I may encounter at work, Interact with groups of people on the job and I design solutions to any problem and my vision of it from my perspective as an industrial engineer

---

Communication skills within the team

Sharing knowledge with students and team work, applying quality control and safety in systems

---

I learned to write a great report and present in a great way from school, but i improved these skills now. Also, working under pressure and being responsible for myself.

I have learned more in excel and some programs thats will help me for job my as engineers.

Social skills

Time managment,research,Presenting ideas,dexision making

Team work, solving problems.

Apply knowledge of engineering and mathematics- design systems - apply IE tools

Costs analysis , report writing , presentation skills

team leader skills, presenting and communicating, time management, and innovation.

Leadership, contacting with different personalities

self confidence, high tech

Computer Software (Excel, Minitab, Arena, etc.)

Communication skills, presentation skills, computer skills and writing skills

management, leading , group works , planning , problem solving

Data analysis- inventory management- quality control

group work

How to improve the profit and the quality and how to manage the group

Some important skills that i have learnt about is how to think and solve any problem such that engineering can make the mind think of many solutions in one problem. Also, Industrial

engineering really helped me with my presentation skills and also helped me with communicating with others since every subject requires a project which will lead to contacting a factory or a company to conduct the project on.

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.

Some of the electives we didn't have the chance to register in

---

Six sigma

IE softwares, Real practical applications and problems

No thing

Not enough skills in writing reports

I wanted to learn about outer space. Also, i wanted to have more presentations or work by myself instead of groups.

In the beginning there is no one help me for my study plan and some adviser told me to take some course that not important.

To be an assistant

Every thing available

Writing skills , learning more programming skills.

New softwares that related to IE

Skills for working area (in the goverment)

Activity participating, time management

Software skills, business skills, how to start my own business, money management and new technologies

---

Supply chain- riability

---

nothing in my mind

---

to learn 6-sigma

I think i gained enough of skills from my experience in the university but maybe one of the skills that i wish that i have gained is getting more options in the elective subjects within my departments, usually elective subjects are repeated and there is no change. fortunately for me this course i registered in an amazing elective course (Accounting and finance)

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

Add more projects for the subject to be able to understand the content

---

Adding more places for internships

---

fixing the pool while the registration of students

Improve the Senior Design Project courses to be useful and more professional.

Fixing the portal while the registration of students

Overall it was great

Focus more on career-work rather than just applying and memorizing methods. Like teach us how to apply them in life or why we need them or even have us do our own research about the material to learn it and not forget it.

I advise to focus more in adviser for each department to help the students to follow their study plan.

Having a good interaction between the dr and students with classmates, respect their opinion, and support the students in every academic needs

---

Focus on new and modern tools

I think that some courses should have a training week to see how it works in real life

---

I recommend that we can select one way in our major and study it deeply, such as in Industrial engineering, I suggest to have quality control department, safety department, operation research department and so on. In this way we can find a suitable place to work in and get experience

---

students need parking

Maybe need to link IE tools with real activities

Improving learning techniques

---

i don't have any idea right now

Everything seems good

Mechanical Engineering Program Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Mechanical Engineering**

*** Number of Students participated in the survey:**

MECHANICAL	**21**	**Male**	**3**	**14%**
		Female	**18**	**86%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**14**	**67%**
Intend to work in the private sector.	**16**	**76%**
Intend to go to graduate school.	**10**	**48%**
Intend to start my own business	**9**	**43%**
Intend to do other things	**4**	**19%**
Learn new languages and new skills.		

*** Table 1** shows students' feedback for the first group of question in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are

presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

*** Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

*** Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table1 Assessment of the outcome attributes acquired at Kuwait University related to the Mechanical Engineering Program Criteria

#	Outcome Attributes	5	4	3	2	1	Average	SI
1	An ability to assume responsibility at an entry level in the areas of Mechanical Engineering that are important to Kuwait and the region, such as the design, analysis and maintenance of machinery, refrigeration, air-conditioning and desalination systems.	6	4	5	0	6	3.2	**2.2**
		29%	19%	24%	0%	29%	64%	**44%**

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

#	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 83%	**3.8** **68%**
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 81%	**3.2** **63%**
3	an ability to communicate effectively with a range of audiences	4.1 82%	**3.3** **67%**
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	3.9 79%	**2.7** **54%**
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%	**3.5** **70%**
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.2 83%	**3.3** **65%**
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.1 82%	**3.4** **68%**

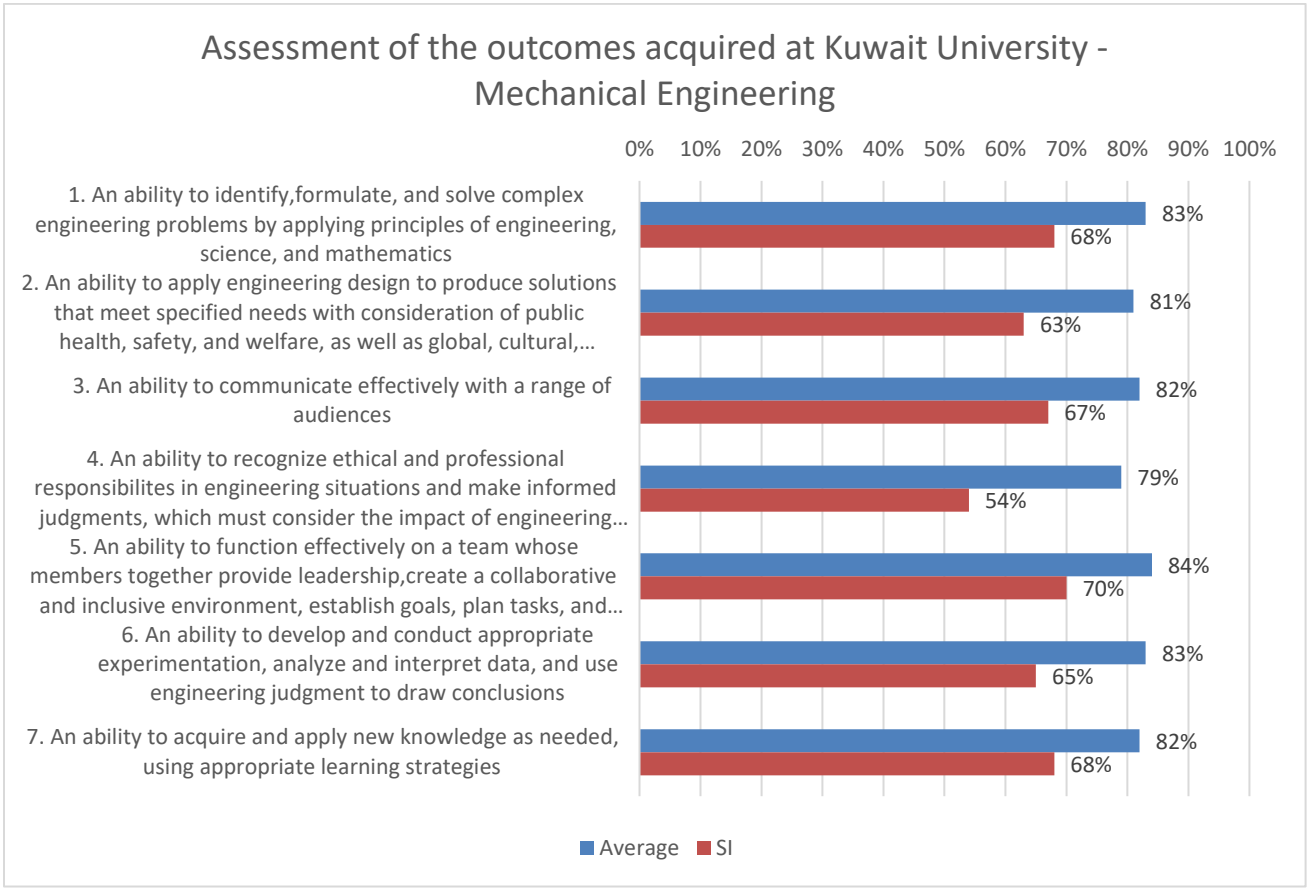


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	9	8	2	2	0	4.1	**3.7**
		43%	38%	10%	10%	0%	83%	**73%**
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).	9	6	4	2	0	4.0	**3.3**
		43%	29%	19%	10%	0%	81%	**66%**
3	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	9	7	4	1	0	4.1	**3.5**
		43%	33%	19%	5%	0%	83%	**70%**
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	7	7	6	1	0	4.0	**3.0**
		33%	33%	29%	5%	0%	79%	**60%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	8	5	7	1	0	4.0	**2.9**
		38%	24%	33%	5%	0%	79%	**57%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	11	3	2	4	1	3.9	**3.2**
		52%	14%	10%	19%	5%	78%	**64%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	4	9	4	2	2	0	3.5	**3.1**
		19%	43%	19%	10%	10%	0%	70%	**62%**
2	- Computers (Programming and usage of software packages)	5	6	6	4	0	0	3.6	**2.6**
		24%	29%	29%	19%	0%	0%	72%	**52%**
3	- Humanities and Social sciences	6	5	7	3	0	0	3.7	**2.6**
		29%	24%	33%	14%	0%	0%	74%	**52%**
4	- General Engineering	9	3	6	2	1	0	3.8	**2.9**
		43%	14%	29%	10%	5%	0%	76%	**58%**
5	- Engineering within major	7	6	3	3	2	0	3.6	**3.1**
		33%	29%	14%	14%	10%	0%	72%	**62%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		5	6	7	1	2	0	3.5	**2.6**
		24%	29%	33%	5%	10%	0%	70%	**52%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	4	5	6	1	4	1	3.2	**2.3**
		19%	24%	29%	5%	19%	5%	64%	**46%**
8	- Career planning	3	4	6	2	5	1	2.9	**1.8**
		14%	19%	29%	10%	24%	5%	58%	**36%**
D. Equity of treatment by:									
9	- Academic administrators	2	7	7	3	2	0	3.2	**2.1**
		10%	33%	33%	14%	10%	0%	64%	**42%**
10	- Faculty	2	6	10	2	1	0	3.3	**1.9**
		10%	29%	48%	10%	5%	0%	66%	**38%**
11	- Teaching assistants and engineers	4	6	8	2	1	0	3.5	**2.4**

