



Annual Program Report

Program Name:	Bachelor of Physics (B.Sc. Physics)
Qualification Level:	6th
Department:	Physics
College:	Science
Institution:	Jouf University
Academic Year:	2020-2021
Main Location:	Main Campus (Male & Female) – Sakaka, Jouf University Laqat Campus (Female) – Sakaka, Jouf University
Branches offering the Program:	NA

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A. Implementation of Previous Action Plan

Considering the recommendations of previous year annual report, list the planned actions and their status.

Planned Actions	Responsibility of Action	Planned Completion Date	Level of Completion		If Not Completed	
			Completed	Not Completed	Reasons	Proposed Actions
<u>For Male and Female Section</u> 1. Student achievement standards to be verified in each semester	Academic affairs & Internal audit committee	Fall-2020 & Spring-2021	Yes Annex APR1a (Exam paper evaluation) & Annex APR1b (Internal verification)		-	-
<u>For Male and Female Section</u> 2. Course evaluation survey to be discussed with students, in order to explain the importance of each section in the survey	Course instructors	Fall-2020	Yes Annex APR2 (Orientation lecture sample)		-	-
<u>At the level of the program</u> 4. Update Program specification and course specifications to match well with NCAAA requirement 2020.	Quality Assurance committee/ Study plan committee	Fall-2020	Yes Annex APR4 (PS)		-	-

B. Program Statistics

1. Students Statistics (in the year concerned)

No.	Item	Results
1	Number of students who started the program	63
2	Number of students who graduated	33
3	Number of students who completed major tracks within the program (if applicable)	Not applicable
4	a. Number of students who completed the program in the minimal time	11.11
5	a. Percentage of students who completed the program in the minimal time (Completion rate)	21.5%
6	Number of students who completed an intermediate award specified as an early exit point (if any)	Not applicable
7	Percentage of students who completed an intermediate award specified as an early exit point (if any)	Not applicable

Comment on any special or unusual factors that might have affected the completion rates:

Based on the completion rates collected by the academic affairs committee and according to the available evidence, the percentage of students who completed the program in the minimal time (Completion rate) is shown in table **B1**. From this table we can find that :

- 1- The ratio of male students graduated in the semester 422 is 11.11% which represents somewhat low ratio.
- 2- The ratio increased in the female students for the same semester to 15.6%, which may reflect that the female students are more interested in studying physics than the male students.

3- This result is emphasized in the semester 421, where the female student's completion rate was relatively high, (66.6%). The Percentage of students who completed the program in the minimal time (21.5%).

4- The value of actual performance indicator (KPI- P – 04) in 2020/2021 reached (21.5). The number of students attends this program and finish it in minimum time is considerably equal to the internal benchmark (21.4%). The target doesn't achieved for male students and at the level of the program.

The reasons for the low completion rate particularly for male students:

1. Some students do not adhere to the study plan, especially in the first levels.
2. Several students want to transfer to other colleges or departments.
3. Some students apologize or withdraw for one or more semesters for various reasons.
4. Failure of students to adhere to the timeline for registering for courses according to the program's study plan.

2 . Cohort Analysis of Current Graduate Batch

Student Categories		Total cohort enrollment	Withdrawn	Retained till year end	Not passed	Passed	Passing rate
Years							
Three Years Ago	M	24	8	16	3	13	81%
	F	39	4	35	0	35	100%
	Total	63	12	51	3	48	94%
Two Years Ago	M	13	1	12	0	12	100%
	F	35	1	34	1	33	97%
	Total	48	2	46	1	45	98%
Last Year	M	12	2	10	1	9	90%
	F	33	3	30	9	21	70%
	Total	45	5	40	10	30	75%
Current Year	M	9	0	9	6	3	30%
	F	21	0	21	9	12	48%
	Total	30	0	30	15	15	50%

Comments on the results:

- The number of female students who entered the program is higher than the male students.
- The number of those who graduated in 2020-2021 at the end of the first and second semesters = 15 with a completion rate of 21.7%. Female graduate students (12) are more than male graduate (3).
- The number of withdrawn students in the first year is considered high, especially the male section.
- Decreasing the passing rate across the years of the program for both male and female students. The program should focus on improving the pass rate in the final year.
- The actual performance indicator (KPI- P – 05) of the percentage number of students who entering the program and successfully complete first year has been increased by a small value and reached 74.1 % for male and female students, however the target (80%) is not reached. The target benchmark doesn't achieved for male and female students.

