

# The Mechanical Engineering Program in Jouf University Key Performance Indicators Report

1440 – 1441 H.

### Key Performance Indicators Data for Mechanical Engineering Program, Year 1440-1441 H.

With External Benchmark for Mechanical Engineering Program in Majmaah University and Mechanical and Material Engineering University of Jeddah

Code	Key Performance Indicators	Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark 1439-1440	External Benchmark		New Target Benchmark
					MU	UJ	
KPI-P- 01	Percentage of achieved indicators of the program operational plan objectives.	57%	70%	53%	77.7 %	78 %	70%
KPI-P- 02	Students' Evaluation of quality of learning experience in the program	4.57	3.75	3.73	4.21	4.25	4.7
KPI- P- 03	Students' evaluation of the quality of the courses.	4.35	4.5	4.4	4.48	3.65	4.6
KPI- P - 04	Completion rate.	47.62 %	70 %	48.4 %	41.7 %	66.67	70 %
KPI- P - 05	First-year students retention rate	100 %	70 %	38.7 %	100 %	100 %	100 %
KPI- P - 06	Students' performance in the professional and/or national examinations.	_____	_____	_____	_____	_____	_____
KPI- P - 07	Graduates' employability and enrolment in postgraduate programs.	29 %	50 %	26 %	72.2 %	70 %	50 %
		2 %	10 %	_____	9.1 %	0 %	10 %
KPI- P - 08	Average number of students in the class.	10	12	13	9	19	9
KPI- P - 09	Employers' evaluation of the program graduates proficiency.	3.99	3.7	3.6	4.1	4	4.1
KPI- P - 10	Students' satisfaction with the offered services.	3.85	3.8	3.75	3.06	4.6	4
KPI- P - 11	Ratio of students to teaching staff.	9 :1	10 :1	11 :1	6 : 1	15 : 1	8 :1

Code	Key Performance Indicators	Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark 1439-1440	External Benchmark		New Target Benchmark
					MU	UJ	
KPI- P - 12	Percentage of teaching staff distribution.	A: M. 100% B: 100 % C: Assist. P:80 % Assoc. P: 10 % Prof.: 10 %	A: M. 100% B: 100 % C: Assist. P:60 % Assoc. P: 30 % Prof.: 10 %	A: M. 100% B: 100 % C: Assist. P:80 % Assoc. P: 10 % Prof.: 10 %	A: M. 100% B: 100 % C: Lecturer: 6.7 % Assist. P:60 % Assoc. P: 33.3 % Prof.: 0 %	A: M. 100% B: 100 % C: Lecturer: 7.14 % Assist. P:35.72 % Assoc. P: 50 % Prof.: 7.14 %	A: M. 100% B: 100 % C: Assist. P:60 % Assoc. P: 30 % Prof.: 10 %
KPI- P - 13	Proportion of teaching staff leaving the program.	20 %	0 %	10 %	20 %	0.06 %	0 %
KPI- P - 14	Percentage of publications of faculty members.	70 %	60 %	27.2 %	80 %	85.7 %	100 %
KPI- P - 15	Rate of published research per faculty member.	0.9 : 1	1 : 1	0.81 : 1	7.23 : 1	1.5 : 1	1 : 1
KPI- P - 16	Citations rate in refereed journals per faculty member.	10.5 : 1	15 : 1	8.45 : 1	8.1 : 1	8 : 1	15 : 1
KPI- P - 17	Satisfaction of beneficiaries with the learning resources.	4.23	3.9	3.86	4.16	4	4.5
KPI- P - 18	Number of research groups in the program.	0	2	0			2
KPI- P - 19	The number of subsidized research projects that the program's staff obtain annually.	3	5	2			5

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KPI- P - 20	Percentage of students participating in extra-curricular activities.	13%	20%	8%			20%
KPI- P - 21	Employer's satisfaction with the program's mission, vision and objectives.	4.5	3.5	3.4			4.6
KPI- P - 22	Percentage of student graduation projects related to the community.	40%	30%	30%			50%

**Key Performance Indicators Data for Mechanical Engineering Program, Key  
Performance Indicators Data for Mechanical Program,  
College of Engineering in main campus,  
Year 1440-1441 H.**

Code	Key Performance Indicators	KPI for Mechanical Program
KPI-P- 01	Percentage of achieved indicators of the program operational plan objectives.	57%
KPI-P- 02	Students' Evaluation of quality of learning experience in the program	4.57
KPI- P - 03	Students' evaluation of the quality of the courses.	4.35
KPI- P - 04	Completion rate.	47.62 %
KPI- P - 05	First-year students retention rate	100 %
KPI- P - 06	Students' performance in the professional and/or national examinations.	————
KPI- P - 07	Graduates' employability and enrolment in postgraduate programs.	a. 29 % b. 2 %
KPI- P - 08	Average number of students in the class.	10
KPI- P - 09	Employers' evaluation of the program graduates proficiency.	3.99
KPI- P - 10	Students' satisfaction with the offered services.	3.85
KPI- P - 11	Ratio of students to teaching staff.	9:1
KPI- P - 12	Percentage of teaching staff distribution.	A: M. 100% B: 100 % C: Assist. P:80 % Assoc. P: 10 % Prof.: 10 %
KPI- P - 13	Proportion of teaching staff leaving the program.	20 %
KPI- P - 14	Percentage of publications of faculty members.	70 %
KPI- P - 15	Rate of published research per faculty member.	0.9
KPI- P - 16	Citations rate in refereed journals per faculty member.	10.5
KPI- P - 17	Satisfaction of beneficiaries with the learning resources.	4.23
KPI- P - 18	Number of research groups in the program	0
KPI- P - 19	The number of subsidized research projects that the program's staff obtain annually	3
KPI- P - 20	Percentage of students participating in extra-curricular activities	13%
KPI- P - 21	Employer's satisfaction with the program's	4.5

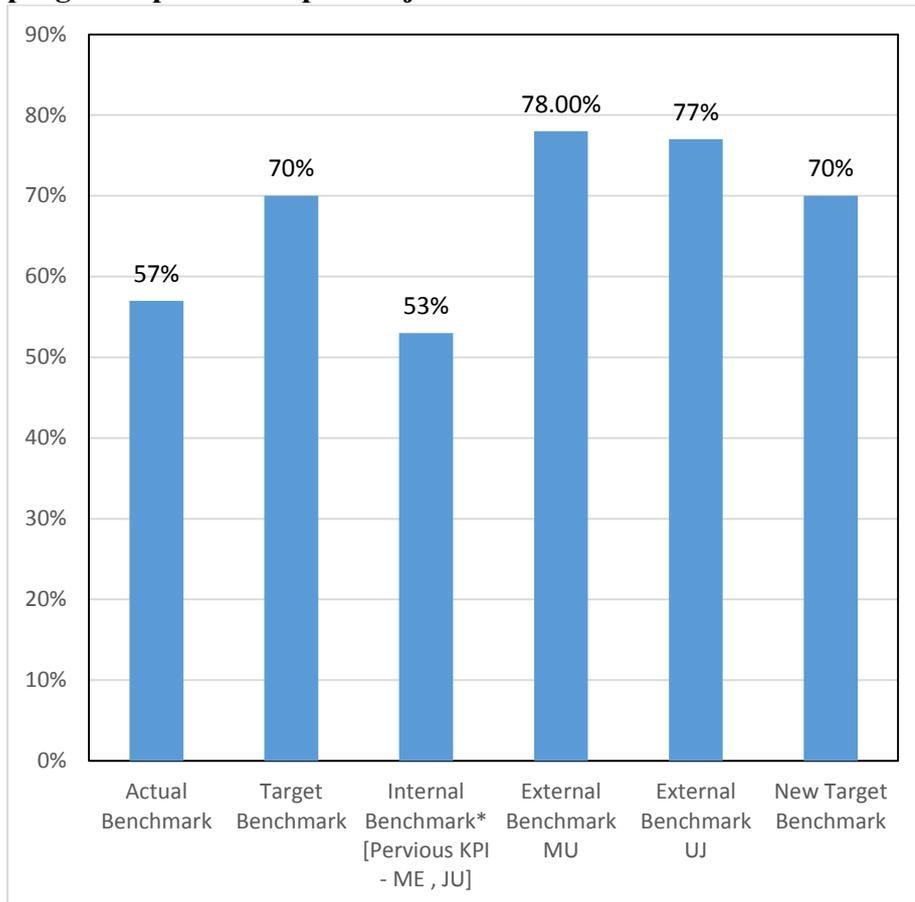
	<b>mission, vision and objectives</b>	
<b>KPI- P - 22</b>	<b>Percentage of student graduation projects related to the surrounding community</b>	<b>40%</b>

## Standard 1: Mission and Goals

**Table1: KPI-P-01: Percentage of achieved indicators of the program operational plan objectives.**

NCAAA KPI Reference Number: KPI-P-01: Percentage of achieved indicators of the program operational plan objectives					
Jouf University KPI Reference Number: KPI-P-01					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
57%	70%	53%	77.7 %	78 %	70%

**KPI Analysis of Percentage of achieved indicators of Mechanical Engineering program operational plan objectives**



**Figure 1: Percentage of achieved indicators of Mechanical Engineering program operational plan objectives**

**Figure 1:** above shows that the actual benchmark (57%) is based on the Percentage of achieved indicators of Mechanical Engineering program operational plan

objectives for the year 2019-2020. The percentage of completion is higher than in the previous year (53%), but it needs more improvement. The quality committee has decided to set the new target benchmark to 70%. It is less than the external benchmark provided by Jeddah University and of Majmaah University.

**Strengths:**

Achieved indicators of Mechanical Engineering program operational plan goals are calculated annually.

**Recommendations:**

- Formation of a committee to investigate the cause for a low percentage of achieved indicators of Mechanical Engineering program operational plan objectives.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2019-2020) provides a good internal measure for program improvement from one cycle to the next.

**2. How was the benchmark calculated?**

Percentage of achieved indicators of Mechanical Engineering program operational plan Goals.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.
- .

**2. How was the benchmark calculated?**

- Percentage of achieved indicators of Mechanical Engineering program operational plan objectives.

**3. Name of the external provider.**

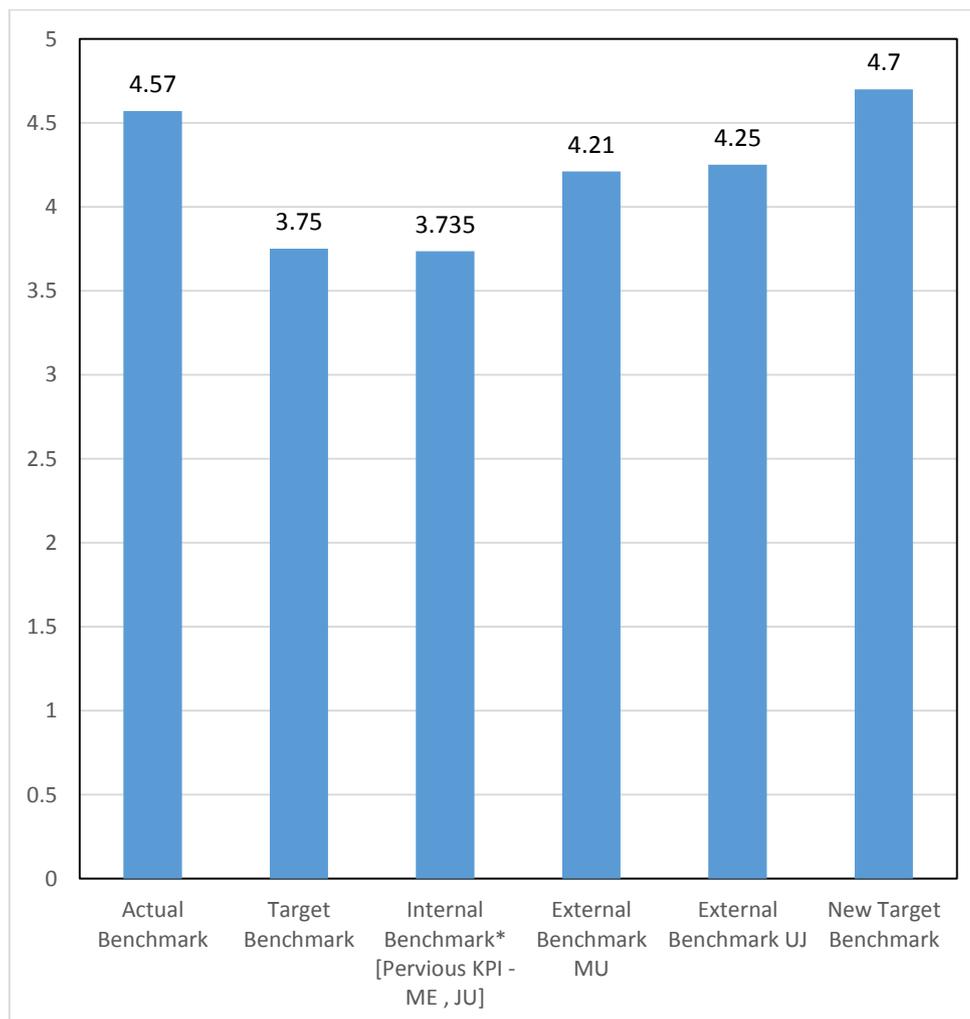
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah.

### Standard 3: Teaching and Learning

**Table 2: KPI-P-02 Students' evaluation of quality of learning experience in the program.**

NCAAA KPI Reference Number: KPI-P- 02: Students' evaluation of quality of learning experience in the program.					
Jouf University KPI Reference Number: KPI-P-02					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
4.57	3.75	3.73	4.21	4.25	4.7

#### KPI Analysis of Students' evaluation of quality of learning experience in Mechanical Engineering program.



## Figure 2: The Students' evaluation of quality of learning experience in Mechanical Engineering program at the University level.

**Figure 2:** above shows that the actual benchmark (4.57) is based on the survey “ME Students Survey on Evaluating the Mechanical Engineering Program” conducted among final year students for the year 2019-2020. The aspect included in the calculation of the actual benchmark is “Overall Evaluation”. We note that the actual benchmark value for year 2019-2020 is considerably higher than the actual value for the previous year (2018-2019) which also serves as the internal benchmark (3.73). The actual benchmark exceeds the target (3.75) comfortably and is reasonably close to the external benchmark provided by Jeddah University and higher than that of Majmaah University. The considerable improvement compared to the previous year shows the ME department’s commitment to improving the quality of learning experience. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 4.7.

### Strengths:

- Relevant surveys are conducted regularly which allows for consistent evaluation of the overall learning experience from final year students’ perspective
- The department attempts to improve all aspects of the students’ experience

### Recommendations:

- Develop an appropriate strategy to address the shortcoming and improve the quality of all the services.

### \* Explain:

#### 1. Why this internal benchmark provider was chosen?

Using ME program’s own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next. The Quality Unit of College in collaboration with DQAA conducts and collects regular evaluation surveys including among ME students. The results available in their database were considered an authentic and suitable measure for an internal benchmark.

#### 2. How was the benchmark calculated?

The internal benchmark is based on the survey conducted among final year ME students for the year 2018-2019.