		19%	29%	38%	10%	5%	0%	70%	**48%**
12	- Fellow students	3	7	7	3	1	0	3.4	**2.4**
		14%	33%	33%	14%	5%	0%	68%	**48%**
E. Quality of the facilities:									
13	- Classrooms	1	3	8	5	4	0	2.6	**1**
		5%	14%	38%	24%	19%	0%	52%	**20%**
14	- Science laboratories	1	4	4	6	5	1	2.5	**1.3**
		5%	19%	19%	29%	24%	5%	50%	**26%**
15	- Engineering Laboratories	1	5	3	5	6	1	2.5	**1.5**
		5%	24%	14%	24%	29%	5%	50%	**30%**
16	- Computing facilities	5	2	6	5	3	0	3	**1.7**
		24%	10%	29%	24%	14%	0%	60%	**34%**
17	- Libraries	3	7	6	3	2	0	3.3	**2.4**
		14%	33%	29%	14%	10%	0%	66%	**48%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	1	2	1	0	1	16	3.4	**3**
		5%	10%	5%	0%	5%	76%	68%	**60%**
19	- Ease of communication with instructors during online learning	2	2	1	0	0	16	4.2	**4**
		10%	10%	5%	0%	0%	76%	84%	**80%**
20	- Quality of learning in online laboratory classes	1	2	1	1	0	16	3.6	**3**
		5%	10%	5%	5%	0%	76%	72%	**60%**
21	- Online capstone design experience and collaboration with team members	1	3	0	1	0	16	3.8	**4**
		5%	14%	0%	5%	0%	76%	76%	**80%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	0	2	2	0	1	16	3	**2**
		0%	10%	10%	0%	5%	76%	60%	**40%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	1	2	1	0	1	16	3.4	**3**
		5%	10%	5%	0%	5%	76%	68%	**60%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	3	4	8	4	2	0	3.1	**1.7**	4	5	1
		14%	19%	38%	19%	10%	0%	62%	**34%**	19%	24%	5%
2	Training office	2	5	6	1	2	5	3.3	**2.2**	0	2	8
		10%	24%	29%	5%	10%	24%	66%	**44%**	0%	10%	38%
3	Libraries	4	9	5	1	1	1	3.7	**3.3**	1	5	4
		19%	43%	24%	5%	5%	5%	74%	**66%**	5%	24%	19%
4	Bookstores	3	9	4	3	2	0	3.4	**2.9**	2	5	3
		14%	43%	19%	14%	10%	0%	68%	**58%**	10%	24%	14%
B. Administrative Offices:												
5	Students affairs office in your department	2	6	4	3	2	4	3.2	**2.4**	2	2	6
		10%	29%	19%	14%	10%	19%	64%	**48%**	10%	10%	29%
6	Administrative offices in the college	4	7	6	3	0	1	3.6	**2.8**	2	5	3
		19%	33%	29%	14%	0%	5%	72%	**56%**	10%	24%	14%
C. Other Services:												
7	Health services	3	4	4	3	2	5	3.2	**2.2**	0	2	8
		14%	19%	19%	14%	10%	24%	64%	**44%**	0%	10%	38%
8	Food services	1	5	8	4	3	0	2.9	**1.4**	5	4	1
		5%	24%	38%	19%	14%	0%	58%	**28%**	24%	19%	5%
9	Parking	2	1	2	4	12	0	1.9	**0.7**	10	0	1
		10%	5%	10%	19%	57%	0%	38%	**14%**	48%	0%	5%
10	Recreation and athletics	1	3	4	3	4	6	2.6	**1.3**	1	0	9

		5%	14%	19%	14%	19%	29%	52%	**26%**	5%	0%	43%
11	Others	2	1	1	2	3	12	2.7	**1.7**	1	0	5
		10%	5%	5%	10%	14%	57%	54%	**34%**	5%	0%	24%

*Open-ended questions (unedited student comments)

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

AutoCAD

Using Microsoft softwares MATLAB COMSOL LEADERSHIP Communication with co-workers Consistency Formal writing

---

Problem identification & analysis, report writing, some softwares' skills, and patience.

MATLAB, AutoCAD, and COMSOL

Work as group

---

communication, writing, problem solving and presenting

CFD, Team work, mathematical and physical skill

---

commitment/time mangment/ self learn

- Self-reliance on getting through all the difficulties of this department. - Endure injustices in this department. - Finding a way out of this unfair department with a soul willing to grow up to be an elite one day.

- Writing reports - Leading teams effectively - Thinking outside the box - Identify the problem and list all the possible solutions for it

---

Time management How to search properly Group working/ leadership / 3D drawing and programming

---

Exal , ess , comsol

How to present projects

MATLAB

---

patient

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.

Internship (mechanical student)

Field work practice Real public speaking

Time management, effective study methods, proper communication, course planning, job opportunities, and interviewing skills,

---

Community, working skills

Ability to think out side the box

Coding

Electrical courses

As an engineer we should work in our haandsss !! We need to be ready for the career . Not only to study and have exaaams .

Programming

- getting to the fields of mechanical engineering in real life. - communication and body language skills.

Linking the problems to the reality (it was done theoretically only and lacked the implementation to the real life) by other words I wish there was a field trips for each laboratory to learn more effectively

---

Specializing in one sub-major Getting to know the real applied engineering work since our study was full of theoretical engineering and problem solving, we needed to know how to apply all of that in real life

---

Learn to program Matlab

How to improve language skills

English writing

---

a lot

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

Standardizing teaching method and contents among all faculty members Standardizing grade scale

---

Job preparation and opportunities should be taught to students to know what to expect after graduation and it will give them motivation to work harder.

Registration services

Work hard

Internships

Programming from the 1st year/ writing reserach

Just be an ACADEMIC PROGRAM.

Provide an enhanced way of evaluating the students .. because some of the faculty members underestimated the student abilities which lead to bad grades which in turn lead to low GPA. Thanks to everyone for their effort:)

Sympathy with the students. Bring much attention to student entertainment projects, clubs and events. Make more site visits and there should be a course with a project were different engineering majors should work on it , more like real life mini project

---

More courses that help to enhance the language and increase communication skills through presentation

---

Increasing the number of seminars and field visits

Improve the English language for the students

Petroleum Engineering Program Exit Survey Results

For the Academic year 2020-2021

Survey Statistics:

*** Major: Petroleum Engineering**

*** Number of Students participated in the survey:**

PETROLEUM	**56**	**Male**	**10**	**18%**
		Female	**46**	**82%**

Survey Results:

*** Students' Future plans:**

No. of students who:

Plans	N	%
Intend to work in the government sector.	**48**	**86%**
Intend to work in the private sector.	**33**	**59%**
Intend to go to graduate school.	**19**	**34%**
Intend to start my own business	**19**	**34%**
Intend to do other things	**3**	**5%**
No		

***** **Table 1** shows students' feedback for the first group of questions in the exit survey which is about the students' assessment for the outcome attributes acquired at Kuwait University. The table also shows the average score and the satisfaction index out of 5 and as percentage for each item. The results are presented in **Table 2** and the associate figure according to the new student outcomes as outlined previously in the college section.

***Table 3** shows students' feedback for the second group of questions about how important is the educational objectives to their careers.

*** Table 4** shows students' feedback for the third group of question about their level of satisfaction for the learning Environment at Kuwait University.

*** Table 5** shows students' feedback for the fourth group about the students' assessment of the Support Services at Kuwait University. The table also shows the amount of interaction they had with each item.

Table1 Assessment of the outcome attributes acquired at Kuwait University related to the Petroleum Engineering Program Criteria

#	Outcome Attributes	5	4	3	2	1	0	Average	SI
1	None.								

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

#	Student Outcomes	Average	SI
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	4.1 83%	3.6 71%
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 81%	3.3 66%
3	an ability to communicate effectively with a range of audiences	4.3 86%	3.6 73%
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 85%	3.6 71%
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	4.3 85%	3.7 74%
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	4.1 81%	3.3 65%
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	4.0 81%	3.3 64%

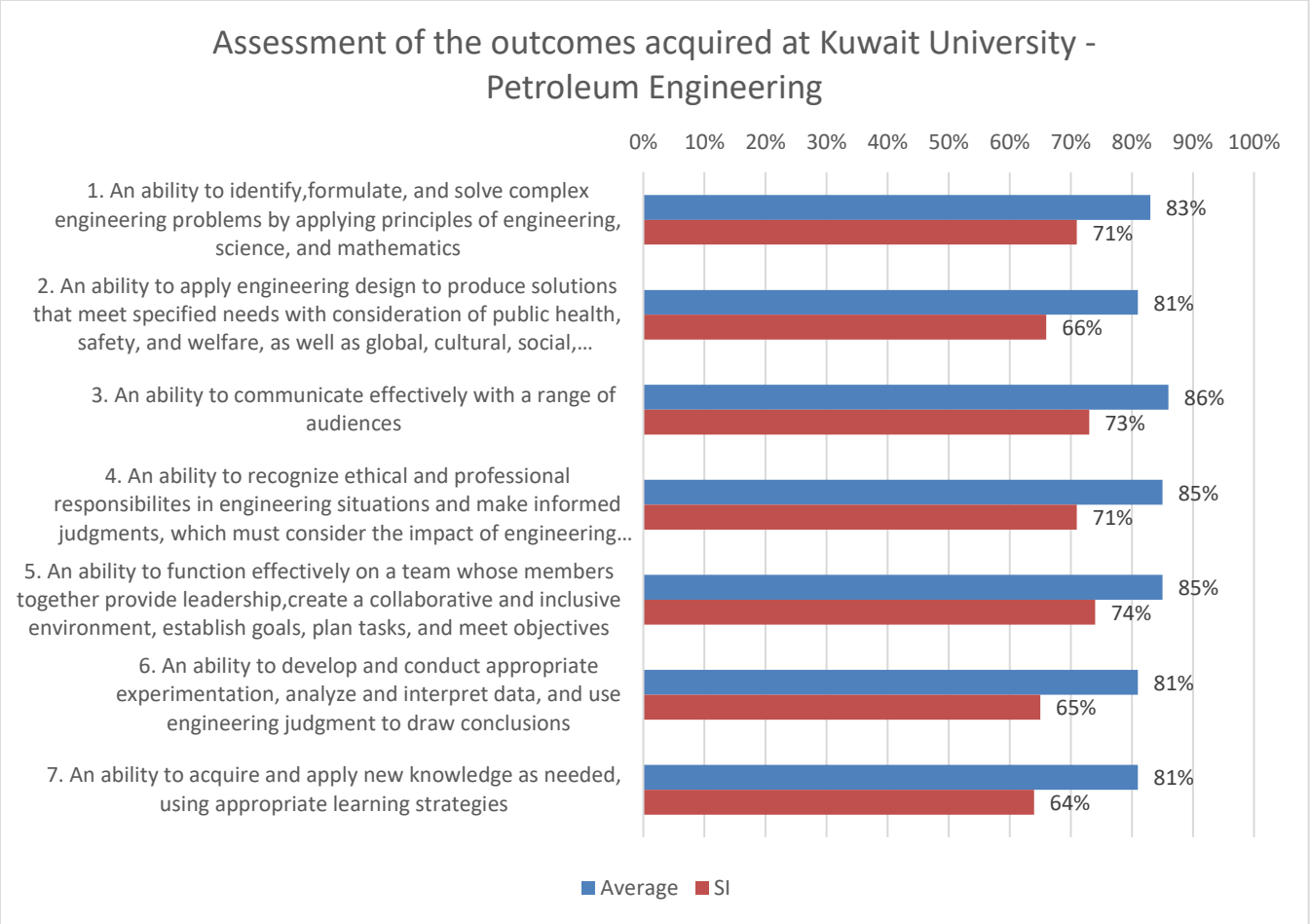


Figure 1 Assessment of the student outcomes acquired at Kuwait University

Table 3 Assessment of the relevance of Program Educational Objectives

#	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)	36	11	9	0	0	4.5	**4.0**
		64%	20%	16%	0%	0%	90%	**80%**
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).	29	14	10	3	0	4.2	**3.6**
		52%	25%	18%	5%	0%	85%	**72%**
3		27	16	10	2	1	4.2	**3.6**