* add more rows for further years (if needed)

** attach separate cohort analysis report for each branch

3. Analysis of Program Statistics

(including strengths, areas for improvement, and priorities for improvement)

Strengths :

1- The number of retained students till year end seems to be stable to a large extent, except for the first year.

2- Decreasing in withdrawal rate relatively across the years of the program means that the students becoming satisfied and stick to this program.

1- The ratio of completion rate increased in the female students for the same semester, which may reflect that the female students are more interest in studying Physics than the male students.

Areas for Improvement:**+ Completion rate****For Male and Female Students**

- Students are required to adhere to the timeline for registering courses according to the study plan of the program in order to improve the completion rate.
- Disallow late registration and late enrollment in classes because this practice is associated with lower grades, lower re-enrollment rates the following term, and lower completion rates. As an alternative, offer “late start” classes for late registrants that begin 2-3 weeks into the term to provide students with shorter, more intensive learning and academic skill-building experiences.

For Male and Female Students

- Intensifying academic advising for students who have failed to identify the real reasons for their failure to complete their studies on time and Addressing the problem of withdrawal.
- Implement the mechanism and procedures of the Student retention policy and increased completion rates.

+ First-year student's retention rate**For Male and Female Students**

- Choosing fitting contents for the course of study in such a way students can adjust to the new environment.
- The key to student retention lies in the areas of regular mentoring. Mentoring from day one makes students feel secure which a critical factor in student success becomes. Then continuous mentoring is primordial through the implementation of the mechanism and procedures of the Student retention policy and increased completion rates.

+ Improving the passing rates in the final years**For Male and Female Students**

- Intensifying academic advising for students who have failed to identify the real reasons for their failure to complete their studies.

Priorities for Improvement:**For Male and Female Students****+ Completion rate**

- Disallow late registration and late enrollment in classes because this practice is associated with lower grades, lower re-enrollment rates the following term, and lower completion rates. As an alternative, offer “late start” classes for late registrants that begin 2-3 weeks into the term to provide students with shorter, more intensive learning and academic skill-building experiences.

+ First-year student's retention rate

- Implement the mechanism and procedures of the Student retention policy and increased

completion rates.

- Choosing fitting contents for the course of study in such a way students can adjust to the new environment.

✚ Improving the passing rates in the final years

- Intensifying academic advising for students who have failed to identify the real reasons for their failure to complete their studies.

C. Program Learning Outcomes Assessment

1. Program Learning Outcomes Assessment Results.

[Direct assessment from courses]

#	Program Learning Outcomes	Assessment Methods (Direct and Indirect)	Performance Target	Results	
				Male	Female
Knowledge and Understanding					
K1	Explore fundamental concepts, facts and principles, and applications of physics.	Direct PLOs assessment from courses	75%	74.2%	80%
K2	Demonstrate mathematical theories and commonly used means in Physics.			85%	92%
K3	Critique theories, concepts and applications of modern physics.	Direct PLOs assessment from courses		87 %	93%
K4	Outline processes, materials, techniques, practices, conventions and/or terminology in physics field in various complex contexts	Direct PLOs assessment from courses		77%	87%
Skills					
S1	Solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.	Direct PLOs assessment from courses	80%	80 %	85%
S2	Formulate and/or design a system, process, procedure or program to meet desired needs independently	Direct PLOs assessment from courses		82%	88%
S3	Analyze practical experiments and hypotheses to solve problems in Physics	Direct PLOs assessment from courses		77%	82.5%
Values					
V1	Sustain effectively Islamic values, ethical and professional responsibilities and the impact of scientific solutions in global, economic, environmental, and societal contexts	Direct PLOs assessment from courses	80%	88 %	93%
V2	Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty	Direct PLOs assessment from courses		85%	95%
V3	Learn self-sufficiently and continuously to improve social and professional leadership value	Direct PLOs assessment from courses		89%	92%
[Indirect assessment from surveys]					
AS: Alumni Survey; ES: Employer Survey					
#	Program Learning Outcomes	Assessment	Perfor	Results	