#### 3. Name of the internal benchmark provider.

Department of Mechanical Engineering, JU, through College Quality Unit

### \*\* Explain:

#### 1. Why this external provider was chosen?

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

By Average of overall rating of final year students for the quality of learning experience in Mechanical Engineering program on a five-point scale in an annual survey.

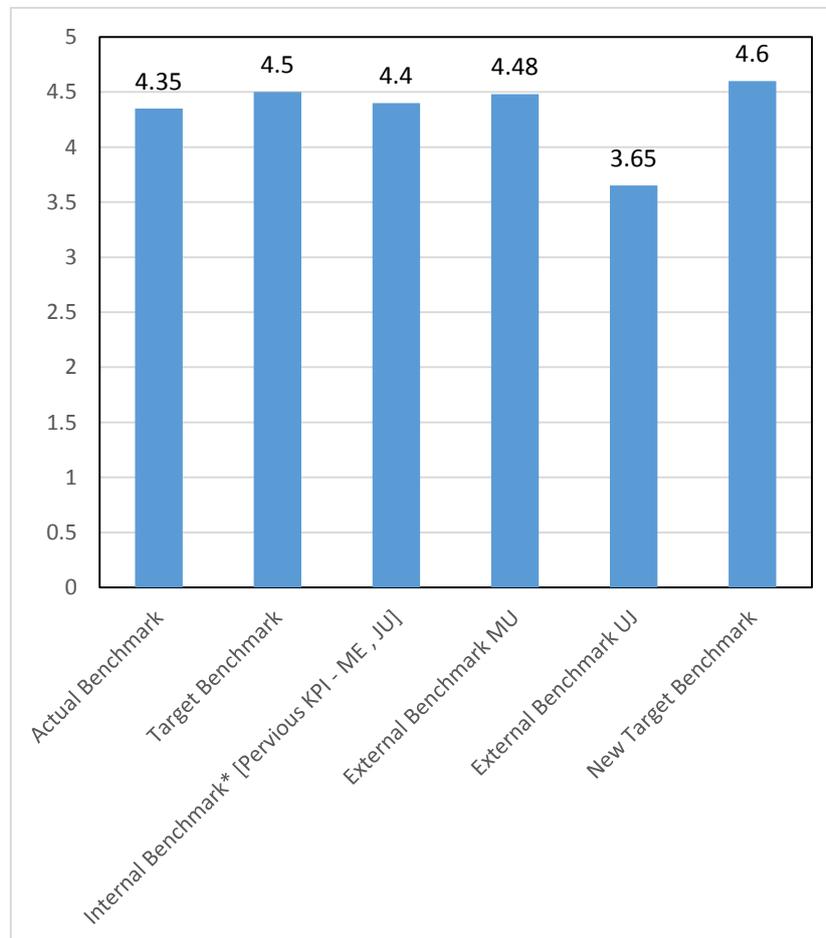
## **3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 3: KPI-P-03 Students' evaluation of the quality of the courses.**

NCAAA KPI Reference Number: KPI-P- 03: Students' evaluation of the quality of the courses					
Jouf University KPI Reference Number: KPI-P-03					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
4.35	4.5	4.4	4.48	3.65	4.6

**KPI Analysis of Students' evaluation of the quality of the courses in Mechanical Engineering program**



**Figure 3: The Students' evaluation of the quality of the courses in Mechanical Engineering program at the University level.**

**Figure 3:** above shows that The actual benchmark (4.35) is based on several course evaluation surveys conducted among the ME students for course given in the year

2019-2020. We note that although the actual benchmark value is considerably higher than the external benchmark provided Jeddah. University and is reasonably close to the external benchmark provided by university of Majmaah. It is less than the target (4.5), and reasonably close to the previous cycle (4.4) which also serves as the internal benchmark. The decline shows that the staff of ME department must improve the quality of the courses, and that means improving and diversifying teaching strategies. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to retain the target benchmark at 4.6.

**Strengths:**

- Course evaluation surveys are conducted regularly which allows for consistent evaluation of the course quality from ME students' perspective

**Recommendations:**

- Course evaluation survey to be discussed with students, in order to explain the importance of each section in the survey.
- Raising the quality of teaching staff.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next. The Quality Unit of College in collaboration with DQAA conducts and collects regular evaluation surveys including among ME students. The results available in their database were considered an authentic and suitable measure for an internal benchmark.

**2. How was the benchmark calculated?**

The internal benchmark is based on the survey conducted among ME students for courses given in the year 2018-2019.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit.

**\*\* Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.

- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## 2. How was the benchmark calculated?

Average students overall rating for the quality of courses on a five-point scale in an annual survey.

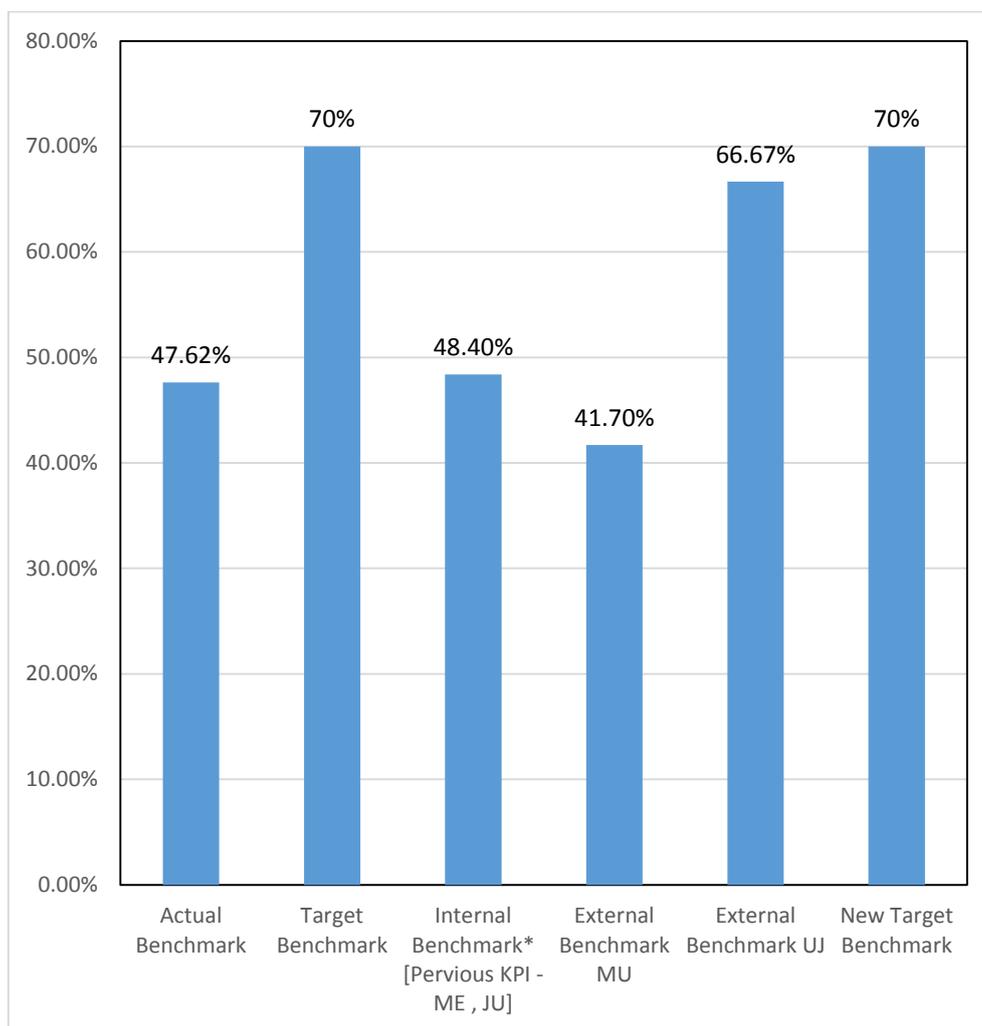
## 3. Name of the external provider.

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 4: KPI-P-04 Completion rate.**

NCAAA KPI Reference Number: KPI-P- 04: Completion rate					
Jouf University KPI Reference Number: KPI-P-04					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
47.62 %	70 %	48.4 %	41.7 %	66.67	70 %

**KPI Analysis of Completion rate in Mechanical Engineering program.**



**Figure 4: The completion rate in Mechanical Engineering Program at the University level.**

**Figure 4:** above shows that the Actual value (47.62%) indicates the percentage of students who entered the undergraduate program and completed the program in minimum time, and is based on a detailed cohort analysis (for the years 2018-2019). The actual value is lower than the target values (70%), the internal benchmark

(48.4%) and external benchmarks at Majmaah University and university of Jeddah 41.7% and 66.67 %. The department clearly needs to address this issue and adopt measurement to improve the overall teaching process such that a student entering the program has better chances of completing in minimum time. The department must communicate well with students to overcome obstacles. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee set the new target benchmark at 70%.

**Strengths:**

- Each student is assigned an advisor from among the faculty

**Recommendations:**

- Continues assessment, to ensure students commitment, to study plan and activating the role of the academic advisor.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

**2. How was the benchmark calculated?**

The internal benchmark indicates the percentage of ME students who complete the program in minimum time.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
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- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

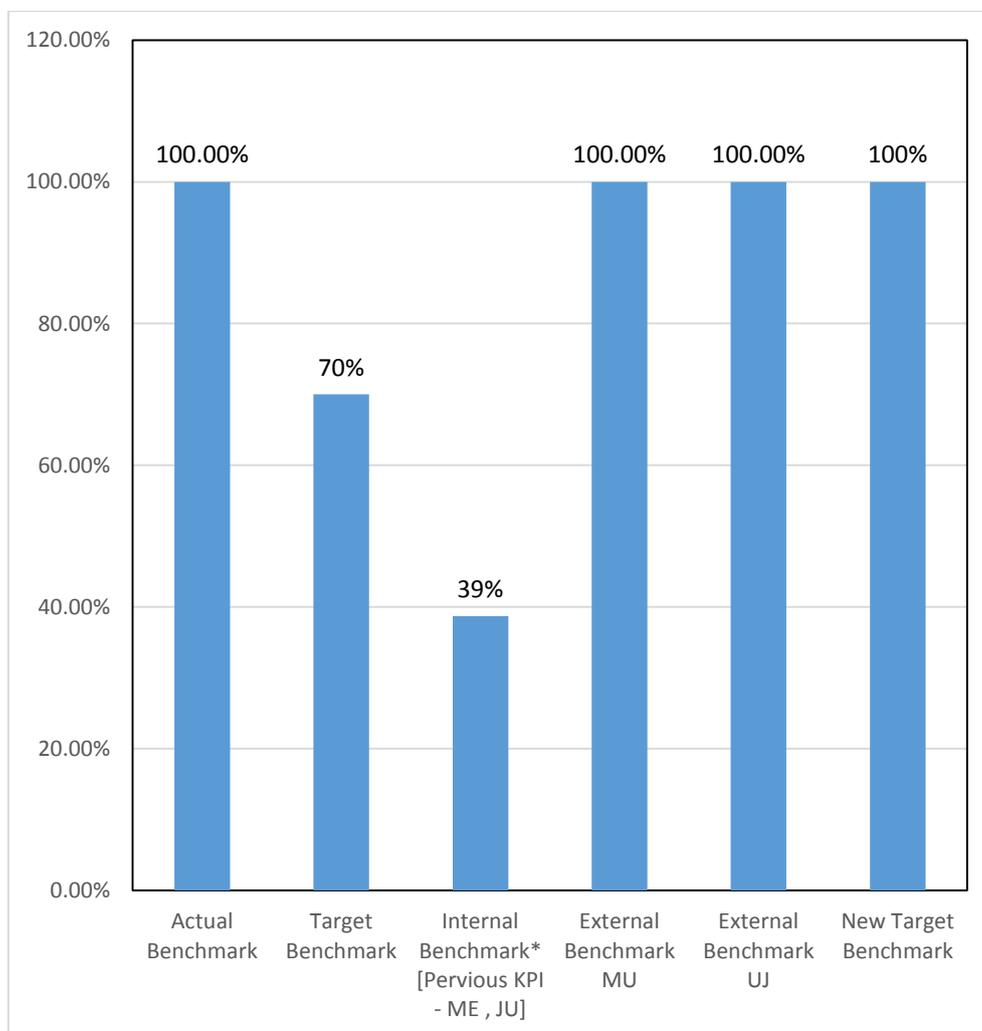
**3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 5: KPI-P-05 First-year students retention rate.**

NCAAA KPI Reference Number: KPI-P- 05: First-year students retention rate					
Jouf University KPI Reference Number: KPI-P-05					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
100 %	70 %	38.7 %	100 %	100 %	100 %

**KPI Analysis of first-year students' retention rate in Mechanical Engineering program.**



**Figure 5: The first-year students retention rate in Mechanical Engineering program at the University level.**

**Figure 5:** above shows that the Actual value (100%) indicates the percentage of students who entered and successfully completed first year of the program (for the year (2019-2020). The current value exceeds the target (70%) and is also exceeds the actual value for the previous year (2018-2019) which also serves as the internal benchmark (38.7%). We note that the actual benchmark is equal to the external benchmarks (100%). All this indicates that the department needs to address this issue and adopt measures to improve the overall teaching process such that a student entering the program has better chances of achieving the learning outcomes. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to retain the target benchmark at 100%.

#### **Strengths:**

Each student is assigned an advisor from among the faculty

#### **Recommendations:**

- Making arrangements to provide more counseling to students

#### \* **Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \*\* **Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

##### **2. How was the benchmark calculated?**

Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.

### 3. Name of the external provider.

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah.