	Career advancement (e.g., promotion to higher ranks/positions, increased responsibilities)	48%	29%	18%	4%	2%	84%	**71%**
4	Degree advancement and continuing education. (e.g., diplomas, formal course work, graduate courses, graduate degree, training, certificates and professional certification)	27	18	10	1	0	4.3	**3.7**
		48%	32%	18%	2%	0%	85%	**74%**
5	Staying current in profession (e.g., participation in seminars and conferences, professional development courses and activities, membership in professional societies)	27	18	6	4	1	4.2	**3.7**
		48%	32%	11%	7%	2%	84%	**74%**
6	Use of leadership capabilities (e.g., promotion to leadership positions, ability to lead teams, supervisory skills and abilities)	30	18	5	3	0	4.3	**4.0**
		54%	32%	9%	5%	0%	87%	**79%**

Table 4 Level of satisfaction for the learning Environment at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI
A. Quality of instruction and support for learning provided by the faculty members in:									
1	- Sciences (Mathematics, Physics, Chemistry)	28	11	9	5	2	1	4.1	**3.5**
		50%	20%	16%	9%	4%	2%	82%	**70%**
2	- Computers (Programming and usage of software packages)	20	13	13	5	2	3	3.8	**3.1**
		36%	23%	23%	9%	4%	5%	76%	**62%**
3	- Humanities and Social sciences	20	13	11	9	2	1	3.7	**3**
		36%	23%	20%	16%	4%	2%	74%	**60%**
4	- General Engineering	27	19	4	3	2	1	4.2	**4.2**
		48%	34%	7%	5%	4%	2%	84%	**84%**
5	- Engineering within major	27	14	11	2	1	1	4.2	**3.7**
		48%	25%	20%	4%	2%	2%	84%	**74%**
B. Quality of instruction and support for learning given by teaching assistants and engineers within major.		24	12	8	6	4	2	3.9	**3.3**
		43%	21%	14%	11%	7%	4%	78%	**66%**
C. Quality of advise by the staff with respect to:									
7	- Academic planning	26	13	10	4	2	1	4	**3.5**
		46%	23%	18%	7%	4%	2%	80%	**70%**
8	- Career planning	20	12	9	7	4	4	3.7	**3.1**
		36%	21%	16%	13%	7%	7%	74%	**62%**
D. Equity of treatment by:									
9	- Academic administrators	20	16	11	6	2	1	3.8	**3.3**
		36%	29%	20%	11%	4%	2%	76%	**66%**
10	- Faculty	19	16	12	4	5	0	3.7	**3.1**
		34%	29%	21%	7%	9%	0%	74%	**62%**
11	- Teaching assistants and engineers	25	13	8	7	3	0	3.9	**3.4**

		45%	23%	14%	13%	5%	0%	78%	**68%**
12	- Fellow students	18	21	9	6	1	1	3.9	**3.5**
		32%	38%	16%	11%	2%	2%	78%	**70%**
E. Quality of the facilities:									
13	- Classrooms	25	12	9	6	4	0	3.9	**3.3**
		45%	21%	16%	11%	7%	0%	78%	**66%**
14	- Science laboratories	21	14	9	10	1	1	3.8	**3.2**
		38%	25%	16%	18%	2%	2%	76%	**64%**
15	- Engineering Laboratories	24	11	10	8	3	0	3.8	**3.1**
		43%	20%	18%	14%	5%	0%	76%	**62%**
16	- Computing facilities	23	13	7	12	1	0	3.8	**3.2**
		41%	23%	13%	21%	2%	0%	76%	**64%**
17	- Libraries	24	14	12	5	1	0	4	**3.4**
		43%	25%	21%	9%	2%	0%	80%	**68%**
F. Online Learning Experience:									
18	- Instructors prepartion and clarity of online instructions	12	10	2	4	2	26	3.9	**3.7**
		21%	18%	4%	7%	4%	46%	78%	**74%**
19	- Ease of communication with instructors during online learning	12	6	5	4	3	26	3.7	**3**
		21%	11%	9%	7%	5%	46%	74%	**60%**
20	- Quality of learning in online laboratory classes	11	5	8	2	1	29	3.9	**3**
		20%	9%	14%	4%	2%	52%	78%	**60%**
21	- Online capstone design experience and collaboration with team members	15	9	5	1	0	26	4.3	**4**
		27%	16%	9%	2%	0%	46%	86%	**80%**
22	- Fairness of homework, quizzes, exam and other online assessment activities	8	5	5	4	7	27	3.1	**2.2**
		14%	9%	9%	7%	13%	48%	62%	**44%**
23	- Overall satisfaction with attainment of knowledge and engineering skills through online learning	11	6	10	1	2	26	3.8	**2.8**
		20%	11%	18%	2%	4%	46%	76%	**56%**

Table 5 Assessment of the Support Services at Kuwait University

#	Item	5	4	3	2	1	0	Average	SI	3	2	1
A. Academic Services:												
1	Admissions/Registrar	17	17	12	4	3	3	3.8	**3.2**	8	8	3
		30%	30%	21%	7%	5%	5%	76%	**64%**	14%	14%	5%
2	Training office	20	18	5	6	1	6	4	**3.8**	5	6	7
		36%	32%	9%	11%	2%	11%	80%	**76%**	9%	11%	13%
3	Libraries	25	16	9	3	0	3	4.2	**3.9**	6	8	5
		45%	29%	16%	5%	0%	5%	84%	**78%**	11%	14%	9%
4	Bookstores	25	12	13	4	2	0	4	**3.3**	7	8	4
		45%	21%	23%	7%	4%	0%	80%	**66%**	13%	14%	7%
B. Administrative Offices:												
5	Students' affairs office in your department	25	14	6	6	2	3	4	**3.7**	4	10	4
		45%	25%	11%	11%	4%	5%	80%	**74%**	7%	18%	7%
6	Administrative offices in the college	19	23	6	3	2	3	4	**4**	4	6	7
		34%	41%	11%	5%	4%	5%	80%	**80%**	7%	11%	13%
C. Other Services:												
7	Health services	23	13	6	6	1	7	4	**3.7**	3	6	9
		41%	23%	11%	11%	2%	13%	80%	**74%**	5%	11%	16%
8	Food services	21	12	10	8	3	2	3.7	**3.1**	9	8	1
		38%	21%	18%	14%	5%	4%	74%	**62%**	16%	14%	2%
9	Parking	18	5	4	13	14	2	3	**2.1**	10	7	2

		32%	9%	7%	23%	25%	4%	60%	**42%**	18%	13%	4%
10	Recreation and athletics	14	11	6	8	6	11	3.4	**2.8**	4	5	9
		25%	20%	11%	14%	11%	20%	68%	**56%**	7%	9%	16%
11	Others	13	4	7	2	1	29	4	**3.1**	1	4	8
		23%	7%	13%	4%	2%	52%	80%	**62%**	2%	7%	14%

* Open-ended questions (unedited student comments)

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

---

leader shipment, Team work, self-depending, responsibility.

Code programming and economy

Engineering simulators / Microsoft office programms

Time Management - Leadership - Critical Thinking - Dedication and Commitment - Communication Skills - Technical (Learned how to use many effective softwares such as techlog, pipsim, eclipse, matlab, python, and autocad)

Excel , Microsoft word , pipesm , daigtazing map , powerpoint , orcad , autocad

---

Multitasking and teamwork

---

teamwork, presenting, Microsoft office

Participated in many course projects 1. Production engineering project with assistance of pengtools. 2. Safety project and frequent visit for KNPC 3. Introductio to design and perfemnig coding through excel VBA

Self confidence

Team work is effective if the students choose each other

Petroleum Engineering in general

Writing reports , presenting work, managing time

patience/problem solving/time managment/ working under pressure

Design and Solving Problems,Economical Analysis, Risk and Uncertainity, Team Work, and VBA Programing

Time management

Everything

Self-learning, multitasking, time management, software skills, team work

i learned how to write a professional report and how to be a leader

Code programming like mat lab and vba Program help us in our petroleum department like cmg and pipsem

Presenting skills

Organised

The engineering critical thinking

Technical abilities Design skills Determination Planning skills Software skills Writing skills Problem solving

Time management System design and analysis Creativity being familiar with several software's

excel- word - more knowledge about my major

Dedication, Diligence, Teamwork, Creativity, being Initiative, Persistence, Matlab Programming, Techlog software, AutoCAD Program, Excel.

Cmg , matlab, pipesim

Communication skills , leadership skills and time management.

Engineering Skills, thinking, and knowledges

Critical thinking and Leadership

PATIENCE

1- work under pressure 2- writing a professional reports 3- how to lead a group 4- analyzing

---

matlab - Excel - powerpoint - microsoft Word - Pipesim - CMG - Agora- pengtools-adobe photoshop.

Patient, skills

Ecxel pipesim matlab

The Problem solving skills , ability to work under pressure , team working skills and strong technical and analytical skills

---

Participation Group work Ability to lead teams

I have learned how to be responsible and a leader for a team.

Challenging

Solving problems, improving my personality, dealing with different personalities

Time and stress management , respecting rules and policies

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.

Training peogramm / part time jobs in my major

Study at oil filed

researching

Industrial training in distance learning

Training course

Individual projects for each course

well completion advanced drilling

Practicing in laboratories

Working ethics, real life problems.

Nothing at all

Critical thinking, creativity

Confidence

3D design in my major applications

Presentation skills

Presentation Skills

---

we didn't get involved with much environmental issues and we didn't discuss them or involve them in projects as much.

Some program not available

Learning another language.

More training hours !

Coding

---

programming languages Coding

Leader ship

No thing

Python programming language

Nothing.

Nothing.

Physical studying and working

Being more cooperative, speaking more fluently in English

---

assertiveness skills, seeking assistance when needed

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

More programs

Using the technology more for the students to do what need from formats and other aervices

---

Thankful for the Drâ€™s that were so encouraging and doing everything they can to keep us motivated and supported us throughout our program.. Also, best of luck to the SPE Student Chapter, I am very glad to have spent the past three years working there.

Reviews for exams

---

encourage students to get a certificate from E-Training System or online internships

---

--

Educational trips should be provided for students

Keep Dr. Fahad Almudairis in charge, students love him! He is the man for the department to raise again.

More practical training

I think teachers should be more informative regarding real life and in field problems. Teach students the importance of thier major and the working ethics.

Everything is fine

More programming

Instructors should help the students more

Make student be creative in their major by do instead activity related to their major

---

Management of students given tasks every semester

Provide internships

Attend more seminars

---

provide better parking with shadow- provide better healthier food options - provide more educational trips to companies so we can be exposed more to the work place and environment- bring more people from the industry to teach us from their experience not just academic

---

Focus more on each major individually since some common engineering courses are not as valuable compared to different ones.

Students training and updating the program

Every thing is perfect

The programs and software should be learned at the beginning of the journey not at the last.

I suggest that there be more training courses for coding programs

---

Patient

Make publishing research easier.

Always be attentive and take students opinion through the assessment made on the doctors and the subject itself.

If the academic staff is well prepared as well as have the teaching skills that attract the students then we will have a better students.