		Methods (Direct and Indirect)	Performance Target	AS		ES	
				Male	Female	Male	Female
Knowledge and Understanding							
K1	Explore fundamental concepts, facts and principles, and applications of physics.	Direct PLOs assessment from courses	75%	90.9 %	94.1 %	71.4%	75%
K2	Demonstrate mathematical theories and commonly used means in Physics.			100%	88.2 %	71.5%	62.5 %
K3	Critique theories, concepts and applications of modern physics.	Direct PLOs assessment from courses		81.8 %	79.4 %	71.5%	75%
K4	Outline processes, materials, techniques, practices, conventions and/or terminology in physics field in various complex contexts	Direct PLOs assessment from courses		72.8 %	88.3 %	85.7%	87.5 %
Skills							
S1	Solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.	Direct PLOs assessment from courses	80%	72.8 %	82.3 %	71.5%	75%
S2	Formulate and/or design a system, process, procedure or program to meet desired needs independently	Direct PLOs assessment from courses		90.9 %	85.3	85.7%	87.5 %
S3	Analyze practical experiments and hypotheses to solve problems in Physics	Direct PLOs assessment from courses		81.8 %	82.3	85.8%	87.5 %
Values							
V1	Sustain effectively Islamic values, ethical and professional responsibilities and the impact of scientific solutions in global, economic, environmental, and societal contexts	Direct PLOs assessment from courses	80%	81.9 %	76.5 %	85.7%	75%
V2	Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty	Direct PLOs assessment from courses		72.7 %	94.1 %	71.5%	87.5 %
V3	Learn self-sufficiently and continuously to improve social and professional leadership value	Direct PLOs assessment from courses		100%	76.4 %	71.4%	87.5 %
Comments on the Program Learning Outcome Assessment results.							
<u>For male section</u>							
1. Seven PLOs out of 10 showed achievement equal to or above the target level based on direct assessments. However, six PLOs were not achieved by adopting the indirect measurement.							
<u>For female section</u>							
1. All PLOs showed achievement equal to or above the target level. However, three PLOs' outcomes were not achieved by adopting the indirect measurement.							

* Include the results of measured learning outcomes during the year of the report according to the program plan for measuring learning outcomes

** Attach a separate report on [the program learning outcomes assessment results for male and female](#) sections and for each branch (if any)

2. Analysis of Program Learning Outcomes Assessment

(including strengths, Areas for Improvement, and priorities for improvement)

Strengths :

For male and female surdent section

Most of the learning outcomes were achieved using direct and indirect measurement.

➤ The program is doing very well in terms of achieving its learning outcome especially for category of skills. The program successfully achieved as well the majority of the Knowledge, Skills and Values learning outcomes. However, the **male and female students** lack the ability to apply their knowledge of principles and concepts for physics, and to identify, formulate, and solve complex physics problems. More effort has been done in regard to this issue. More work has to be done in terms of encouraging students to do more formal assessments and enhancing the self-learning skills.

Areas for Improvement:

For Male Section

PLOs **K1,K3,K4** and **V3** were not fairly achieved.

❖ PLOs **K1, K2, K3,K4. It is recommended to:**

Improve the student ability to knowledge and understanding the Physics Science and its application in formulating solving and different complex physics problem.

- Apply physical information in a variety of scenarios and make connections between new and prior knowledge.
- Use a variety of formal and informal assessments to construct a comprehensive and nuanced picture of each student.

❖ PLOs **S3. It is recommended to:**

Improve the student ability to analyze practical experiments and hypotheses to solve problems in Physics

- Encourage hands-on experimentation and authentic inquiry.

❖ PLOs **V2. It is recommended to:**

Improve the student ability to Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty.

- Rely on teaching strategies that center on the student and encourage active learning, including the introduction of extra-curricular activities in the courses, which stimulates self-learning skills.