**Table 6: KPI-P-06 Students' performance in the professional and/or national examinations.**

NCAAA KPI Reference Number: KPI-P- 06: Students' performance in the professional and/or national examinations.					
Jouf University KPI Reference Number: KPI-P-06					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
_____	_____	_____	_____	_____	_____

**KPI Analysis of Students' performance in the professional and/or national examinations for Mechanical Engineering program.**

#### 🚦 Mechanical Engineering program at the University level:

**Figure : The Students' performance in the professional and/or national examinations for Mechanical Engineering program at the University level.**

#### 🚦 Strengths:

#### 🚦 Recommendations:

#### \* Explain:

1. Why this internal benchmark provider was chosen?

2. How was the benchmark calculated?

Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)

3. Name of the internal benchmark provider.

#### \*\* Explain:

1. Why this external provider was chosen?

2. How was the benchmark calculated?

Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median (if any)

3. Name of the external provider.

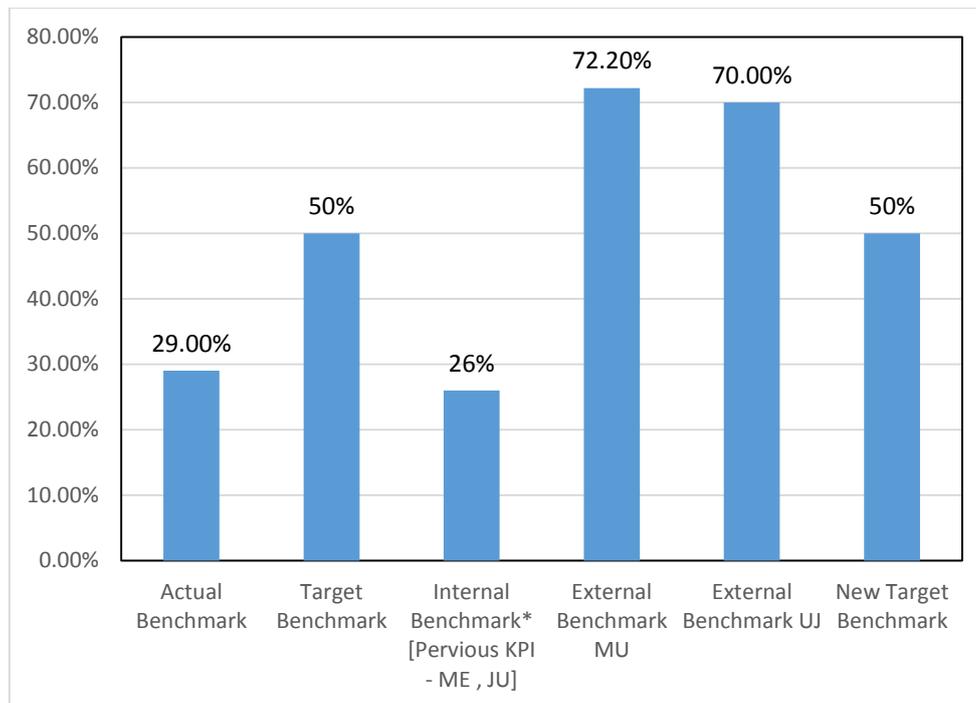
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 7: KPI-P-07 Graduates' employability and enrolment in postgraduate programs.**

**Table 7 A: KPI-P-07 Graduates' employability**

NCAAA KPI Reference Number: KPI-P- 07: Graduates' employability.					
Jouf University KPI Reference Number: KPI-P-07					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
29 %	50 %	26%	72.2 %	70 %	50 %

**KPI Analysis of the employability of graduates of Mechanical Engineering program.**



**Figure 6: The employability of graduates of Mechanical Engineering program. At the University level:**

**Figure 6:** above shows that the Actual benchmark value is based on information collected from the program graduates, and it represents the percentage of graduates from the ME program who within a year of graduation were employed during the first year of their graduation to the total number of ME graduates in the same year, calculated for the cycle 2019-2020. As is clear from the KPI table, the proportion of graduates finding employment within a year of graduation is considerably lower than all the other references values, but higher than the previous year. The department clearly needs to address this issue and adopt measures to improve the employability of

its graduates. To this end, a committee needs to be formed to investigate causes of students failing to find jobs and to provide clear actionable recommendation for the next cycle. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to retain the target benchmark at 50%

#### **Strengths:**

- Each student is assigned an advisor from among the faculty, who can also guide the student in job/higher-studies related matters

#### **Recommendations**

- Data regarding students enrolled in higher studies and those not seeking employment or further studies were not available. Steps need to be taken to ensure that such data is carefully collected every year
- Making arrangements to provide more counseling to students.
- A committee needs to be formed to investigate causes of students failing to find jobs and to provide clear actionable recommendation for the next cycle.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next

##### **2. How was the benchmark calculated?**

The internal benchmark represents the percentage of graduates from the ME programs who within a year of graduation were employed during the first year of their graduation to the total number of ME graduates in the same year, calculated for the cycle 2018-2019.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### **\*\* Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.

- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

the percentage of graduates from the ME program who within a year of graduation were employed during the first year of their graduation to the total number of ME graduates in the same year, calculated for the cycle 2018-2019

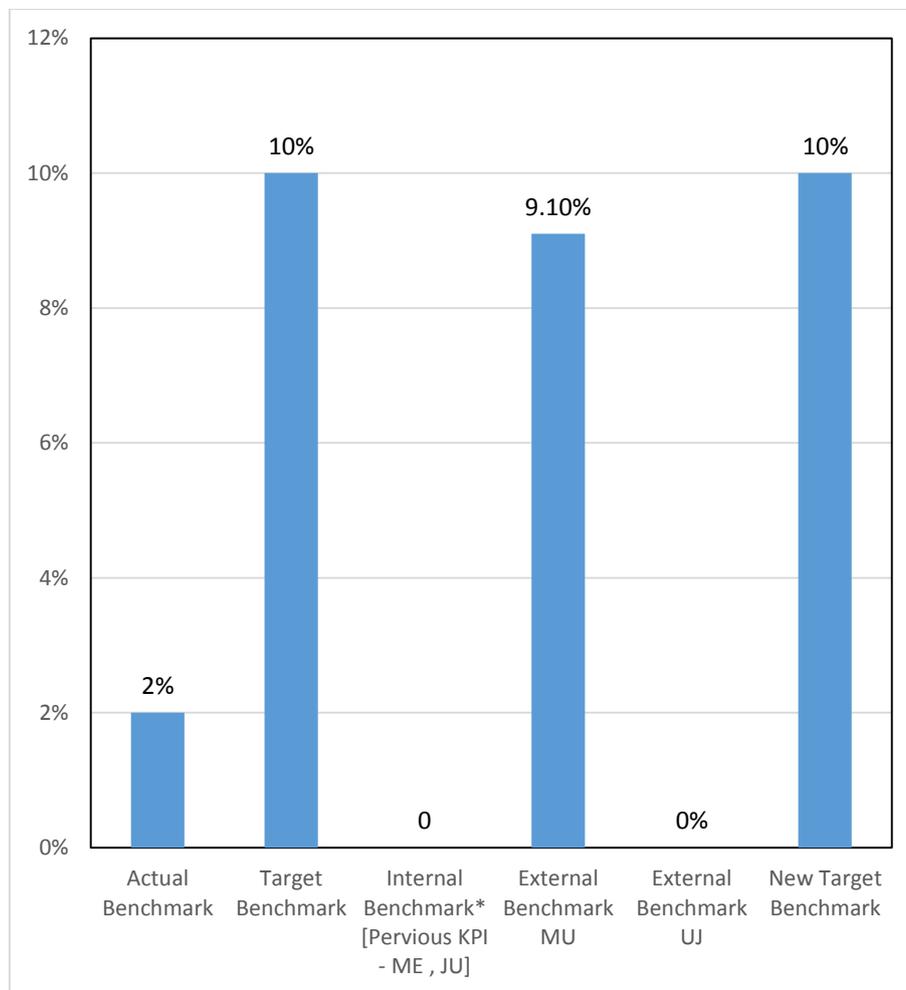
## **3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 7 B: KPI-P-07 Graduates' enrolment in postgraduate programs.**

NCAAA KPI Reference Number: KPI-P- 07: Graduates' enrolment in postgraduate programs.					
Jouf University KPI Reference Number: KPI-P-07					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
2 %	10 %	0%	9.1 %	0 %	10 %

**KPI Analysis of the enrolment graduates ' of Mechanical Engineering program in postgraduate programs.**



**Figure 7: The enrolment graduates ' of Mechanical Engineering program in postgraduate programs. At the University level:**

**Figure 7:** above shows that the Actual benchmark value is based on information collected from the program graduates, and it represents the percentage of graduates

from the ME program who are in higher-studies related matters during the first year of their graduation to the total number of ME graduates in the same year, calculated for the cycle 2019-2020. The department clearly needs to address this issue and adopt measures to improve the higher study of its graduates. To this end, Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to retain the target benchmark at 10%

#### **Strengths:**

- Each student is assigned an advisor from among the faculty, who can also guide the student in higher-studies related matters

#### **Recommendations:**

- Data regarding students enrolled in higher studies and those not seeking studies were not available. Steps need to be taken to ensure that such data is carefully collected every year
- International external benchmark is recommended to compare actual benchmarks to similar programs given internationally.
- Making arrangements to provide more counseling to students

#### \* **Explain:**

**1. Why this internal benchmark provider was chosen?**

**2. How was the benchmark calculated?**

Percentage of graduates from the program who within a year of graduation were:  
Enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \*\* **Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

Percentage of graduates from the program who within a year of graduation were enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year

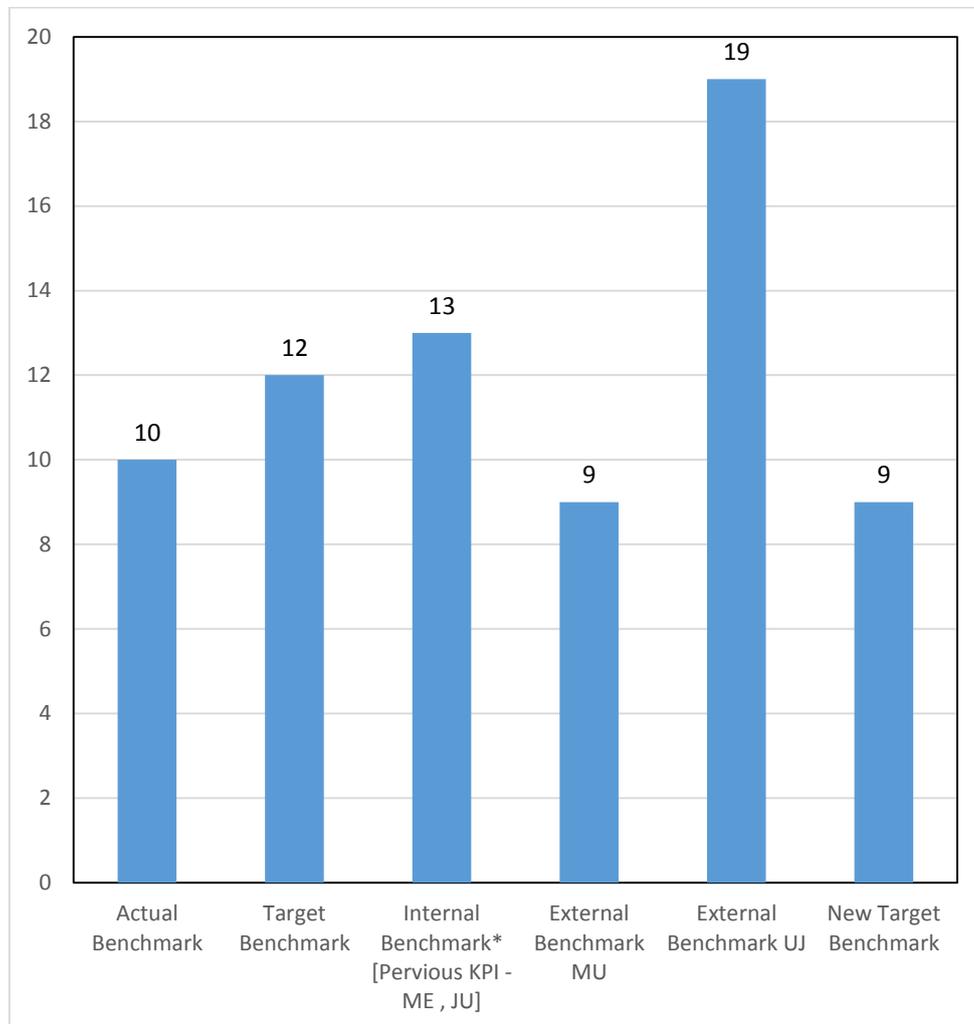
## **3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 8: KPI-P-08 Average number of students in the class.**

NCAAA KPI Reference Number: KPI-P- 08: Average number of students in the class.					
Jouf University KPI Reference Number: KPI-P-08					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
10	12	13	9	19	9

**KPI Analysis of average number of students in the class in Mechanical Engineering program.**



**Figure 8: The average number of students in the class in Mechanical Engineering program at the University level.**

**Figure 8:** above shows that the actual benchmark (10) is based on average number of the ME students in the class for courses given in the year 2019-2020. We note that it

is lower than the target (12) and the actual benchmark for the previous cycle (13) which also serves as the internal benchmark. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 9. This may be achieved by, e.g., dividing some of the very large classes into more sections.

#### **Strengths:**

The average number of students per class is reasonably low making instruction easier.

#### **Recommendations:**

- Decreasing the average number of students in each class for course.
- National and international external benchmarks are recommended to compare actual benchmarks to similar programs at local and international level.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session).

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### **\*\* Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.

- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## 2. How was the benchmark calculated?

Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session).

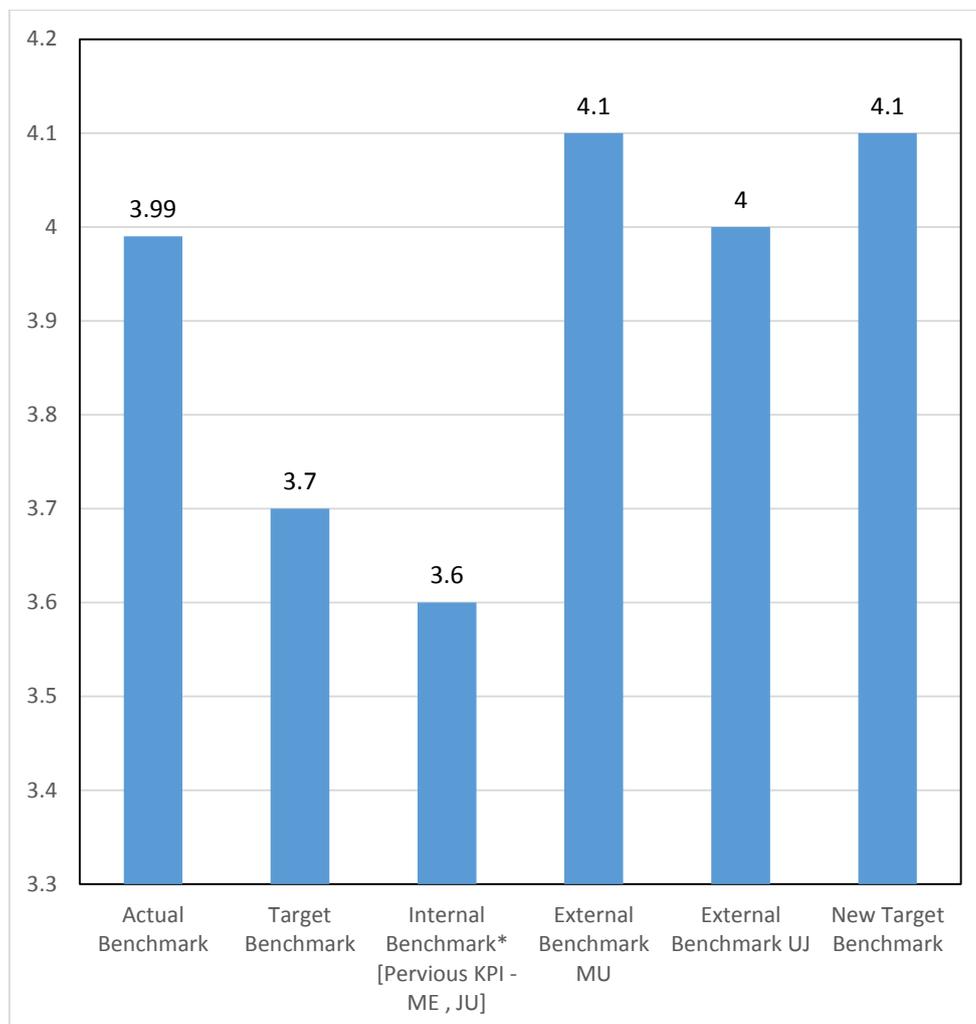
## 3. Name of the external provider.