Improve the physical side of egineering

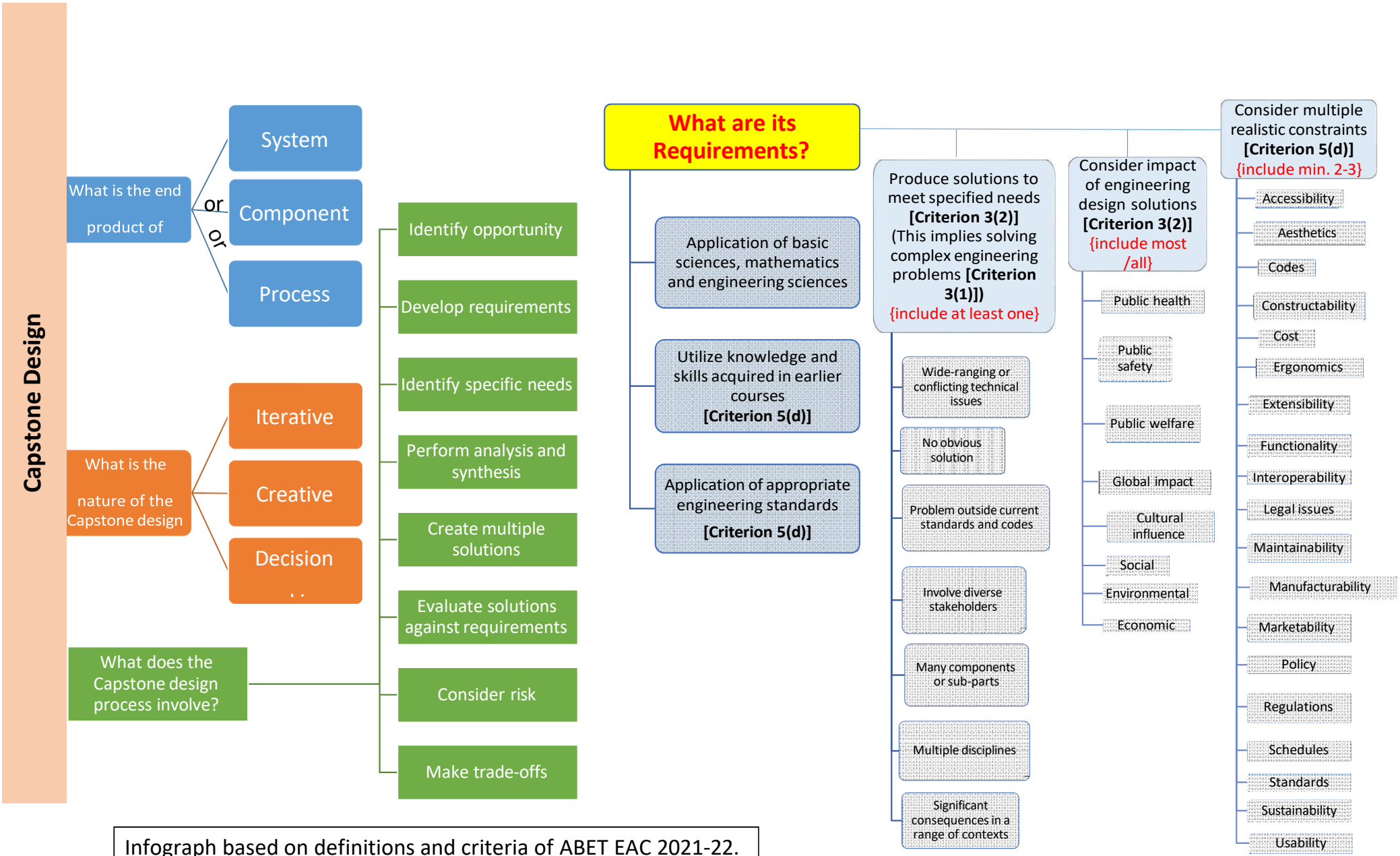
---

doing an educational trips regularly for each engineering major such as oil companies trips for petroleum engineering and visiting sites

---

Listen to the students problem and help them when they ask . If someone did something wrong that doesnâ€™t mean that all of the students have to get punished there are many good students who need only a trust . Believe in your students skills and support them, don't let them lose their hopes .

APPENDIX C:
Capstone Design Infograph



Infograph based on definitions and criteria of ABET EAC 2021-22.

Capstone Design – Relevant definitions, EAC Criteria and APPM requirements AY 2021-22

(A) Definitions

Engineering Design – Engineering design is a process of devising a system, component, or process to meet desired needs and specifications within constraints. It is an iterative, creative, decision- making process in which the basic sciences, mathematics, and engineering sciences are applied to convert resources into solutions. Engineering design involves identifying opportunities, developing requirements, performing analysis and synthesis, generating multiple solutions, evaluating solutions against requirements, considering risks, and making trade- offs, for the purpose of obtaining a high-quality solution under the given circumstances. For illustrative purposes only, examples of possible constraints include accessibility, aesthetics, codes, constructability, cost, ergonomics, extensibility, functionality, interoperability, legal considerations, maintainability, manufacturability, marketability, policy, regulations, schedule, standards, sustainability, or usability.

Complex Engineering Problems – Complex engineering problems include one or more of the following characteristics: involving wide-ranging or conflicting technical issues, having no obvious solution, addressing problems not encompassed by current standards and codes, involving diverse groups of stakeholders, including many component parts or sub-problems, involving multiple disciplines, or having significant consequences in a range of contexts.

(B) EAC Criteria items

Criterion 3. Student Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
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.

Criterion 5. Curriculum

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.

(C) APPM Requirements

I.E.5. Comprehensive Review I.E.5.b.(2)
Materials

- · Representative examples of graded student work including, when applicable, major design or capstone projects.

APPENDIX D:
CAC Meeting Minutes

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CAC No.1 2021/2022		
28/3/2022	12:30 PM	Multi-Media Lab
Meeting Chair	Dr. Tariq Chaudhary	
Type of Committee	CAC	
Note taker	Ms. Rincy George	
Attendees	Dr. Raed Bourisli, Dr. Tariq Chaudhary, Prof. Mousa Abu-Arabi, Prof. Anastasios Dimitriou, Dr. Nabil Khachab, Dr.Jawwad Alhachemi, Dr. Suhailah Al-Mutawa, Dr. Maali Al-Yousufi, Ms. Rincy George	
Absent with excuse	Dr. Mohammad Aldousari, Prof. H Kabir	

The meeting started at 12:38 pm. Dr. Tariq and Dr. Raed welcomed the attendees of the meeting and then Dr. Tarq started presenting items on the agenda as follows:

1. Survey results on items from meeting #1		
Discussion	Dr. Tariq presented the survey result as follows: 1. Except for IMSE and PE departments rest all the departments did the survey. 2. CE and CpE departments have their Virtual Assessment room fully operational, Chemical and Mechanical departments have started the basic framework, Electrical haven't started and for Petroleum and Industrial the status is unknown. 3. Employer Survey Form – Chemical and Computer have submitted the form, Civil, Electrical and Mechanical hasn't and Industrial and Petroleum no status. 4. Industry Advisory Board – Computer and Electrical has formed the board, Chemical, Civil and Mechanical haven't yet, status unknown for Petroleum and Industrial. 3. Dr. Souhaila said that Mechanical Engineering department is working on it and that they are waiting for the approval. 4. Dr. Jawad suggested to have an event to give the students a tour of the college and then dinner and then talk to them all about the advisory boards. 5. All departments, except for Computer are still not ready Dr. Tariq said that all departments should be fully ready by Fall 2024.	
Conclusion	There is progress.	
Action Items	Person Responsible	Deadline
5.		

2. Program Assessment Practice in COEP	
Discussion	Dr. Tariq presented the following: 1. Are we in compliance with Criterion 4 requirements?

	The program must **regularly** use **appropriate, documented processes** for **assessing** and **evaluating** the extent which the student outcomes are being attained. 2. Overview of current practice in departments Dr. Tariq focused on how the assessment should be done and stated the following: • The process should be regular • Appropriate to serve the needs of the programs • Documented Dr. Tariq mentioned that we are in compliance as the process is regular and documented in Outcome Assessment plan of each department. He also explained in detail what Assessment is and explained the process of Assessment as follows: • Courses are identified for assessment of each student outcome. • Faculty fills out ICEF and enter ICEF of pertinent outcome. (Direct assessment) • Students assess their attainment of outcomes through Exit survey. • Assessment or data collection done. Then Dr. Tariq explained in detail what "Evaluating" is all about and explained the steps as follows: • TAG's and Assessment coordinator evaluates the ICEF and Exit data. • Results are reported in the annual Assessment Report.
Conclusion	Impression of assessment process in each department based on Assessment Report for the AY 2020-2021 is good for Computer, Mechanical and Electrical departments, not that great in Civil, Chemical and Petroleum departments and poor in Industrial department.

Action Items	Person Responsible	Deadline

3. What needs to be changed?	
Discussion	• Dr. Tariq mentioned that the first things that needs change is to have more faculty participation and said that the numbers are very high when we have only 7 outcomes. • Are we selecting the right courses? Dr. Tariq suggested that we just need the required courses only and its too much to assess all the courses and showed example of Chemical department. ABET requires is the student outcome assessment during the 4 years. Dr. Nabil said that most of the Electrical courses have outcomes 1 and 7 and said it's not possible to reduce the number of courses. • How is the assessment different from HML courses? Dr. Tariq suggested some points for improvements: • Separate course assessments from program assessment.

	• Remember, course assessment is not required by ABET. • Courses targeting program assessment (i.e., student outcome assessment) to be chosen selectively and the weight should be "H" only. • This will reduce the burden of Faculty related to statistical analysis and evidence preparation. • How many courses per outcome? (2-3 courses will be enough, which can be spread over different semesters.) • Will require rework of the Assessment plan. Dr. Tariq mentioned the next problem is the averaging problem and needs to be completely discouraged and to be done in a little more structured way. • Information is too coarse to take specific action to pinpoint the problem. Within a group of student we cannot do the averaging. • Under performance is masked over by the over performance in another. • Unable the address various components of an outcome. Dr. Tariq explained this by showing the example of outcome 1. Use of performance indicators. – Proposed solution
Conclusion	Dr. Raed said to come back in 2 weeks and see if they are feasible to be dine whatever we have discussed.

Action Items	Person Responsible	Deadline

The meeting adjourned by 1:35 pm.

CAC No.3 2021/2022		
11/5/22	12:30 PM	Multi-Media Lab
Meeting Chair	Dr. Tariq Chaudhary	
Type of Committee	CAC	
Note taker	Ms. Rincy George	
Attendees	Dr. Raed Bourisli, Dr. Tariq Chaudhary, Prof. Mousa Abu-Arabi, Prof. Anastasios Dimitriou, Dr. Nabil Khachab, Dr.Jawwad Alhachemi, Dr. Suhailah Al-Mutawa, Dr. Maali Al-Yousufi,	
Absent with excuse		

The meeting started at 12:38 pm. Dr. Tariq welcomed the attendees of the meeting He then started presenting items on the agenda as follows:

4. Annual Report and IAB & SAB		
Discussion	Dr. Tarq spoke about the annual report submission, saying the due date will be on June 22nd and that the report should mainly contain about the TAG participation, data evaluation and Capstone designs. **IAB/SAB** – Dr. Tariq thanked the departments who submitted the IAB and SAB, that is Chemical, Electrical and IMSE. Dr. Souhaila suggested that we should go ahead with Dr. Jawad's suggestion of having a meeting with the STB and IAB members. Dr. Raed told everyone to submit the names and then we can go ahead with the planning of the meeting.	
Conclusion		
Action Items	Person Responsible	Deadline
6.		