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 9: KPI-P-09 Employers' evaluation of the program graduates proficiency.**

NCAAA KPI Reference Number: KPI-P-09: Employers' evaluation of the program graduates proficiency.					
Jouf University KPI Reference Number: KPI-P-09					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
3.99	3.7	3.6	4.1	4	4.1

**KPI Analysis of employers' evaluation of Mechanical Engineering program graduates proficiency**



**Figure 9: The employers' evaluation of Mechanical Engineering program graduates proficiency at the University level.**

**Figure 9:** above shows that the actual benchmark (3.99) is based on evaluation surveys conducted in the year 2019-2020 among employers of ME program graduates. The actual benchmark value represents the average of overall rating of employers for the proficiency of the program graduates on a five-point scale in the annual survey. We note that the actual benchmark value is higher than the actual benchmark for the previous cycle (3.6) which also serves as the internal benchmark. The actual benchmark also meets the target (3.7) and close with external benchmarks. This means that, it is found improvement for this indicator, so the program must be in well contact with employers. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to increase the target benchmark to 4.1

#### **Strengths:**

Employers' evaluation of the program graduates' proficiency is conducted regularly which allows for consistent evaluation of quality of ME students

#### **Recommendations:**

- Increase the number of participants from employers in the evaluation process for graduates of the program to identify deficiencies in the educational process.
- National and international external benchmarks are recommended to compare actual benchmarks to similar programs at local and international level.

#### \* **Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

The benchmark is based on evaluation surveys conducted among employers of ME program graduates. The benchmark value represents the average of overall rating of employers for the proficiency of the program graduates on a five-point scale in the annual survey.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \* \* **Explain:**

### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

### **2. How was the benchmark calculated?**

The benchmark is based on evaluation surveys conducted among employers of ME program graduates. The benchmark value represents the average of overall rating of employers for the proficiency of the program graduates on a five-point scale in the annual survey.

### **3. Name of the external provider.**

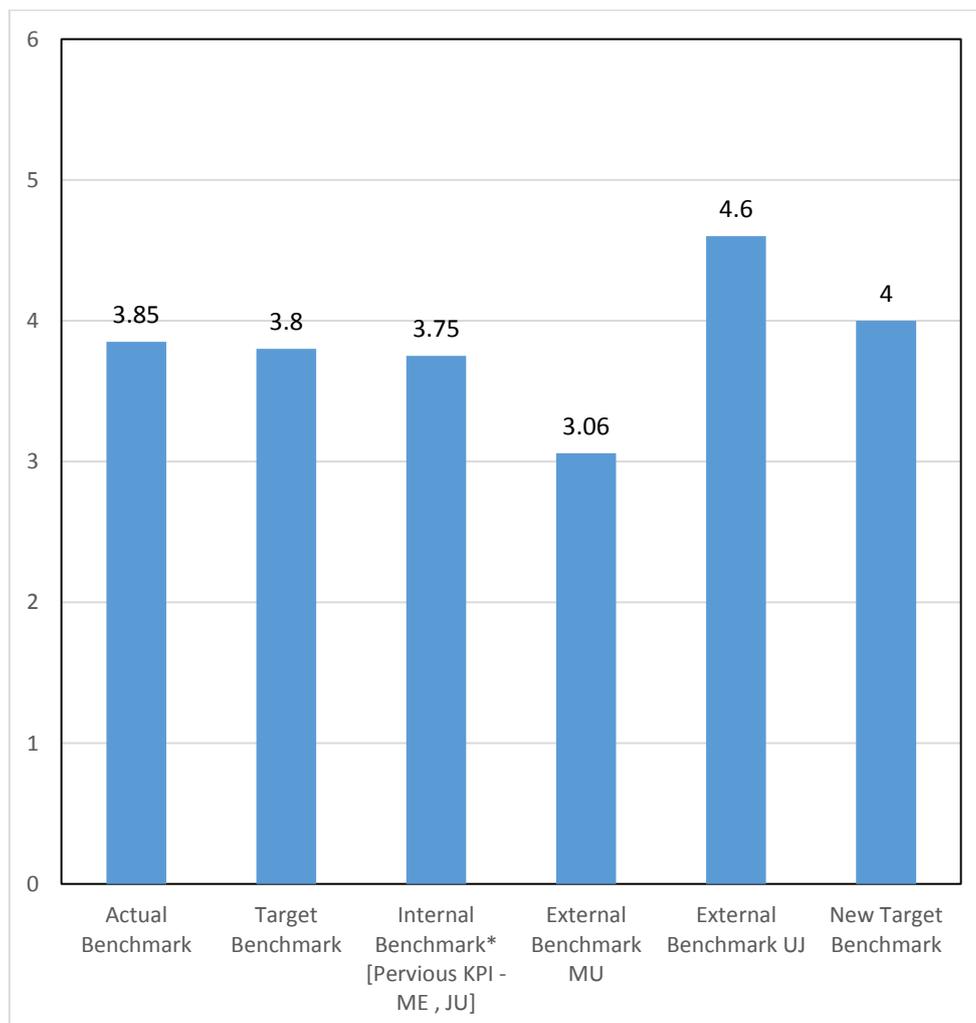
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

## Standard 4: Students

**Table 10: KPI-P-10 Students' satisfaction with the offered services.**

NCAAA KPI Reference Number: KPI-P- 10: Students' satisfaction with the offered services.					
Jouf University KPI Reference Number: KPI-P-10					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
3.85	3.8	3.75	3.06	4.6	4

### 🚩 KPI Analysis of Students' satisfaction with the offered services in Mechanical Engineering program.



**Figure 10: The Students' satisfaction with the offered services in Mechanical Engineering program at the University level.**

**Figure 10:** above shows that the actual benchmark value for 2019-2020 is 3.85 and is based on t survey “ME Students Survey on Evaluating Program Facilities and special Equipment” conducted among ME students for the year 2019-2020. The actual benchmark value represents the average of students’ satisfaction rate with the various services offered by the ME program on a five-point scale in the annual survey. We note that the actual benchmark is considerably lower than the actual value for the previous year (2018-2019) which also serves as the internal benchmark (3.8). This indicates the institute’s and department’s maintain success in improving the available facilities and equipment. The actual benchmark comfortably exceeds the external benchmark (3.06) provided by our benchmarking Majmaah University. Keeping in view the actual and internal benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 4.

**Strengths:**

- Relevant surveys are conducted regularly which allows for consistent evaluation of the facilities and equipment.
- A new campus has been established for the university where a wide range of quality facilities and equipment are available to the program stakeholders.

**Recommendations:**

- An appropriate strategy needs to be developed through focused group discussions with all the relevant stakeholders to improve the quality of facilities and equipment available to the program.
- Facilities for food services available to ME staff need to be improved as this aspect received a relatively lower ranking compared to others.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program’s own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next. The Quality Unit of College in collaboration with DQAA conducts and collects regular evaluation surveys including among ME students. The results available in their database were considered an authentic and suitable measure for an internal benchmark.

**2. How was the benchmark calculated?**

Average of students’ satisfaction rate with the various services offered by the program on a five-point scale in an annual survey.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

### **2. How was the benchmark calculated?**

Average of students' satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey.

### **3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

## Standard 5: Teaching Staff

Table 11: KPI-P- 11 Ratio of students to teaching staff.

NCAAA KPI Reference Number: KPI-P- 11: Ratio of students to teaching staff.					
Jouf University KPI Reference Number: KPI-P-11					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
9 :1	10 :1	11:1	6 : 1	15 : 1	8 :1

### KPI Analysis of the Ratio of students to teaching staff in Mechanical Engineering program.

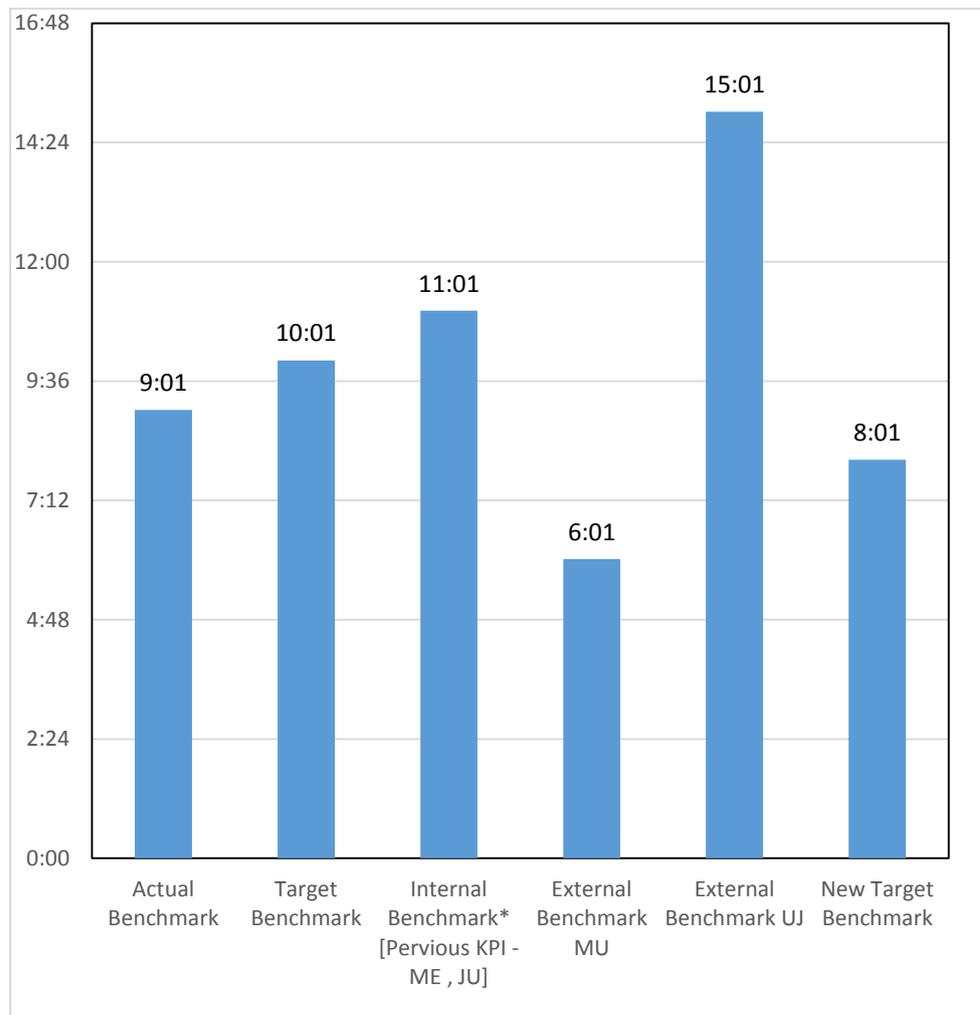


Figure 11: The ratio of students to teaching staff in Mechanical Engineering program at the University level.

**Figure 11:** above shows that the Actual value (9:1) of this KPI is calculated by dividing the number of ME students by the number of full-time teaching staff at the department during the year 2019-2020. As a clear sign of improvement in this aspect, the actual KPI is significantly better than the actual value for the previous year (2018-2019) which also serves as the internal benchmark (11:1). This is primarily due to hiring of several new full-time faculty members (mostly at Assistant Professor level) during 2018. The actual benchmark less than the target (10:1) and is reasonably close to the external benchmark provided by Majmaah University and university of Jeddah Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 8:1

#### **Strengths:**

The ME program provides sufficient number of full-time teaching staff to the students.

#### **Recommendations:**

- Most of the PhD teaching staff are Assistant Professors. There is a need to increase the proportion of Associate and Full Professors in the ME department.
- An international external benchmark is recommended to compare actual benchmarks to similar programs at international level.

#### \* **Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

Ratio of the total number of students to the total number of full-time and fulltime equivalent teaching staff in the program.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \*\* **Explain:**

### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

### **2. How was the benchmark calculated?**

By the ratio of the total number of students to the total number of full-time and fulltime equivalent teaching staff in the program.

### **3. Name of the external provider.**

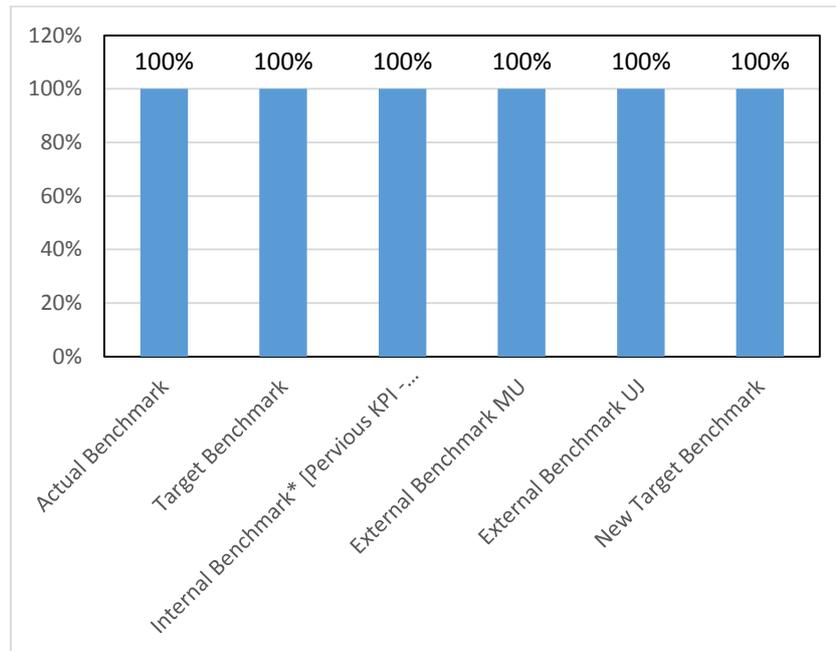
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 12: KPI-P- 12 Percentage of teaching staff distribution.**

**Table 12 A: KPI-P- 12 Percentage of teaching staff distribution based on gender.**

NCAAA KPI Reference Number: KPI-P- 12: Percentage of teaching staff distribution based on gender.					
Jouf University KPI Reference Number: KPI-P-12					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark*	External Benchmark**		New Target Benchmark
			MU	UJ	
A: M. 100%	A: M. 100%	A: M. 100%	A: M. 100%	A: M. 100%	A: M. 100%

**KPI Analysis of the Percentage of teaching staff distribution based on gender in Mechanical Engineering program.**



**Figure 12: The percentage of teaching staff distribution based on gender in Mechanical Engineering program at the University level.**

**Figure 12:** above shows that the Mechanical Engineering program at JU is offered only at the main campus and is available only to male students. Therefore, the corresponding actual and target benchmarks are 100%. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 100%

**Strengths:**

Mechanical Engineering program at JU is offered only at the main campus and is available only to male students

## Recommendations

- Hire more faculty members at Associate and Full Professor ranks.
- International external benchmark is recommended to compare actual benchmarks to similar programs given internationally.

### \* Explain:

#### 1. Why this internal benchmark provider was chosen?

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

#### 2. How was the benchmark calculated?

The internal benchmark values give the percentage of ME teaching staff distribution based on Gender

#### 3. Name of the internal benchmark provider.

Department of Mechanical Engineering, JU, through College Quality Unit

### \*\* Explain:

#### 1. Why this external provider was chosen?

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

#### 2. How was the benchmark calculated?

The internal benchmark values give the percentage of ME teaching staff distribution based on Gender

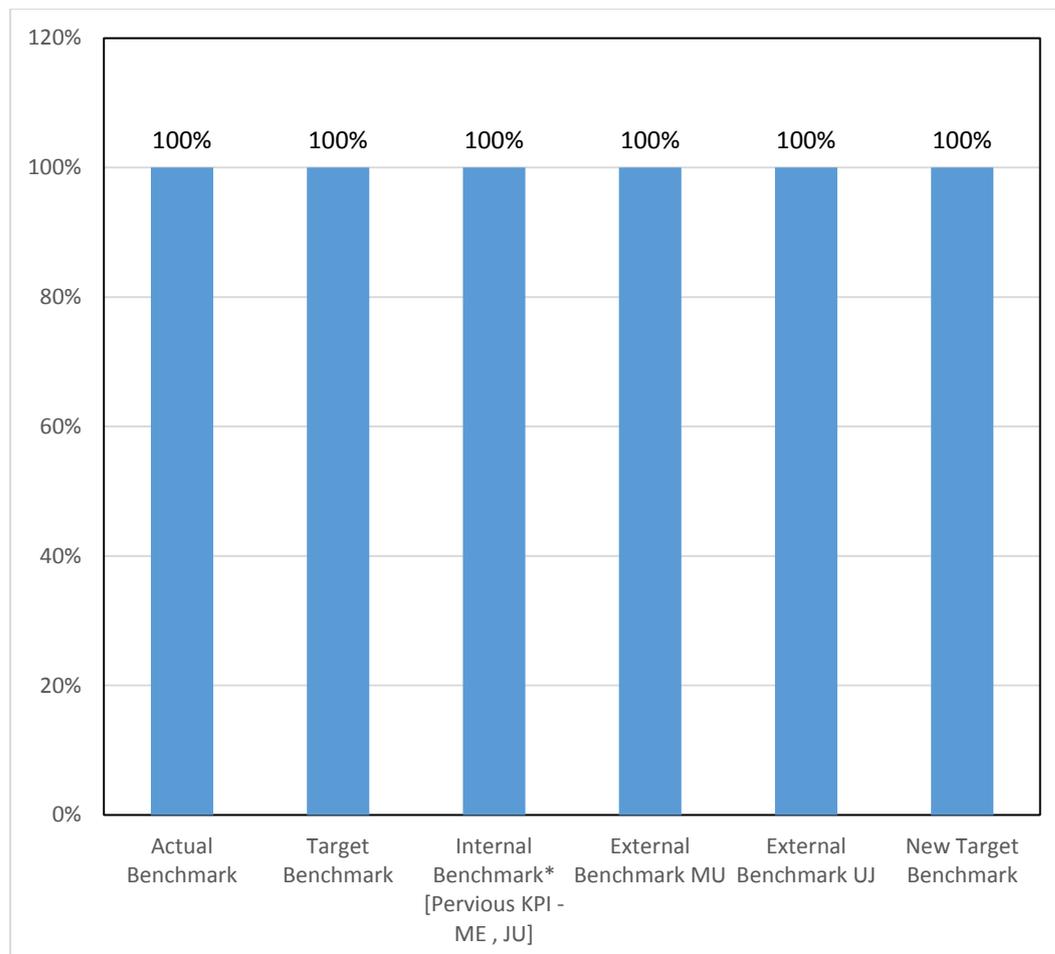
#### 3. Name of the external provider.

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah.

**Table 12 B: KPI-P- 12: Percentage of teaching staff distribution based on Branches.**

NCAAA KPI Reference Number: KPI-P- 12: Percentage of teaching staff distribution based on Branches.					
Jouf University KPI Reference Number: KPI-P-12					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
B: 100 %	B: 100 %	B: 100 %	B: 100 %	B: 100 %	B: 100 %

**KPI Analysis of the percentage of teaching staff distribution based on Branches in Mechanical Engineering program.**



**Figure 13: The percentage of teaching staff distribution based on Branches in Mechanical Engineering program at the University level.**

**Figure 13:** above shows that the Mechanical Engineering program at JU is offered only at the main campus and is available only to male students. Therefore, the

corresponding actual and target benchmarks are 100%. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to **100%**

#### **Strengths:**

Mechanical Engineering program at JU is offered only at the main campus and is available only to male students

#### **Recommendations**

- Hire more faculty members at Associate and Full Professor ranks due to expected increase in male students
- International external benchmark is recommended to compare actual benchmarks to similar programs given internationally.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

The internal benchmark values give the percentage of ME teaching staff distribution based on Branches

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### **\*\* Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

##### **2. How was the benchmark calculated?**

The internal benchmark values give the percentage of ME teaching staff distribution based on Branches

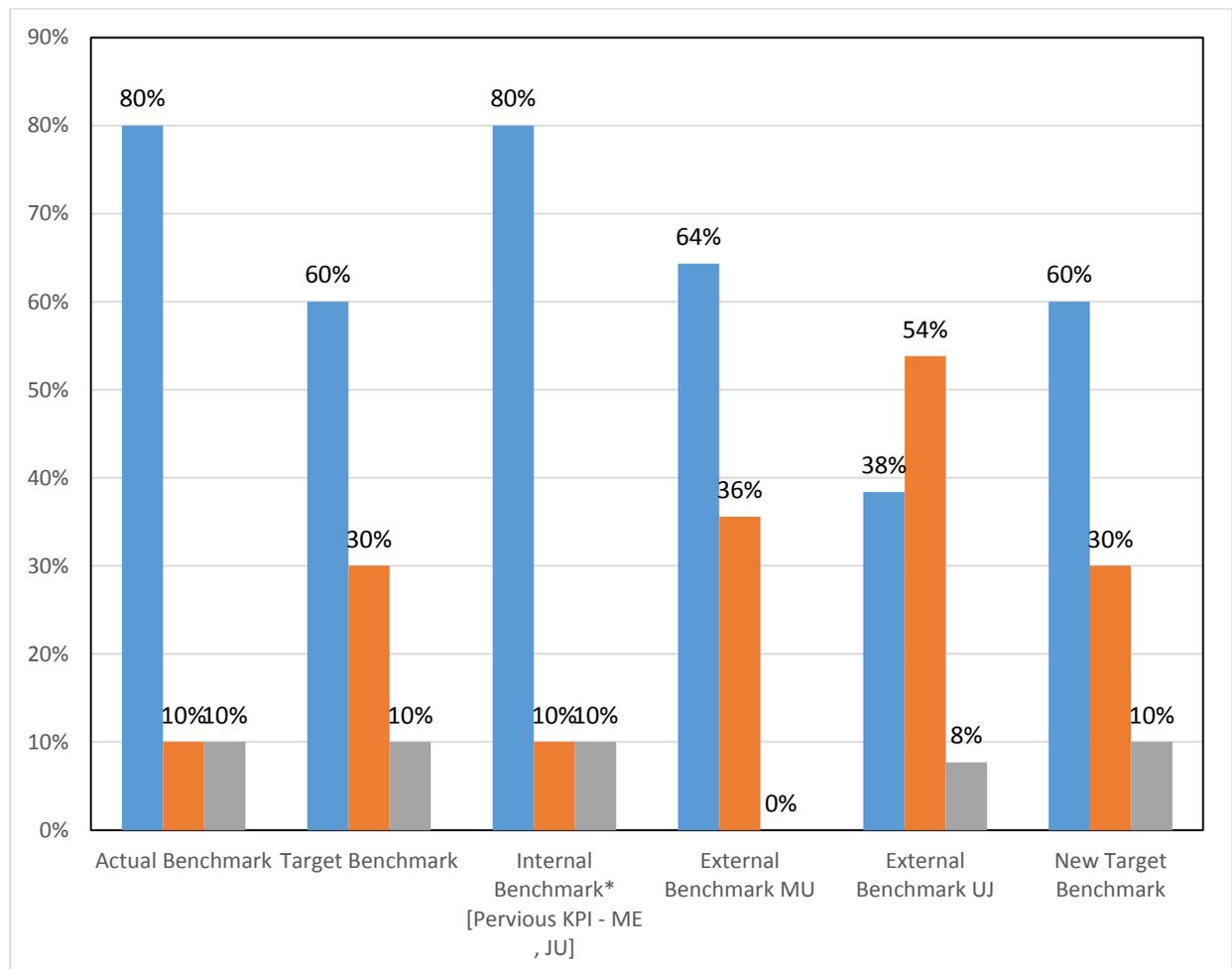
### 3. Name of the external provider.

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 12 C: KPI-P- 12 Percentage of teaching staff distribution based on Academic Ranking.**

NCAAA KPI Reference Number: KPI-P- 12: Percentage of teaching staff distribution based on Academic Ranking.					
Jouf University KPI Reference Number: KPI-P-12					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
Assist. P: 80 % Assoc. P: 10 % Prof.: 10 %	Assist. P: 60 % Assoc. P: 30 % Prof.: 10 %	Assist. P: 80 % Assoc. P: 10 % Prof.: 10 %	Lecturer: 6.7 % Assist. P: 60 % Assoc. P: 33.3 % Prof.: 0 %	Lecturer: 7.14 % Assist. P: 35.72 % Assoc. P: 50 % Prof.: 7.14 %	Assist. P: 60 % Assoc. P: 30 % Prof.: 10 %

**KPI Analysis of the percentage of teaching staff distribution based on Academic Ranking in Mechanical Engineering program.**



**Figure 14: The percentage of teaching staff distribution based on Academic Ranking in Mechanical Engineering program at the University level.**

**Figure 14:** above shows that the distribution of the Mechanical Engineering program at JU by rank, we note that there are currently 10 % Full Professors in the department, while the distribution of Associate and Assistant Professors is 10% and 80% respectively. Keeping in view the actual, and target benchmarks, the quality committee has decided to retain the target benchmark. i.e. 10% Full Professor, 30% Associate Professor, and 60% Assistant Professor.

#### **Strengths:**

Mechanical Engineering program at JU is offered only at the main campus and is available only to male students and has different Academic Ranking

#### **Recommendations**

- Hire more faculty members at Associate and Full Professor ranks.
- International external benchmark is recommended to compare actual benchmarks to similar programs given internationally.

#### \* **Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

The internal benchmark values give the percentage of ME teaching staff distribution based on Academic Ranking

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \*\* **Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

##### **2. How was the benchmark calculated?**

The internal benchmark values give the percentage of ME teaching staff distribution based on Academic Ranking

**3. Name of the external provider.**

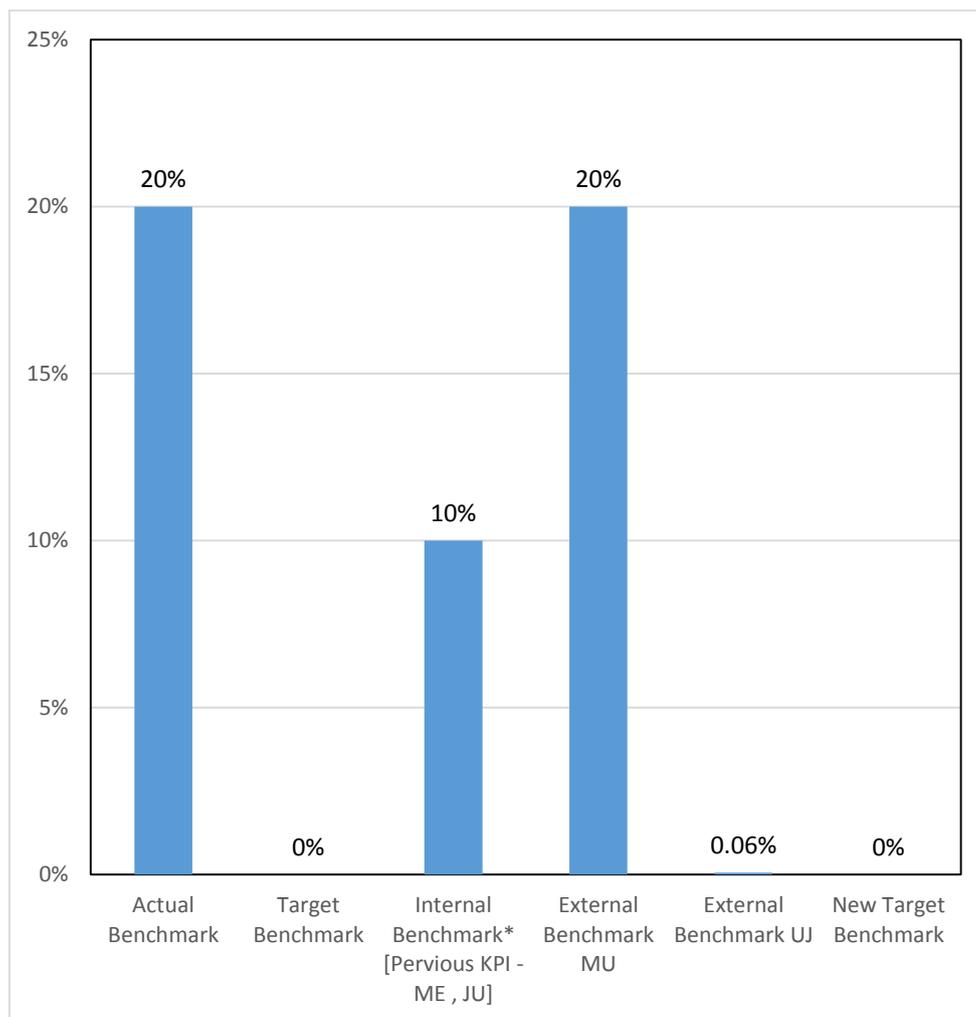
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 13: KPI-P- 13 Proportion of teaching staff leaving the program.**

NCAAA KPI Reference Number: KPI-P- 13: Proportion of teaching staff leaving the program.					
Jouf University KPI Reference Number: KPI-P-13					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
20 %	0 %	10 %	20 %	0.06 %	0 %

**KPI Analysis of the proportion of teaching staff leaving the Mechanical Engineering program.**

✚ **Mechanical Engineering program at the University level:**



**Figure 15: The proportion of teaching staff leaving Mechanical Engineering program at the University level.**

**Figure 15:** above shows that the Actual value (20%) of this KPI is calculated by dividing the number of staff members leaving (for reasons other than retirement) by the total full-time staff at the ME department during the year 2019-2020. This is equal to the actual value for the previous year (2018-2019) which also serves as the internal benchmark (10%). The actual benchmark is higher than the target that was set at 0%. Keeping in view the actual, internal and external benchmarks, the quality committee has decided to set the new target benchmark to 0%, reflecting the department's aims to improve the working environment and to consequently reduce the attrition rate even further

#### **Strengths:**

There is a high degree of job satisfaction at the department, leading to higher retention rates.