5. Process of Program Assessment using PIs	
Discussion	Dr. Tariq stated that they should need concrete information and based on that they can achieve the assessment process. He then showed them the document he had prepared 4 years ago on how to do the assessment process: A. Less no: of courses B. Detailed assessment of an outcome using PIs C. Statistical analysis to get results of assessment. Dr. Tariq then went ahead with the different steps to do the assessments process in detail. He also mentioned that we need to find a course that will meet all the outcomes.

	1. Define the PIs for an outcome – ME AND CpE is practicing it. Dr. Tariq gave an example for outcome 1 in CE 271 – Students will be able to use integration for computing beam slope/deflection. 2. Devise activity (exams, projects and HW's ect.) to assess each PI – The PI related to this outcome is assessed through different questions on the final exam. 3. Evaluate student performance using an assessment tool. 4. Gather quantitative evidence of student performance – This is the tabulation of points obtained by each student in the problem. Dr. Tariq explained this with an example using the assessment tool. 5. Assign weightage to each PI for assessment of the outcome. His could be numeric or descriptive. Dr. Nabil said that there are different courses, but they have the same rule and each prof. have different way of doing it. Dr. Tariq mentioned that they all need to figure it out. Dr. Tassoss suggested if they could do assessment only on the capstone courses and just the TAGs need t o be trained and they all are doing a good job. Prof. Kabir mentioned that while teaching design course he tells the students what he expects from their homework's and lets them create their own steps to get it done. Dr. Tariq suggested that we need to educate the students about the PI as they play a big part in it. He also said that the Faculty Members and students should read through the course specifications as the objectives has been clearly mentioned. Dr. Tariq also mentioned that this process cannot be implemented right away as there is no access to the server and that our relationship with Shuwaikh is not that great. Dr Suhaila suggested that we can do this by using Microsoft tools. Dr. Tariq showed the revised HML table for Computer, Civil and Mechanical departments.
Conclusion	Faculty will complain, but we must do it right. We need to reduce the number of courses and all Faculty should take responsibility and do accordingly.

Action Items	Person Responsible	Deadline
6. Performance Indicator		
Discussion	Dr. Tariq hen stared explaining about the performance indicator and said that it is the means to tangibly "measure" various attributes of an outcome.	
Conclusion		

The meeting adjourned by 1:35 pm.

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APPENDIX E:
Minutes of Meetings with Departments and ETAC

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OAA Visit to College Departments AY 2021-2022

Visit to Civil Engineering Department

Minutes of Meeting

Date : Monday, 20 December 2021.

Place : Civil Meeting Room

Time : 12:10 PM

Attendees :

Dr. Mohamad AlKhaldi	(Acting Chairman, CE Department)
Dr. Waleed Eid	(UPC Coordinator, CE Department)
Prof. H Kabir	(CAC coordinator, CE Department
Dr. Tariq Chaudhary	(Director, OAA)
Ms. Rincy George	(OAA)

CC: VDAA (by email)

1- Introduction

7. Dr. Chaudhary welcomed the attendees to the meeting and explained the reason for the meeting as a goodwill visit from the Office of Academic Assessment (OAA) to the Civil Engineering department to get first-hand knowledge of assessment activities in the department as well as to offer any assistance in clarifying the procedures and requirements of the assessment process.

2- Meeting Agenda

8. Dr. Chaudhary introduce the agenda of the meeting that included the following:

a) General overview of activities in the Civil Engineering Department related to fulfilment of ABET EAC Criteria.

b) Items related to the curriculum: (i) Program Criteria, (ii) Capstone Design.

c) Faculty participation in the continuous improvement process.

d) Involvement of Industry Advisory Board and Student Advisory Council.
e) Practical Training Course.
f) Lab Safety.
g) Other Issues.

3- Overview of Assessment Activities in the CE Department

i- Dr. Tariq asked CE departments leads and guidance regarding the assessment activities.
ii- Dr. Mohamad mentioned that right now they are just focusing on setting up the labs as it's the important factor.
iii- Dr. Mohamad mentioned that the process to change and review the courses, curriculum and content is very slow and will work on it. He will sit with the TAG members and UPC and discuss how to go about with it.
iv- Prof. Kabir mentioned that labs and lab safety is also as important as the ICEF and Exit survey for the assessment process.

4- Program Criteria and Capstone Design

9. Dr. Tariq explained that the program needs to make sure that items mentioned in the Program Criteria are included in the required courses of the Program. He specifically emphasized to include all keyword from the Program Criteria statements in the objectives of the pertinent courses.
10. **Capstone Design**
11. Prof. Kabir mentioned that he is got the worst students and should grade the students accordingly.
12. Dr. Mohamad said that the students should get a "D" instead of "C".
13. Dr. Walid stated that there is a big variation in the capstone and that not all people follow the guidelines. He stated 2 options:

- Screening the reports properly
- Make them do the reports and reject it
- Select the proper choice of faculty who has experience with capstone design.
- Series of meeting to be held every week and discuss one point at a time with not only the TAGs but the ones teaching capstone.

14. DR. Tariq mentioned that he is preparing bullet point of the capstone requirement as per the ABET EAC criteria to circulate it to all the departments.
15. Dr. Tariq asked the department how the students are being advised and what they are doing in helping them out in taking their courses and achieving a good grade. And what is happening inside the department.''
16. Dr. Waleed explained that he has couple of students assigned under him as per the CE chart and they come to him every semester. There are folders made for each student as per the departments map guide. He guides them and advises them accordingly. He also mentioned that this process is not documented. And those who are in the schedule committee should document this as they are distributing the students to each faculty.

Prof. Kabir suggested that this can be included in the SSR

5- Faculty participation in continuous improvement process

17. Prof. Kabir mentioned that the process is not working and need to find out a way how to fix this. He also said that we found that 41 should submit out of 80% after the reduction and out of 41 we got 7 which is very low.
18. Dr Waleed mentioned that one third of the faculty should participate in doing this and should put in efforts to have better results by making calls and meeting them in person. He also suggested that the schedule must be taken and allotted to each faculty courses on which they must assess. And make a course folder and need to ask the TAGs to submit it by the end of the semester.
19. Dr. Tariq mentioned that we need to find a way to make the faculty do the assessment and make sure it is done and submitted by the end of each semester. He also mentioned how the CpE department is doing their assessment without any confusions.

6- Involvement of IAB and SAC

20. Dr. Tariq said that a letter was sent to all the departments regarding this mentioning that these are vital constituents of the Civil Engineering Department as well as important partners in the continuous improvement process. This is a reminder for formation and interaction with the IAB and SAC according to the frequency outlined in the department outcome assessment plan. He told the department to take appropriate action to initiate these activities in the department and document summary of each activity in the annual Assessment report.
21. Dr. Waleed mentioned that he formed the industry, and we called the people, but they feel that their participation was not of value. He said that he mentioned to the CM that if we don't give them what they are interested in and we see that their input was really reflected in the department as a decision, they won't be interested. Same thing for the students Advisory Council, though we have formed it they feel they are neglected. We need to stimulate their interest and make them feel useful in doing what they asked to do.

7- Practical Training course

22. Dr. Tariq showed the practical training course table and said that this was done based on three things that is, the employer survey, exit survey and Alumni survey, and we found that for Civil department 43% of people in the industry suggests that graduates should have practical training. Similarly in the exit survey when the students were just exiting the program, 43 % of them felt that it would have been better if they were placed in a training program. But in the Alumni survey like after they have spent few years in the industry, they feel they were able to fit in the industry. Many departments say that they have logistic problems and are not willing to send students for practical training.
23. Dr. Waleed said that this is not true and that they have supervisors from the industry and the faculty member they do weekly meeting, and they have presentations and based on their attendance and performance and clearly, we identify the tasks with the industrial supervisor what they must do and then they come and do the presentations and is evaluated based on these tasks. Capstone and training course the department needs to choose the people who can run these

courses. They need to visit the sites. The problem is that the training center is not doing the job they are supposed to do, and this is not a compulsory course.

24. Dr Tariq said that the whole idea is to make it a "0" credit compulsory course within the other universities in Kuwait.
25. Prof. Kabir suggested that wherever the students are being send to for the practical training should have a training program that is set for the beginners. The company should have a program to train the trainees.
26. Dr. Waleed said that the companies here in Kuwait, their mentality is to make money, when university goes to them, they think that any cooperation with the Kuwait university is a source of bribe to them. They are willing to do whatever the university wants. He said that the department has training company evaluation sheet, which mentions different points that needs to be checked before sending the students for training.
27. Prof. Kabir mentioned that we don't even know if the engineers in the industries are qualified to give trainings. In many companies the engineers there they don't follow a proper system or code, few companies follow.
28. Dr. Tariq suggested that if we can do this course within the department, we have the room to put this as a compulsory course in the curriculum.

8- Closing

Dr. Chaudhary thanked Dr. Mohamad, Prof. Kabir and Dr. Waleed for attending the meeting and providing an overview of Assessment and Academic Activities in the Civil Engineering Department. The meeting was adjourned at 1:25 PM.

OAA Visit to College Departments AY 2021-2022 Visit

to Electrical Engineering Department Minutes of

Meeting

Date : Wednesday, 5 January 2022.

Place : Electrical Engineering Department Chairman's Office

Time : 12:10 PM

Attendees :	Prof. Mohammed Baidas	(Acting Chairman, EE Department)
	Dr. Mohammad Almullah	(UPC Coordinator, EE Department)
	Prof. Nabil Khachab	(CAC coordinator, EE Department
	Dr. Tariq Chaudhary	(Director, OAA)

CC: VDAA (by email)

1- Introduction

Dr. Tariq welcomed the attendees to the meeting and explained the reason for the meeting as a goodwill visit from the Office of Academic Assessment (OAA) to the Electrical Engineering department to get first-hand knowledge of activities related to assessment and accreditation matters in the department as well as to offer any assistance in clarifying the procedures and requirements of ABET accreditation under the current EAC criteria.

2- Meeting Agenda

Dr. Tariq introduce the agenda of the meeting that included the following:

i. General overview of activities in the Electrical Engineering Department related to fulfilment of ABET EAC Criteria.
ii. Items related to the curriculum: (i) Program Criteria, (ii) Capstone Design.
iii. Faculty participation in the continuous improvement process.
iv. Involvement of Industry Advisory Board and Student Advisory Council.
v. Practical Training Course.
vi. Lab Safety.
vii. Other Issues.