#### **Recommendations**

- It is recommended to continue the efforts to obtain feedback from the teaching staff regarding their job satisfaction in order to rectify their issues and promote sense of ownership in the faculty members.
- An international external benchmark is recommended to compare actual benchmark to similar programs outside the Kingdom.

#### \* **Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

#### \*\* **Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.

- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

### **2. How was the benchmark calculated?**

Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.

### **3. Name of the external provider.**

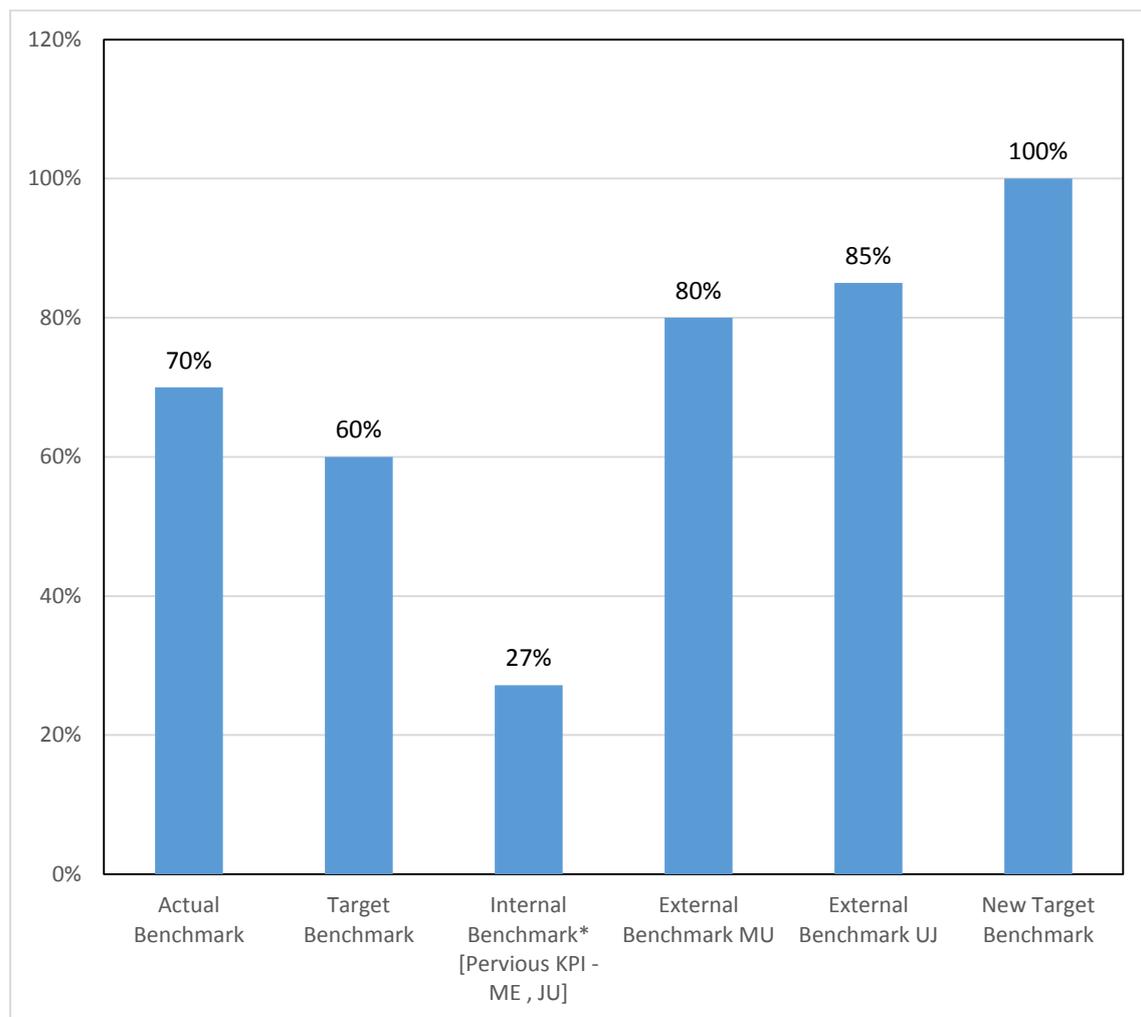
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 14: KPI-P- 14 Percentage of publications of faculty members.**

NCAAA KPI Reference Number: KPI-P- 14: Percentage of publications of faculty members.					
Jouf University KPI Reference Number: KPI-P-14					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
70 %	60 %	27.2 %	80 %	85.7 %	100 %

**KPI Analysis of the percentage of publications of faculty members in Mechanical Engineering program.**

**✚ Mechanical Engineering program at the University level:**



**Figure 16: The percentage of publications of faculty members in Mechanical Engineering program at the University level.**

**Figure 16:** above shows that the actual benchmark (70%) was calculated for the academic year 2019-2020. In comparison, the actual benchmark for the academic year 2018-2019, which also serves as the internal benchmark, was 27%, while the external benchmark by Majmaah University and university of Jeddah are 80% and 85%. There is a great improvement in this KPI which reflects the excellence publication of ME staff members. In fact, the actual research outcome of the department has significantly increased compared to the previous year, though most of publications were, as expected, by faculty members who joined before the 2019-2020 academic cycle and are well out of the transition phase. Keeping in view the actual, internal, and external benchmarks, and the ambitions of the program, the quality committee has decided to set the target benchmark to 100%.

**Strengths:**

- Most of the counted papers (all refereed) were published in ISI indexed journals
- The teaching staff is actively involved in research

**Recommendations**

- Steps need to be taken to ensure new faculty members join the research activities at the university in shorter times.
- Encouraging formation of research groups within the department would help create a stronger culture of collaboration while also affecting the KPI positively.
- Efforts need to be made to ensure an even higher proportion of publications are in ISI indexed journals.
- The department must disseminate more actively the positive outcomes of Faculty Members'

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

**2. How was the benchmark calculated?**

Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.

## **3. Name of the external provider.**

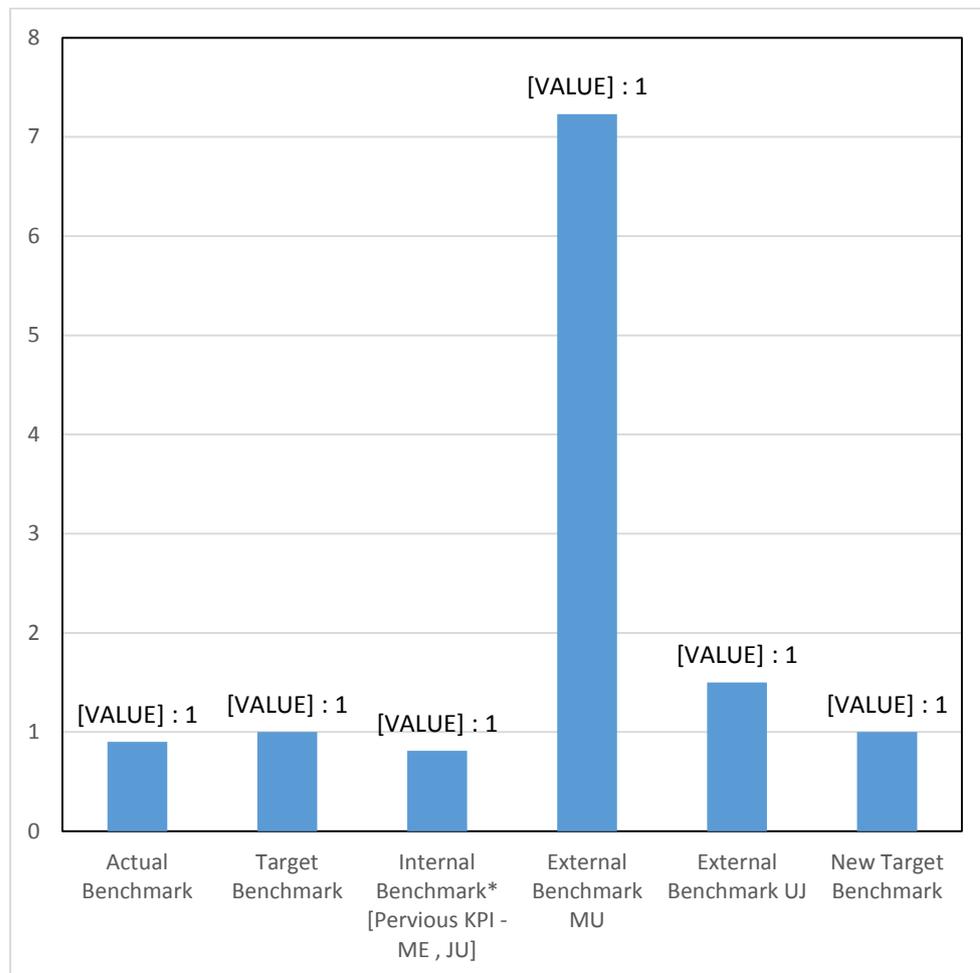
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 15: KPI-P- 15 Rate of published research per faculty member.**

NCAAA KPI Reference Number: KPI-P- 15: Rate of published research per faculty member					
Jouf University KPI Reference Number: KPI-P-15					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
0.9 : 1	1 : 1	0.81 :1	7.23 : 1	1.5 : 1	1 : 1

**KPI Analysis of the rate of published research per faculty member in Mechanical Engineering program.**

**Mechanical Engineering program at the University level:**



**Figure 17: The rate of published research per faculty member in Mechanical Engineering program at the University level.**

**Figure 17:** above shows that the actual benchmark (0.9) was calculated for the academic year 2019-2020. In comparison, the actual benchmark for the academic year

2018-2019 (which also serves as the internal benchmark) was 0.81. Thus, there is nearly a twofold increase in the publication ratio compared to the previous cycle which shows a substantial growth of scientific research at the department. The actual benchmark also less than the target benchmark (1.0) by a significant margin. However, the achieved benchmark is considerably lower than external benchmark provided by Majmaah University and university of Jeddah are 7.23 and 1.5 respectively, indicating a clear need for improvement. Keeping in view the actual and internal benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 1.

#### **Strengths:**

- Notable improvement in the overall publication ratio at ME Department compared to previous academic year (2018-2019).75% of the counted papers (all refereed) were published in ISI indexed journals

#### **Recommendations**

- Efforts need to be made to ensure a higher proportion of publications are in ISI indexed journals.
- The department must disseminate more actively the positive outcomes of Faculty Members' Research Performance Evaluation and its impact on their promotional activities.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year).

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit.

#### **\*\* Explain:**

##### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year).

## **3. Name of the external provider.**

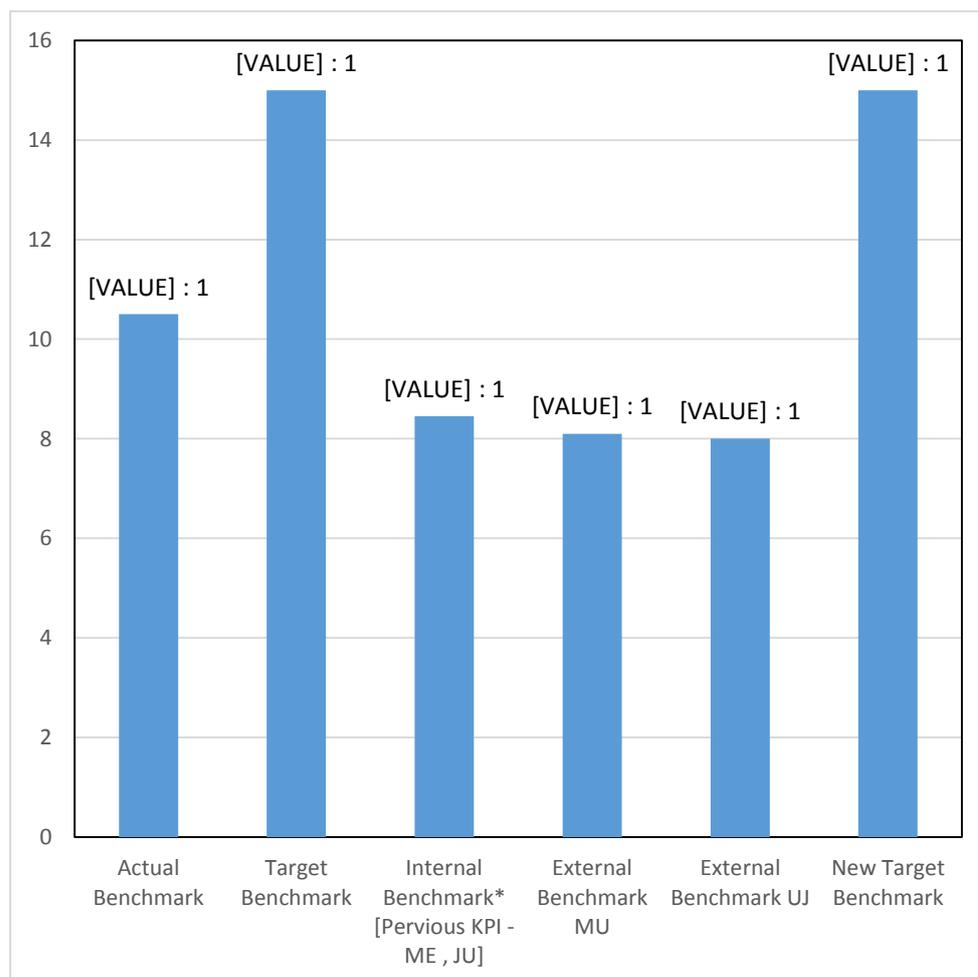
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

**Table 16: KPI-P- 16 Citations rate in refereed journals per faculty member.**

NCAAA KPI Reference Number: KPI-P- 16: Citations rate in refereed journals per faculty member					
Jouf University KPI Reference Number: KPI-P-16					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
10.5 : 1	15 : 1	8.45 : 1	8.1 : 1	8 : 1	15 : 1

**KPI Analysis of the Citations rate in refereed journals per faculty member in Mechanical Engineering program.**

**✚ Mechanical Engineering program at the University level:**



**Figure 18: The Citations rate in refereed journals per faculty member in Mechanical Engineering program at the University level.**

**Figure 18:** above shows that the actual benchmark (10) is calculated for the academic year 2019. The actual benchmark lower than the target (15) and is higher than the actual benchmark for the previous cycle (2018-2019) which also serves as the internal benchmark (8.45). In addition, the achieved benchmark is lower than external benchmark provided by Majmaah University (8.1) and higher than that of university of Jeddah (8), indicating a clear need for improvement. Keeping in view the actual and internal benchmarks, and the ambitions of the program, the quality committee has decided to set the new target benchmark to 15

**Strengths:**

Most of the papers were cited in ISI indexed journals

**Recommendations:**

- The department must disseminate more actively the positive outcomes of Faculty Members' Research Performance Evaluation and its impact on their promotional activities
- Formation of a committee to examine the situation and provide actionable recommendation to improve research and publication interests.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next.

**2. How was the benchmark calculated?**

The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published).

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

## **2. How was the benchmark calculated?**

The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published).

## **3. Name of the external provider.**

The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah

## Standard 6: Learning Resources, Facilities, and Equipment

Table 17: KPI-P- 17 Satisfaction of beneficiaries with the learning resources.

NCAAA KPI Reference Number: KPI-P- 17: Satisfaction of beneficiaries with the learning resources.					
Jouf University KPI Reference Number: KPI-P-17					
Actual Benchmark 1440-1441	Target Benchmark	Internal Benchmark* 1439-1440	External Benchmark**		New Target Benchmark
			MU	UJ	
4.23	3.9	3.86	4.16	4	4.5

KPI Analysis of the satisfaction of beneficiaries with the learning resources in Mechanical Engineering program.

🚩 Mechanical Engineering program at the University level:

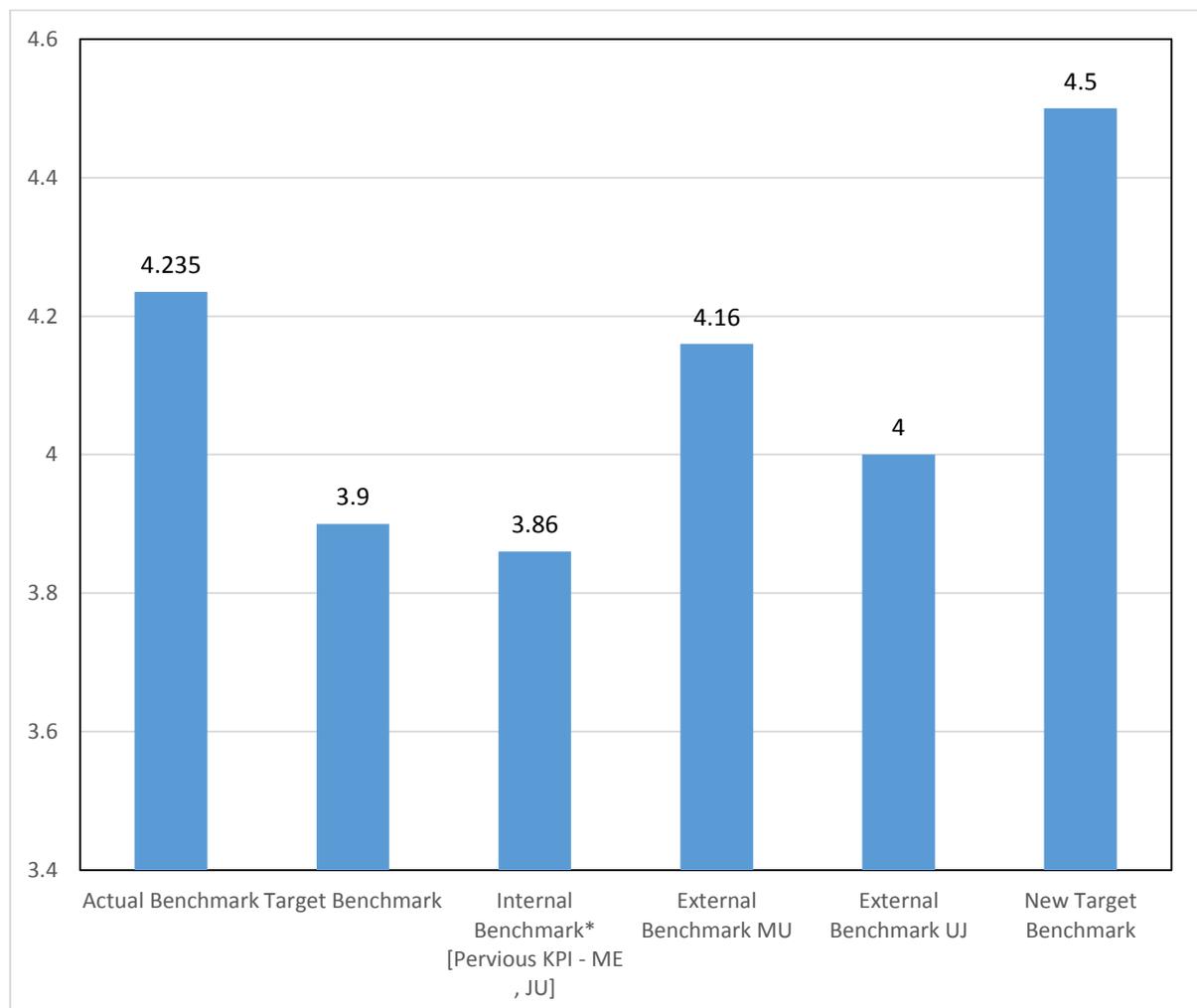


Figure 19: The satisfaction of beneficiaries with the learning resources in Mechanical Engineering program at the University level.

**Figure 19:** above shows that the actual benchmark value for 2019-2020 is 4.23 and is based on the two surveys “ME Students Survey on evaluating the learning resources” and “ME Staff Members Survey on evaluating the learning resources” conducted among ME students and staff, respectively, for the year 2019-2020. Response scores for the two surveys were averaged to obtain the actual benchmark. We note that the actual benchmark is higher than the actual value for the previous year (2018-2019) which also serves as the internal benchmark and stands at 3.86. In particular, the staff assigned high scores to the library website – clearly indicating a need for improvement in this area. The actual benchmark is also higher than the external benchmark provided by Majmaah University (4.16). and lower than that of university of Jeddah (4). Since the previous target was not met, the quality committee has decided to retain the same (i.e., 4.5) target for next year

#### **Strengths:**

- A new detailed survey for evaluating the learning resources has been prepared and used during 2019-2020 which gives a better understanding of the aspects needing most improvement.
- The quality committee has decided to use the new detailed survey for evaluating the learning resources from 2019-2020 onwards, and it is expected to provide more consistent evaluation over the years
- An appropriate strategy needs to be developed through focused group discussions with all the relevant stakeholders to improve the quality of learning resources. In particular, the website needs to improved, as this aspect received a very low ranking
- An appropriate strategy needs to be developed through focused group discussions with all the relevant stakeholders to further improve the quality of learning resources.
- Formation of a committee to evaluate the library website.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program’s own actual benchmark from the previous cycle (2018-2019) provides a good internal measure for program improvement from one cycle to the next. The Quality Unit of CoE in collaboration with DQAA conducts and collects regular evaluation surveys including among ME students. The results available in their database were considered an authentic and suitable measure for an internal benchmark.

##### **2. How was the benchmark calculated?**

Average of beneficiaries’ satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases... etc.) on a five-point scale in an annual survey.

### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit.

#### **\*\* Explain:**

#### **1. Why this external provider was chosen?**

The justification of using the external benchmark Mechanical Engineering program in Majmaah University and Jeddah University are as follows -

- Majmaah University was chosen because it was recently being accredited by the NCAAA, in addition to its collaboration agreement with the JU to provide the required data for the NCAAA KPIs.
- Majmaah University similar to Jouf University and Jeddah University in governance, infrastructure and budgetary systems.
- Mechanical Engineering program at MU and JU is similar to the program offered by Jouf University and serve a similar demographic.

#### **2. How was the benchmark calculated?**

Average of beneficiaries' satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases... etc.) on a five-point scale in an annual survey.

#### **3. Name of the external provider.**

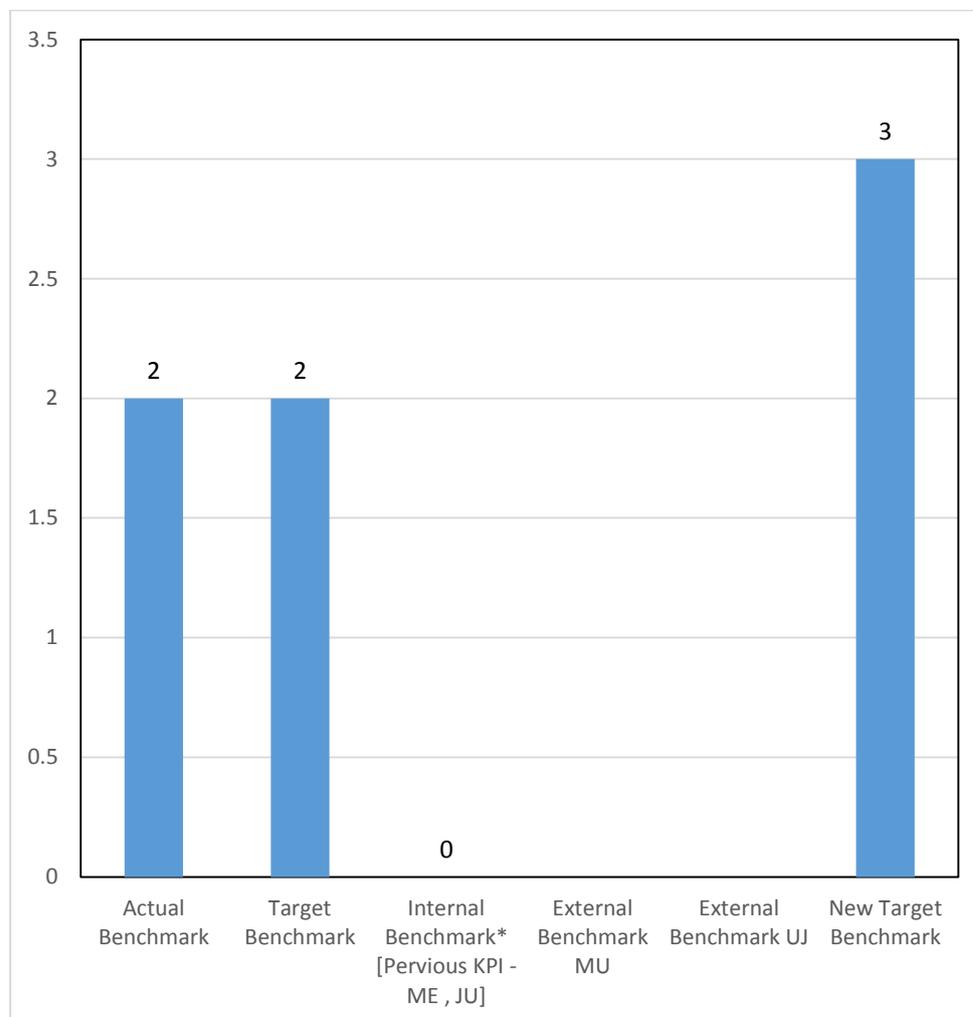
The KPI is provided by Mechanical Engineering program at Majmaah University and university of Jeddah.

**Table 18: KPI-P- 18. Number of research group in the program.**

NCAAA KPI Reference Number: KPI-P- 18: Number of research group in the program.					
Mechanical Program KPI Reference Number: KPI-P-18					
Actual Benchmark 1442	Target Benchmark	Internal Benchmark* 1440-1441	External Benchmark**		New Target Benchmark
			MU	UJ	
2	2	0			3

**KPI Analysis of the Number of research group in the program.**

**✚ Mechanical Engineering program at the University level:**



**Figure 20: The Number of research group in the program.**

**Figure 20:** above shows that the actual benchmark (2) was calculated for the academic year 2020-2021. In comparison, the actual benchmark for the academic year

2019-2020 (which also serves as the internal benchmark) was 0. Thus, there is increase in the research group compared to the previous cycle which shows a substantial growth of scientific research at the department. The actual benchmark also equal to the target benchmark (2.0) by a significant margin., the quality committee has decided to retain the new target benchmark to 3.

### **Strengths:**

- Notable improvement in the overall research group at ME Department compared to previous academic year (2019-2020).



### **Recommendations**

- The department must disseminate more actively the positive outcomes of Faculty Members' Research Performance Evaluation and its impact on their promotional activities.

### **\* Explain:**

#### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2019-2020) provides a good internal measure for program improvement from one cycle to the next.

#### **2. How was the benchmark calculated?**

The number of research group during the year.

#### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit.

### **\*\* Explain:**

#### **1. Why this external provider was chosen?**

- In progress.

#### **2. How was the benchmark calculated?**

The number of research group during the year.

#### **3. Name of the external provider.**

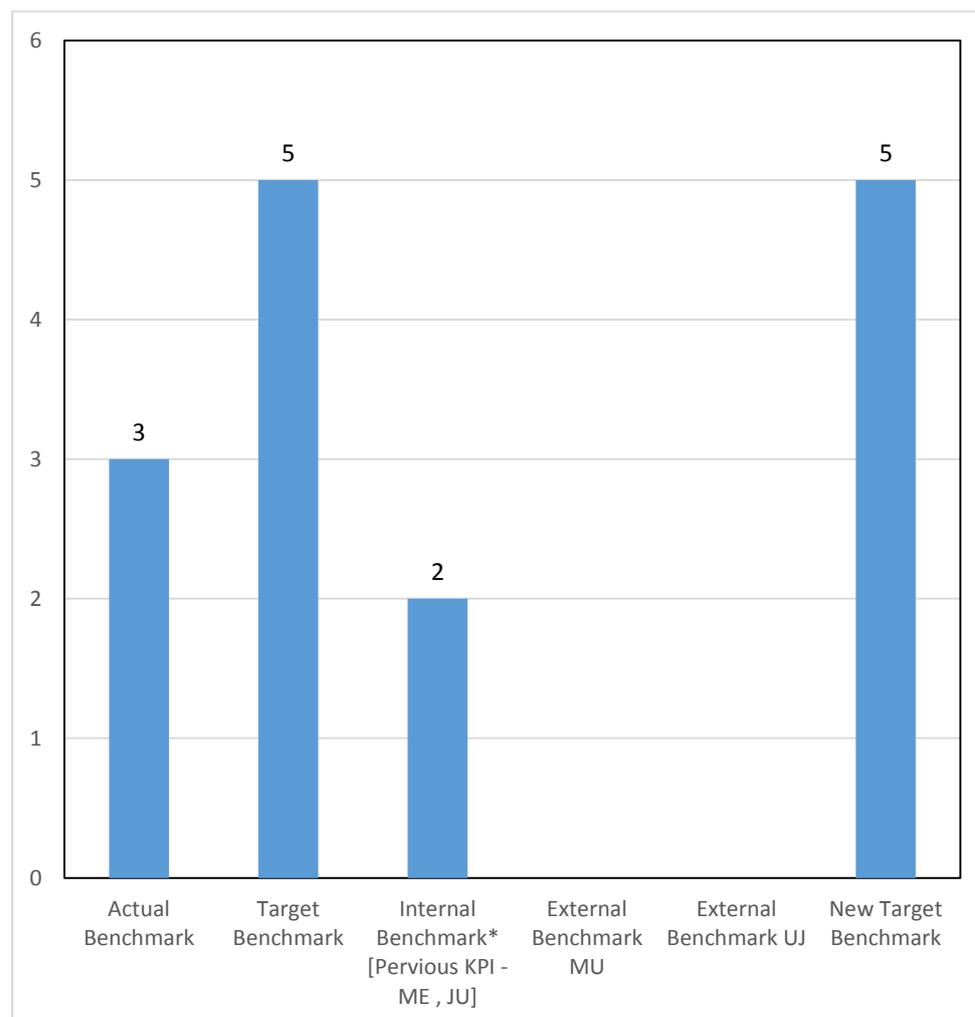
In progress

**Table 19: KPI-P- 19. The number of subsidized research projects that the program's staff obtain annually.**

NCAAA KPI Reference Number: KPI-P- 19: The number of subsidized research projects that the program's staff obtain annually.					
Mechanical Program KPI Reference Number: KPI-P-19					
Actual Benchmark 1442	Target Benchmark	Internal Benchmark* 1440-1441	External Benchmark**		New Target Benchmark
			MU	UJ	
3	5	2			5

**KPI Analysis of the rate of the number of subsidized research projects that the program's staff obtain annually.**

**Mechanical Engineering program at the University level:**



**Figure 21: The rate of published research per faculty member in Mechanical Engineering program at the University level.**

**Figure 21:** above shows that the actual benchmark (4) was calculated for the academic year 2020-2021. In comparison, the actual benchmark for the academic year 2019-2020 (which also serves as the internal benchmark) was 3. Thus, there is decrease in the research group compared to the previous cycle which shows a substantial growth of scientific research at the department. The actual benchmark also equal to the target benchmark (5.0) by a significant margin., the quality committee has decided to retain the new target benchmark to 5.