3- Overview of Assessment Activities in the CE Department

i- Dr. Tariq asked EE department leaders to give a brief regarding the assessment

activities in the department.

ii- Prof. Baidas termed the visit by OAA as a very positive move and suggested for similar visits in the future as well so that the departments are current on the ABET accreditation requirements.

iii- Dr. Almulla briefed that the visit is timely one as UPC of the department will soon be engaged in revision to curriculum based on the revised College curriculum guidelines.

iv- Prof. Nabil mentioned that the student outcome assessment process is running smooth. However, it is challenging to get enough ICEF and course folders for the assessment process.

v- Dr. Tariq emphasized that EAC accreditation criteria is not just outcome assessment (i.e. ICEF and course folders). It encompasses 8 items under the General Criteria in addition to the Program criteria for each program mandated by the professional society responsible for the program. For example, the Electrical Engineering program has to satisfy the program criteria stipulated by IEEE.

4- Program Criteria and Capstone Design

Program Criteria

i. Dr. Tariq explained that the program needs to make sure that items mentioned in the Program Criteria are included in the required courses of the Program. He specifically emphasized to include all keyword from the Program Criteria statements in the syllabi of the pertinent courses.

ii. Dr. Tariq read the Program Criteria for Electrical Engineering and asked EE department leadership about any questions related to the criteria items.

iii. Dr. Almulla stated that there is a difficulty in fulfilling the requirement of application of probability and statistics in EE courses. He said the College course on Probability and Statistics does not prepare EE students well to apply, especially, the probability concepts to EE applications. Dr. Almulla was of the opinion to have major revisions in the College Probability and Statistics course for serving the needs of EE department.

iv. Prof. Baidas opinioned that the EE courses cover topics necessary to comply with the requirement of analysis and design of complex electrical and electronic devices, software, and systems containing hardware and software components.

v. Regarding the complex variables and discrete mathematics topics, leadership of the EE department agreed that coverage of these topics is not sufficient in the core EE courses and the matter needs to be discussed in the department UPC.

Capstone Design

i. Dr. Tariq mentioned that he is preparing bullet point of the requirements for ‘design’ as per the ABET EAC criteria as the language used in the criteria is a bit dense. He shared the draft copy with EE department leaders for their use.

ii. Prof. Nabil told that most of these requirements like inclusion of engineering standards, multiple constraints etc. are already included in the capstone

template. Prof. Baidas asked Prof. Nabil to review and update the capstone project template in light of the current ABET requirements.

5- Faculty participation in continuous improvement process

i. Prof. Nabil was of the view that TAGs in the department should be reactivated for implementing the continuous improvement process.
ii. Dr. Almulla raised the question about the proper use of the ICEF data for meaningful implementation of the process. He stressed the need for faculty training as well as highlighting the importance of this task for improvement of the program.
iii. Dr. Tariq agreed that emphasis should shift from quantity to quality of the assessment data. Prof. Nabil responded that the number of assessment required in each semester are now reduced. However, still the faculty is not willing to do this task.

6- Involvement of IAB and SAC

i. Dr. Tariq said that a letter was sent to all the departments regarding this matter. IAB and SAC are vital constituents of the Electrical Engineering Department as well as important partners in the continuous improvement process. He told the department to take appropriate action to initiate these activities in the department and document summary of each activity in the annual Assessment report.
ii. Prof. Baidas told that he is contacting persons in various organization who are willing to be a part of the IAB and soon there will be a meeting with the IAB. Prof. Nabil updated on similar progress on SAC.

7- Practical Training course

i. Dr. Tariq showed the practical training course table that was based on input from the recent employer, exit and alumni surveys. The survey results indicated that for the Electrical Engineering department, 35% of the employers suggest to have the practical training course. Similarly, in the exit and alumni survey, 26% of the participants stressed on the need for a training program during the undergraduate studies. These numbers constitute significant feedback for the importance of this course and the department should discuss it as a part of the continuous improvement process.
ii. Prof. Baidas agreed with the need and usefulness of the practical training course. However, he did not agree with the mode of delivery of the course through ETAC in which the department does not have any direct oversight on the students. He cited this as the reason for withdrawing EE department from the training course. He also said that many companies that offer this training course are not qualified to run such a course and the department should be involved in the selection and approval of these entities. He said that until these fundamental

issues are not resolved, EE department is not going to send their student for training.

iii. Dr. Amulla asked Dr. Tariq whether training is an ABET requirement and why he is bringing up this issue for discussion? Dr. Tariq clarified that the training course is not an ABET requirement and he was just sharing the feedback from the constituents.

8- Lab safety

i. Prof. Baidas shared some serious safety issues in EE labs in the Shadadiya campus for which he has to take up the issue with the University Facilities to get those lapses fixed by the contractor.

ii. Dr. Almulla said even though there is no high voltage lab in the EE department but there is a need that the students are properly guided for the safe use of the lab equipment as well as there should be regular safety inspection of the equipment as well as the facilities. He was of the view that such oversight should be provided by the College.

9- Closing

Dr. Chaudhary thanked Prof. Baidas, Dr. Almulla and Prof. Nabil for attending the meeting and providing an overview of Assessment and Academic Activities in the Electrical Engineering Department. The meeting adjourned at 1:35 PM.

OAA Visit to College Departments AY 2021-2022

Visit to Industrial and Management Systems Engineering Department

Minutes of Meeting

Date : Tuesday, 17 May 2022.

Place : Industrial and Management Systems Engineering meeting room

Time : 12:30 PM

Attendees :	Dr. Jawad Alhashemi	(Acting Chairman, IMSE Department)
	Dr.Mohammad Alzayed	(UPC Coordinator, IMSE Department)
	Dr. Tariq Chaudhary	(Director, OAA)
	Eng. Kanti Sarkar	(Software Engineer , IMSE Department)
	Mr. Soud Alrashed	(OAA)
CC:	VDAA (by email)	

1- Introduction

Dr. Tariq welcomed the attendees to the meeting and explained the reason for the meeting as a goodwill visit from the Office of Academic Assessment (OAA) to the Industrial and Management Systems Engineering department. The purpose of the visit is to get first-hand knowledge of assessment activities in the department as well as to offer any assistance in clarifying ABET procedures and requirements.

2- Meeting Agenda

Dr. Tariq introduced the agenda of the meeting that included the following:

a) General overview of activities in the Industrial and Management Systems Engineering Department related to fulfilment of ABET EAC Criteria.
b) Items related to the curriculum: (i) Program Criteria, (ii) Capstone Design.
c) Faculty participation in the continuous improvement process.
d) Involvement of Industry Advisory Board and Student Advisory Council.
e) Practical Training Course.
f) Lab Safety.

3- Overview of Assessment Activities in the IMSE Department

i- Dr. Tariq asked IMSE department leaders to give a brief regarding assessment activities in their department and proceeded to inquire about the state of the IMSE department's virtual assessment room.

In reference to the virtual assessment room, Dr. Jawad stated that the IMSE department is using Microsoft teams instead of Sharepoint. Dr. Tariq remarked that the use of any suitable platform is fine, provided that faculty participation is satisfactory.

ii- Dr. Jawad inquired about the state of data storage practices in other KU engineering departments, to which Dr. Tariq responded that virtual data

storage should be employed by all departments to enable access by TAG coordinators and the OAA to assessment data.

iii- Dr. Jawad stated the TAG groups were dissolved in the department a few years ago. However, with the introduction of the graduate program, need for TAGs were recognized. Therefore, TAG groups are currently in the process of formation in the department and as such there is no TAG activity. Dr. Jawad further stated the department is planning to form six TAG groups and that work on outcome assessment will pick up after their formation.

iv- Dr. Jawad suggested adopting outcome averaging for each topic in required courses as a methodology for outcome assessment, as this method is relatively simple and would encourage faculty participation and provide better results relative to collection and calculation methodologies employed in the past. Dr. Tariq cautioned that such methodology may require aggregation of data from many courses to fully cover all attributes of an outcome.

v- Dr. Mohammad remarked that the nature of Industrial Engineering is collaborative, and its coursework is interlinked, a notion seconded by Dr. Jawad who further noted that department faculty teach courses interrelated in content and therefore are familiar with the attributes of various student outcomes that are covered in various courses.

vi- Dr. Tariq remarked that ABET requires systematization in collection of data and its assessment related to student outcomes. He emphasized the importance of documenting the assessment process and adopting statistical instruments in assessing student learning.

vii- Dr. Jawad observed that currently student outcomes are not mapped correctly in many course descriptions. It was agreed that correct mapping of outcomes was an urgent matter that requires prompt remedial action.

4- Program Criteria and Capstone Design

i. Dr. Tariq explained that the program needs to make sure that items mentioned in the Program Criteria are included in the required courses of the program. He specifically emphasized the need to include all keywords from the Program Criteria statements in the syllabi of pertinent courses. Dr. Jawad and Dr. Mohammad stated that ABET's program criteria items, which are related to both Industrial Engineering and Engineering Management programs, are adequately incorporated in the required courses of the IMSE program.

ii. Dr. Tariq gave a copy of an item regarding capstone design and encouraged all present faculty to read the document and supply comments.

iii. Dr. Jawad stated that they have reviewed the capstone design document and that the IMSE department's capstone design course adequately covers ABET criteria.

iv. Dr. Tariq suggested the creation, in cooperation with the UPC, of a trackable document that demonstrates compliance with ABET capstone design requirements.

5- Faculty participation in continuous improvement process

i. Dr. Tariq opened discussion on agenda item 5, inquiring about faculty participation rates in assessment processes.
ii. Dr. Jawad remarked that faculty participation is relatively low and pointed to the scanning of physical copies as a problem. On a related point, Mr. Kanti stated that TA participation is good, a statement met with general assent.
iii. Dr. Jawad remarked that some of the data gathered during the pandemic was suboptimal.
iv. Dr. Tariq emphasized the importance of gathering and archiving future data beyond the past two years, further emphasizing the need for virtual data storage. In reference to potential data degradation during the pandemic, Dr. Tariq stressed the need to demonstrate and document the presence of controls which guarded against any degradation in student learning and quality of the graduates.

6- Involvement of IAB and SAC

i. Dr. Tariq stated that a letter was sent to all departments regarding this matter, stressing that IABs and SACs are vital constituents of the Industrial and Management Systems Engineering Department as well as important partners in the continuous improvement process.
ii. Dr. Jawad stated that potential council constituents are currently identified though they have not been contacted yet.
iii. Dr. Tariq stated that program educational objectives (PEOs) require attention as the university mission statement was changed in the past.
iv. Dr. Jawad remarked that PEOs did not change during the last accreditation cycle, and subsequently asked how often PEOs should be reviewed.
v. In response, Dr. Tariq emphasized periodicity of PEO review, suggesting review once per cycle regardless of whether actual changes to PEOs are present. Dr. Tariq further stressed the incorporation of advisory boards in this process.

7- Practical Training course

i. Dr. Tariq opened discussion on agenda point #7 with a question about how many IMSE students take the Practical Training (PT) course.

   Dr. Jawad explained that while a lot of students had taken PT courses in the past, the department recently moved to cap student PT enrollment by restricting PT courses to students with a GPA of 3.5 or higher. As a result, 4-5 students per semester currently enroll in PT courses, with possible exceptions made for students who require such a course as an urgent graduation requirement. Moreover, he remarked that this policy has largely resulted in the department's best students taking PT courses, a result mutually beneficial as these students benefit greatly from their PT courses while assuming a positive ambassadorial role for the department in their respective PT workplaces.

ii. Dr. Tariq praised this state of affairs and proceeded to share data from the OAA's employer survey that suggest that 38% of respondents think that

IMSE graduates will benefit from a PT course. Dr. Tariq suggested introducing a zero-credit summer PT course, a measure to be instituted on the College level. Moreover, Dr. Tariq noted that some private universities in Kuwait do have such a course at present.

iii. Dr. Jawad agreed with Dr. Tariq's suggestion and pointed to a similar set- up at Kuwait University's College of Education as a comparable precedent.

iv. Dr. Mohammad observed that private sector companies are eager to collaborate in a PT course for students of IMSE department and this opportunity should be properly utilized while ensuring proper faculty supervision and assessment of participating students.

v. Dr. Tariq stated that he will pursue this matter with relevant College officials. All present faculty expressed approval of this measure.

8- Lab Safety

i. Dr. Tariq inquired about the state of laboratory safety measures in the IMSE department as well as whether the department's laboratories have been successfully moved to the College of Engineering's new Shadadiya campus. Dr. Tariq emphasized the importance of safety measures as safety infractions are directly registered as program deficiencies by ABET.

ii. Dr. Mohammad stated that lab safety protocols in the department are up to par and noted that the nature of IMSE labs as computer labs makes routine maintenance necessary, albeit not necessarily too taxing on responsible parties.

9- Closing

Dr. Tariq thanked Dr. Jawad, Dr. Mohammad, and Mr. Kanti for attending the meeting and providing an overview of Assessment and Academic Activities in the Industrial and Management Systems Engineering Department. The meeting was adjourned at 1:49 PM.

OAA Visit to College Departments AY 2021-2022 Visit

to Mechanical Engineering Department Minutes of

Meeting

Date : Sunday, 22 May 2022.

Place : Mechanical Engineering meeting room

Time : 12:30 PM

Attendees : Dr. Ammar Alsairafi (Acting Chairman, ME Department)
Dr.Majed Majeed (UPC Coordinator, ME Department)
Dr. Suhailah Al-Mutawa (CAC Coordinator, ME Department)
Dr. Tariq Chaudhary (Director, OAA)
Mr. Soud Alrashed (OAA)

CC: VDAA (by email)

1- Introduction

Dr. Tariq welcomed the attendees to the meeting and explained the reason for the meeting as a goodwill visit from the Office of Academic Assessment (OAA) to the Mechanical Engineering Department to get first-hand knowledge of assessment activities in the department as well as to offer any assistance in clarifying the procedures and requirements of the ABET assessment process.

2- Meeting Agenda

Dr. Tariq introduced the agenda of the meeting that included the following:

a) General overview of activities in the Mechanical Engineering Department related to fulfilment of ABET EAC Criteria.
b) Items related to the curriculum: (i) Program Criteria, (ii) Capstone Design.
c) Faculty participation in the continuous improvement process.
d) Involvement of Industry Advisory Board and Student Advisory Council.
e) Practical Training Course.
f) Lab Safety.

3- Overview of Assessment Activities in the ME Department

i- Dr. Tariq asked ME department leaders to give a brief regarding assessment activities in their department.

Dr. Majed proceeded to recount an overview of recent ME department assessment activities, detailing that curricula changes are going well and that a new ENG 201 course was introduced to better satisfy ABET requirements. He also stated that departmental TAG groups have met 4 times and that Dr. Suhailah actively oversees compliance with ABET requirements.

ii- Dr. Suhailah remarked that the Department does not get feedback from the College on proposed course changes, using as an illustrative example the lack of feedback on changes to course titles. She suggested that a mechanism of communication with VDAA should be developed to track the status of such requests.

iii- Dr. Majed agreed with Dr. Suhailah's suggestion and pointed to the portal system currently in place for tracking the promotion application as a viable and comparable precedent for such a mechanism. He further stated that such a mechanism would be beneficial for all Departments in the College.

iv- Dr. Tariq suggested raising this point in the next college UPC meeting for further discussion.

v- Dr. Ammar proceeded to raise several points regarding appointments and maintenance of Department labs. He stated that the Managing Director's office needs to pick up efforts to address maintenance issues in classrooms and labs, further stating that he has received several faculty complaints regarding maintenance of audio-visual equipment in classrooms. He also suggested that the Purchasing Department should create a comprehensive checklist and send representatives to visit departments in order to expedite the purchasing processes. Further, Dr. Ammar stated that the department needs to hire more lab technicians to optimize the operation of ME labs, a point seconded by Dr. Majed who stated that the department is restricted in terms of hiring criteria and is in need of lab specialists. Later, Dr. Suhailah observed that such issues with lab facilities could prove detrimental to ABET student outcome 6 (Experimentation).

vi- Dr. Tariq suggested discussing these issues with VDAA, Dr. Raed Bourisli, as their interdepartmental nature requires cooperation with college administration, especially since the college's recent transition to the Shadadiya campus poses unique difficulties to their solution.

vii- Dr. Ammar remarked that there are issues with student enrollment, suggesting that the enrollment policy of the College should be re-assessed. Dr. Majed added that a possible solution lies with scrapping the Kuwait University placement tests, as such tests are not required by the private universities in Kuwait and deter students from applying to Kuwait University. He further stated that diversity in student enrollment should also be promoted.

viii- Dr. Tariq welcomed this discussion on student enrollment, noting that ABET is currently considering the addition of "Diversity, Equity, and Inclusion" as a new standalone criterion; though this new criterion is still in the proposal stage, it speaks to the importance of promoting diversity in student enrollment.

4- Program Criteria and Capstone Design

i. Dr. Tariq explained that the program needs to make sure that items mentioned in the EAC Program Criteria are included in the required courses of the program. He specifically emphasized the need to include all keywords from the Program Criteria statements in the syllabi of pertinent courses.

ii. Dr. Suhailah stated that the ME department has program criteria adequately covered in their courses and course materials.

iii. Dr. Tariq remarked that ABET requirements regarding Capstone Design courses have not changed and proceeded to share a document containing an infographic that summarizes these requirements.

iv. Dr. Tariq stated that he plans to conduct mock evaluation visits starting next year. Dr. Suhailah suggested adding an agenda point regarding the planned mock-visits to the upcoming ME departmental council meeting. Dr. Ammar

took note of the suggestion and indicated this point will be added to the next departmental council meeting.

5- Faculty participation in continuous improvement process

i. Dr. Tariq opened discussion on agenda item 5, inquiring about the ME department's planned measures to maintain and improve faculty participation in the continuous improvement process.
ii. Dr. Suhailah stated that she intends for departmental outcome assessment to feature a 3 semester cycle with focus on specific outcomes in each semester. She also stated that she is simplifying the outcome assessment procedures to encourage faculty participation.
iii. On a slightly different note, Dr. Ammar pointed to the lack of faculty development opportunities due to lack of funds.

6- Involvement of IAB and SAC

i. Dr. Tariq stated that a letter was sent to all departments regarding this matter, stressing that IABs and SACs are vital constituents of the Mechanical Engineering Department and important partners in the continuous improvement process and the revision of program educational objectives (PEOs).
ii. Dr. Ammar stated that the SAC has been formed and a letter was sent to VDAA, Dr. Raed, regarding this matter, while a letter regarding the IAB will be sent in the coming week. He further stated that CEO replacements in some organizations delayed IAB formation.
iii. Dr. Suhailah suggested inviting IABs to the College during the design exhibition. She also suggested unifying the process across departments to better increase IAB participation.

7- Practical Training Course

i. Dr. Tariq opened discussion on agenda point #7 inquiring about the status of Practical Training (PT) courses in the Mechanical Engineering department.
ii. Dr. Suhailah stated that the department has moved away from PT courses, a notion seconded by Dr. Majed who further stated that practical training were offered in recent years as volunteer activity in the summer with zero credit.
iii. Dr. Tariq proceeded to share data from the OAA's employer survey that suggest that 36% of ME employers think that students would benefit from a PT course. Dr. Tariq suggested introducing a zero-credit summer PT course, a measure to be instituted on the College level. Moreover, Dr. Tariq noted that some private universities in Kuwait do presently have such a course on offer.
iv. Dr. Suhailah expressed agreement with the proposition and pointed to a comparable volunteer opportunity at Al-Ghanim International that the department had offered to students in the past. She stated that while this arrangement with Al-Ghanim International was informal, students benefitted greatly from their experience in a serious work environment.
v. Dr. Ammar proceeded to detail some potential challenges to forming such a

course. Drawing from his past experience as head of ETAC, Dr. Ammar counted lack of clear industry partnerships, student bias towards regular courses as opposed to non-rigorous PT courses, and the lack of PT-to-employment pathways as obstacles to successful implementation of PT programs. He stressed the importance of clarity and rigor in creating such programs to give students the best chance of success. Dr. Majed advised Dr. Tariq to discuss this proposition with faculty members who are knowledgeable in this regard.

vi. Dr. Tariq stated that he will pursue this proposition with relevant College officials including the current ETAC director.

8- Lab Safety and Facilities

i. Dr. Tariq inquired about the state of laboratory safety measures in the ME department as well as whether the department's laboratories have been successfully moved to the College of Engineering's new Shadadiya campus.

ii. Dr. Ammar stated four ME labs were successfully moved to the Shadadiya campus, while the workshop is partially shifted. He further stated that the fluid mechanics lab has not been moved and that the department aims to move it to the Shadadiya campus by next semester or otherwise to hold virtual experiments related to this lab to ease student commute problems between Khalidya and Shadadiya campuses.

iii. Dr. Ammar also pointed out that the office of Managing Director (الإداري المدير) needs to be more organized and proactive in maintenance of classroom teaching equipment, air conditioning, labs maintenance and coordination with the purchasing department of the University. He also emphasized that the Safety Committee at the College level should be adequately staffed to oversee regular maintenance of lab facilities and equipment.

iv. Dr. Suhailah remarked that safety instruction is a prerequisite to lab instruction in the ME department and stated that the department has a safety committee to oversee this aspect. Further, she stated that students are tested on safety standards and are continuously monitored by lab instructors while working on lab equipment.

v. Dr. Ammar observed that since the current ME labs in Shadadiya are "tabletop" labs, the Managing Director's office needs to play a more effective role in safeguarding a safe environment through regular and effective maintenance.

vi. Dr. Tariq followed up with a question regarding who would theoretically be responsible for upholding safety protocols in labs that would require relatively more demanding safety oversight. In response, Dr. Suhailah stated that while the ME department's labs do have inherited safety practices relayed on a lab technician-to-lab technician basis, it would benefit the College to appoint someone as head of the College safety committee, a post currently vacant, to ensure centralized and effective safety oversight in all labs of the College.

9- Closing

Dr. Tariq thanked Dr. Ammar, Dr. Majed, and Dr. Suhailah for attending the meeting and providing an overview of Assessment and Academic Activities in the Mechanical Engineering Department. The meeting was adjourned at 1:53 PM.

OAA Visit to the Engineering Training and Alumni Center (ETAC) AY 2021-2022

Minutes of Meeting

Date : Thursday, 2 June 2022.