#### **Strengths:**

- Notable improvement in the overall research project at ME Department compared to previous academic year (2019-2020).



#### **Recommendations**

- The department must disseminate more actively the positive outcomes of Faculty Members' Research Performance Evaluation and its impact on their promotional activities.

#### **\* Explain:**

##### **1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2019-2020) provides a good internal measure for program improvement from one cycle to the next.

##### **2. How was the benchmark calculated?**

The number of subsidized research projects that the program's staff obtain annually.

##### **3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit.

#### **\*\* Explain:**

##### **1. Why this external provider was chosen?**

- In progress.

##### **2. How was the benchmark calculated?**

The number of subsidized research projects that the program's staff obtain annually.

##### **3. Name of the external provider.**

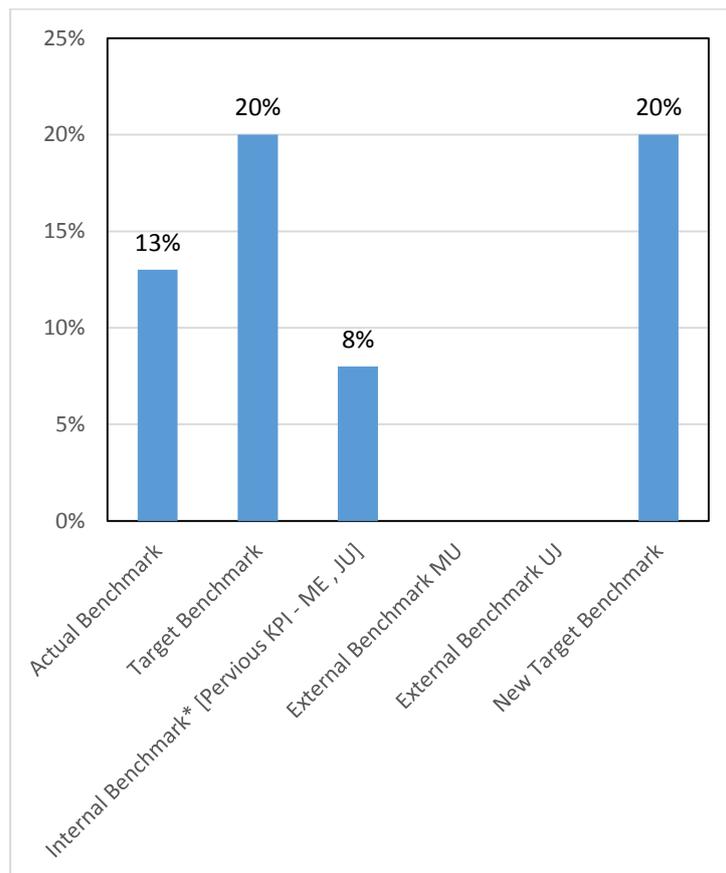
In progress

**Table 20: KPI-P- 20 Percentage of students participating in extra-curricular activities**

NCAAA KPI Reference Number: KPI-P-20: Percentage of publications of faculty members.					
Mechanical Program KPI Reference Number: KPI-P-20					
Actual Benchmark 1442	Target Benchmark	Internal Benchmark* 1440-1441	External Benchmark**		New Target Benchmark
			MU	UJ	
13%	20%	8%			20%

**KPI Analysis of the Percentage of students participating in extra-curricular activities**

**Mechanical Engineering program at the University level:**



**Figure 22: The Percentage of students participating in extra-curricular activities.**

**Figure 22:** above shows that the actual benchmark (15%) was calculated for the academic year 2020-2021. In comparison, the actual benchmark for the academic year 2019-2020, which also serves as the internal benchmark, was 13%, There is

improvement in this KPI which reflects the participation of ME student. the quality committee has decided to retain the target benchmark to 20%.

 **Strengths:**

- the participation of ME student in extra-curricular activities

 **Recommendations**

- Encouraging formation of student within the department would help create a stronger culture of collaboration while also affecting the KPI positively.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle (2019-2020) provides a good internal measure for program improvement from one cycle to the next.

**2. How was the benchmark calculated?**

The Percentage of students participating in extra-curricular activities is calculated by divided the number of student participating in extra-curricular activities by the total number of student.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

- In progress

**2. How was the benchmark calculated?**

The Percentage of students participating in extra-curricular activities is calculated by divided the number of student participating in extra-curricular activities by the total number of student.

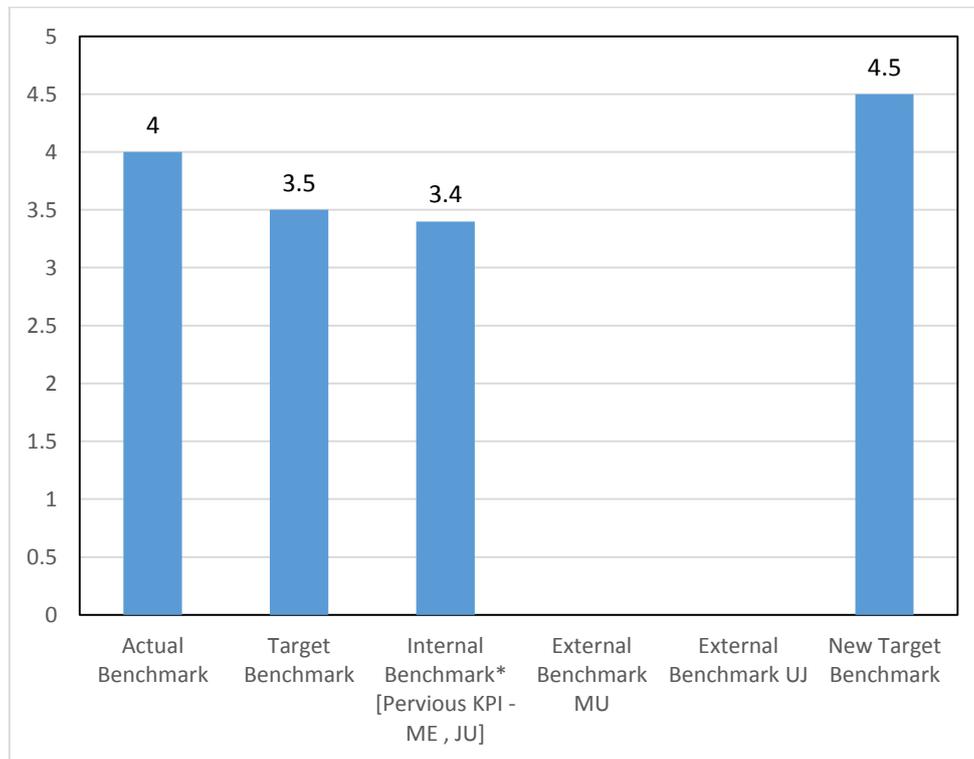
**3. Name of the external provider.**

In progress

**Table 21: KPI-P-21 Employer's satisfaction with the program's mission, vision and objectives**

NCAAA KPI Reference Number: KPI-P-21: Students' satisfaction with the offered services.					
Mechanical Program KPI Reference Number: KPI-P-21					
Actual Benchmark 1442	Target Benchmark	Internal Benchmark* 1440-1441	External Benchmark**		New Target Benchmark
			MU	UJ	
4	3.5	3.4			4.5

**KPI Analysis of Employer's satisfaction with the program's mission, vision and objectives in Mechanical Engineering program.**



**Figure 23: The Employer's satisfaction with the program's mission, vision and objectives in Mechanical Engineering program at the University level.**

**Figure 23:** above shows that the actual benchmark value for 2020-2021 is 4.5 and is based on the survey “Employer Feedback Survey on Mechanical Engineering Vision-Mission & Objectives” for the year 2020-2021. We note that the actual benchmark is considerably higher than the target benchmark (3.5). the quality committee has decided to retain the new target benchmark to 4.6.

**Strengths:**

- Relevant surveys are conducted regularly which allows for consistent evaluation of the program's mission, vision and objectives.

 **Recommendations:**

- An appropriate strategy needs to be developed through focused group discussions with all the relevant stakeholders to review the program's mission, vision and objectives annually.

**\* Explain:**

**1. Why this internal benchmark provider was chosen?**

Using ME program's own actual benchmark from the previous cycle provides a good internal measure for program improvement from one cycle to the next. The Quality Unit of College in collaboration with DQAA conducts and collects regular evaluation surveys including among Employer. The results available in their database were considered an authentic and suitable measure for an internal benchmark.

**2. How was the benchmark calculated?**

Average of Employer's satisfaction rate with the program's mission, vision and objectives is calculated on a five-point scale in an annual survey.

**3. Name of the internal benchmark provider.**

Department of Mechanical Engineering, JU, through College Quality Unit

**\*\* Explain:**

**1. Why this external provider was chosen?**

- In progress

**2. How was the benchmark calculated?**

Average of Employer's satisfaction rate with the program's mission, vision and objectives is calculated on a five-point scale in an annual survey.

**3. Name of the external provider.**

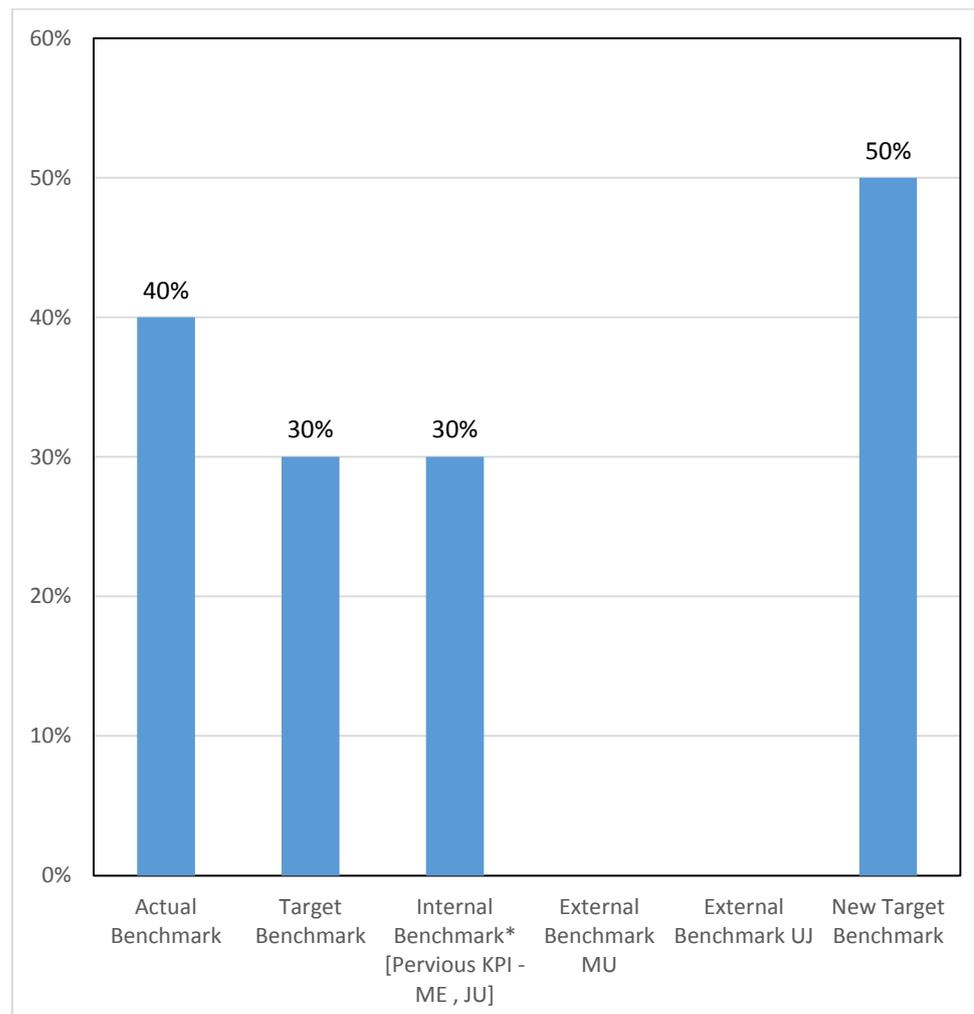
In progress

**Table 22: KPI-P- 22 Percentage of students graduation projects related to the community**

NCAAA KPI Reference Number: KPI-P- 22: Percentage of students graduation projects related to the community					
Mechanical Program KPI Reference Number: KPI-P-22					
Actual Benchmark 1442	Target Benchmark	Internal Benchmark* 1440-1441	External Benchmark**		New Target Benchmark
			MU	UJ	
40 %	30%	30%			50%

**KPI Analysis of the Percentage of students graduation projects related to the community**

**Mechanical Engineering program at the University level:**



## Figure 22: The Percentage of students graduation projects related to the community

**Figure 22:** above shows that the actual benchmark (50.%) was calculated for the academic year 2020-2021. In comparison, the actual benchmark for the academic year 2019-2020, which also serves as the internal benchmark, was 40%, There is improvement in this KPI. The quality committee has decided to retain the target benchmark to 60%.

### Strengths:

- the participation of ME student to serve the community.

### Recommendations

- Encouraging the student within the department would help create a stronger culture of collaboration to serve the community.

### \* Explain:

#### 1. Why this internal benchmark provider was chosen?

Using ME program's own actual benchmark from the previous cycle (2019-2020) provides a good internal measure for program improvement from one cycle to the next.

#### 2. How was the benchmark calculated?

Percentage of student graduation projects related to the community is calculated by divided the number of graduation projects related to the community by the total number of graduation projects.

#### 3. Name of the internal benchmark provider.

Department of Mechanical Engineering, JU, through College Quality Unit

### \* \* Explain:

#### 1. Why this external provider was chosen?

- In progress

#### 2. How was the benchmark calculated?

The Percentage of students participating in extra-curricular activities is calculated by divided the number of student participating in extra-curricular activities by the total number of student.

#### 3. Name of the external provider.

In progress