Place : ETAC meeting room

Time : 12:30 PM

Attendees :	Dr. Duaij Alrukaibi Dr.	(Director, ETAC)
	Tariq Chaudhary	(Director, OAA)
	Eng. Ghazi Alshammari	(Engineer, ETAC) ghazi.sayer@ku.edu.kw
	Eng. Anwaar Albeeshi Eng.	(Engineer, ETAC) a.albeeshi@ku.edu.kw
	Ali Alsairafi	(Engineer, ETAC) ali.alsairafi@ku.edu.kw
	Mr. Soud Alrashed	(OAA)

CC: VDAA (by email)

1- Introduction

Dr. Tariq welcomed the attendees to the meeting and explained the reason for the meeting as a goodwill visit from the Office of Academic Assessment (OAA) to the Engineering Training and Alumni Center (ETAC), with the aim of opening dialogue with ETAC leaders regarding issues of mutual interest and developing ongoing cooperation.

2- Meeting Agenda

Dr. Tariq introduced the agenda of the meeting that included the following:

a) Practical Training Course
b) Cooperation with Alumni and Employer Surveys
c) Student Guidance for capstone report and presentation
d) Alumni newsletter/blog/other media for interaction between College and Alumni
e) KFAS Exhibition
f) Other items

3- Practical Training Course

i- Dr. Tariq asked ETAC members to give a brief regarding the state of Practical Training (PT) courses as offered through the Center. He emphasized the importance of PT courses as highlighted in the student exit, alumni and employer surveys. He also detailed the logistical problems related to the PT course raised by departments in recent OAA departmental visits.

ii- Eng. Ghazi proceeded to give a detailed account of past PT course offerings and ETAC's sustained oversight of the training program, pointing to a several year period in the mid-2000s as an institutional golden age in terms of PT successes. He further explained that 2008 was a negative inflection point where PT ceased to be offered for two years, and there onwards lost momentum.

i- Eng. Ghazi stated that the departments' resistance to offering practical training courses and their discouragement of their own students to pursue PT was and remains the primary obstacle towards instituting an ambitious and comprehensive PT program at KU CEP.

ii- Dr. Duaij pointed to this problem with departments as being a key obstacle as well. He proceeded to state that departments/faculty prefer PT to have a seminar-like quality and possibly feature an exam component, both qualities that severely limit the practical component in PT courses. He also suggested that departments could be overcritical in rejecting practical training programs and proposals citing relatively minor and inconsequential faults. He further stated that the root of the issue with departments is financial, given that a PT course would require cutting down the number of departmental elective courses – a measure that many

departments don't want to adopt.

iii- Eng. Ali stated that some departments tried to create micro-course alternatives to circumvent PT, offering a 1–2 week seminar style PT course.

iv- Eng. Anwaar proceeded to explain that creating reliable partnerships with PT providers is key for PT success, and that KU reneging on past agreements with PT providers proved to be a serious problem in maintaining productive partnerships.

v- Dr. Tariq remarked that PT courses are compulsory in many universities, including several private universities in Kuwait, and proceeded to ask about whether ETAC has the capacity to manage a more ambitious PT intake.

vi- Eng. Ghazi observed that a similarly ambitious vision for compulsory PT currently exists in the university's strategic plan. He further stated that ETAC could cater to higher PT intakes, as long as intake increases gradually scale up over a suitable number of years.

vii- As a possible comprehensive solution, Dr. Duaij suggested offering PT courses as a 0600 course, like the Engineering Ethics or Statics courses. As an alternative solution he proposed that departments could send an agreed upon quota of students for practical training.

viii- Eng. Anwaar pointed to a practical training model instituted at King Fahad University where students are offered two curricula to choose from at an early point in their study, one offering PT and the other not offering PT. Dr. Duaij also pointed to a practical training model instituted at Qatar University where students are offered 'course baskets' featuring, among other choices, a PT course as a choice.

ix- Dr. Tariq inquired as to whether these issues were raised in College Council meetings.

x- Dr. Duaij stated that it would be possible to raise this issue in a College Council meeting with OAA support, and reemphasized that the primary issue is at the departmental level.

xi- All participant agreed on the importance of the PT course and showed interest in reviving the course for the benefits of the students.

4- Cooperation with Alumni and Employer Surveys

i. Dr. Tariq inquired as to whether the OAA can expect ETAC's support with the planned Alumni and Employer surveys, both surveys administered by the OAA and requiring some data support from ETAC.

ii. Dr. Duaij stated ETAC could support the OAA's survey launches by providing social media exposure, and further stated that ETAC does have an alumni database that can also be utilized for this purpose.

5- Student Guidance for Capstone Report and Presentation

i. Dr Tariq inquired about ETAC's student support services, namely presentation and capstone report writing assistance.

ii. Dr. Duaij stated that while they had offered such services and do have the capability to do so, the Center currently offers limited support services. Dr. Duaij noted the need to supply student services and instructed Eng. Ali to take note of this matter for further internal discussion.
iii. Eng. Anwaar observed that such support services might require greater budget allocation.
iv. Eng. Ghazi stated that ETAC is planning to create an 'Innovation Center', though he noted that this center deals with hardware-related support.

6- Alumni newsletter/blog/other media for interaction between College and Alumni

i. On agenda item #6, refer to agenda item 4ii above.

7- KFAS Exhibition

i. Dr. Tariq suggested that the various Industrial Advisory Boards (IABs) be invited to the exhibition.
ii. Dr. Duaij agreed and stated that the center would be able to prepare the necessary invites.

8- Other items

i. Dr. Tariq inquired about whether an alumni gathering was held and whether ETAC plans to hold an alumni gathering in the near future.
ii. Eng. Ghazi stated that budgetary constraints cancelled plans for an alumni gathering in the present academic year. He went on to remark that an alumni gathering should be held annually.
iii. Dr. Tariq stated that the college needs to hold an alumni gathering next year, and suggested that employers and members from IABs should be invited to attend.
iv. Eng. Ghazi agreed with Dr. Tariq's suggestion and noted that creating such a networking opportunity would be valuable for all constituents. However, he reemphasized the decisive role that budget allocation plays in this matter.

9- Closing

Dr. Tariq thanked Dr. Duaij, Eng. Ghazi, Eng. Anwaar, and Eng. Ali for attending the meeting and engaging in productive dialogue on issues mutually benficial and expressed wishes for continued cooperation. The meeting was adjourned at 2:06 PM.

APPENDIX F:
New Employer Survey Form

Kuwait University

College of Engineering & Petroleum
Office of Academic Assessment

Employer Assessment of Engineering Graduates

P.O. Box 5969, Safat 13060, Kuwait http://www.eng.ku.edu.kw/oaa/employer/ *Tel: 2498-3331*

The College of Engineering and Petroleum at Kuwait University 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. Thank you for your cooperation and support. ***Please note that this survey is recommended to be completed online*** at **http://www.eng.ku.edu.kw/oaa/employer/** , then can be printed for your records.

Name: _____

Company/Organization: _____

Department/Division: _____ Position: _____

Years in position: _____ E-mail: _____

Tel: _____ _____ Fax: _____

- Which ONE of the following best describes your organization as a whole?

☐ Government

☐ Private Company

☐ Other (please specify) _____

- Job nature of engineering staff (Choose all that apply):

29. ☐ Design
30. ☐ Programming
31. ☐ Maintenance
32. ☐ Procurement
33. ☐ Administrative
34. ☐ Other _____

- Majors of Engineers being evaluated (Choose all that apply):

☐ Civil ☐ Chemical ☐ Computer ☐ Electrical

☐ Petroleum ☐ Mechanical ☐ Industrial & Management Systems

- Engineers to be evaluated are mainly from _____ discipline (Choose 2 maximum).

☐ Civil ☐ Chemical ☐ Computer ☐ Electrical

☐ Petroleum ☐ Mechanical ☐ Industrial & Management Systems

- Number of engineers employed in your company (if known): _____

- Percentage of Kuwait University graduates (if known): _____

Please:

First: Rate the following skills, abilities, and knowledge in terms of the level of preparedness of recent Kuwait University engineering graduates.

***Second*:** Rate each item according to its importance to your business and operations.

Assessment of Graduates							***Importance to business***					
Very well prepared	*Well prepared*	*Prepared*	*Somewhat prepared*	*Not prepared*	*Cannot evaluate*	***Skills, abilities, and knowledge***	*Extremely important*	*Very important*	*Important*	*Somewhat important*	*Not important*	*Cannot evaluate*
☐	☐	☐	☐	☐	☐	1. Apply mathematics, science and engineering knowledge	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	2. Identify, formulate, and solve engineering problems	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	3. Develop new or innovative ideas and work independently	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	4. Use techniques, skills, and modern engineering tools necessary for Engineering design and professional practice (Computer, Internet, Engineering software, etc)	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	5. Design a system, component, or process to meet desired needs	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	6. Communicate orally: informal and prepared talks	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	7. Communicate in writing: letters, technical reports, etc	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	8. Understand professional and ethical responsibility	☐	☐	☐	☐	☐	☐

☐	☐	☐	☐	☐	☐	9. Understand impact of engineering solutions in a global/societal context	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	10. Understand contemporary social, economic, and cultural issues	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	11. Work in teams and develop leadership skills	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	12. Function effectively in international and multicultural contexts	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	13. Design and conduct experiments, analyze, and interpret data	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	14. Learn new skills and stay current technically and professionally	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	15. Recognize the need to engage in lifelong learning	☐	☐	☐	☐	☐	☐

Please evaluate/rate the following engineering programs objectives according to:

- How important they are to your company needs
- The level of attainment of our graduates.

Level of Attainment					***Importance to business***					
Significant	*Satisfactory*	*Somewhat satisfactory*	*Not satisfactory*	***Objectives***	*Extremely important*	*Very important*	*Important*	*Somewhat important*	*Not important*	*Cannot evaluate*
☐	☐	☐	☐	1. Contribution to company/workplace/institution (e.g., improve product/service quality, increase productivity, increase revenues, reduce expenses, improve customer satisfaction)	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	2. Contribution to wellbeing 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. 35. (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)	☐	☐	☐	☐	☐	☐

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

_____

_____

_____

_____

_____

_____

_____

_____

- How do Kuwait University graduates compare with graduates from other universities?

☐ Much better ☐ Somewhat better ☐ About the same

☐ Not as good ☐ Much worse

- Have you find it necessary to provide training to the graduates of Kuwait University during the first year of their employment in your organization? ☐Yes ☐ No

- If **yes**, Please specify.

_____

_____

_____

_____

- Is hiring a KU graduate your first preference? ☐Yes ☐ No

- What particular strengths do you perceive Kuwait University engineering graduates possess?

_____

_____

_____

_____

- In what areas should Kuwait University improve its preparation of engineering graduates for employment?

_____

_____

_____

_____

- Would you be interested in receiving a summary report on the College of Engineering Employer Survey of 2022 – 2023?

☐ Yes ☐ No

- Would you be interested in participating at a luncheon briefing with other employers and faculty staff on the results of the College of Engineering Employer Survey of 2022 – 2023?

☐ Yes ☐ No

Thank you for completing this survey.

Your feedback will be used to improve the preparation of

Kuwait University Engineering graduates for employment.