For Female Section

❖ PLOs **V1. It is recommended to:**

Improve the student ability to Learn self-sufficiently and continuously to improve social and professional leadership value

❖ PLOs **V3. It is recommended to:**

Improve the student ability to learn self-sufficiently and continuously to improve social and professional leadership value

For both male and female section

❖ PLOs **S1. It is recommended to:**

Improve the student ability to solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.

- Develop problem-solving skills.

At the level of the Program

- Use the technique of measuring learning outcomes based on the capstone courses instead of using the averages of all courses.

Priorities for Improvement:

For Male Section

PLOs **K1,K3,K4** and **V3** were not fairly achieved.

❖ PLOs **K1, K2, K3,K4. It is recommended to:**

Improve the student ability to knowledge and understanding the Physics Science and its application in formulating solving and different complex physics problem.

- Apply physical information in a variety of scenarios and make connections between new and prior knowledge.
- Use a variety of formal and informal assessments to construct a comprehensive and nuanced picture of each student.

❖ PLOs **S3. It is recommended to:**

Improve the student ability to analyze practical experiments and hypotheses to solve problems in Physics

- Encourage hands-on experimentation and authentic inquiry.

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Improve the student ability to Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty.

- Rely on teaching strategies that center on the student and encourage active learning, including the introduction of extra-curricular activities in the courses, which stimulates self-learning skills.

For Female Section

❖ PLOs **V1. It is recommended to:**

Improve the student ability to Learn self-sufficiently and continuously to improve social and professional leadership value

❖ PLOs **V3. It is recommended to:**

Improve the student ability to learn self-sufficiently and continuously to improve social and professional leadership value

For both male and female section

❖ PLOs **S1. It is recommended to:**

Improve the student ability to solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.

- Develop problem-solving skills.

At the level of the Program

- Use the technique of measuring learning outcomes based on the capstone courses instead of using the averages of all courses.

D. Summary of Course Reports

1. Teaching of Planned Courses / Units

List the courses / units that were planned and not taught during the academic year, indicating the reasons and compensating actions.

Course	Units/Topics	Reasons	Compensating Actions
Both section General Physics (1)- PHS 101	One experiment haven't been taught practically	because it is need more components	- The experiments have been taught theoretically.
Both section General Physics (2)- PHS 202	Oscillatory Motion, / Sound waves.	The final exam Started in the weak 14	The student participates with presentation for these topics
Male section Electromagnetism PHS 231	Electromagnetic waves in the empty space and The wave equation	The tests were held early in the	A simple explanation was given in an additional chapter without being

Course	Units/Topics	Reasons	Compensating Actions
	- EM waves in vacuum - EM waves in conducting media	13th week	included in the test
Both section Mathematical Physic (2) PHS 304	Residue Integration	Due to the existence of study holidays that correspond to the date of the course	A brief summary about the topic have been taught.

2. Courses with Variations

List courses with marked variations in results that are stated in the course reports, including: (completion rate, grade distribution, student results, etc.), and giving reasons for these variations and actions taken for improvement.

The following strategy has been adopted in identifying abnormal courses completion rates, skewed grade distribution and/or trends over time which includes;

1. Courses with student's failure rate (total or section wise) equal to or more than 25% are considered as abnormally low completion rates.
2. Grade Inflation Criteria:
3. Percentage of students receiving (A+, A, and B+) $\geq 50\%$ for the number of students > 10 .
4. Percentage of students receiving (A+, A, and B+) $\geq 70\%$ for the number of students ≤ 10 .
5. Grade Deflation Criteria:
6. Percentage of students receiving (D, F) $\geq 50\%$
7. Courses showing decrease in completion rate over time equal to or more than 25% are considered as courses with a trend of decreasing quality.
8. Courses showing bell-shaped curve in grade distribution and/or improvement in completion
9. rates over previous years will be considered as courses with outstanding performance and recognition will be provided to encourage continuous improvement.

Course Name & Code	variation	Reasons for variation	Actions taken
LEVEL 4			
Mathematical Physics (1) phs 203 (female section)	a grade deflation (i.e., D, F) $\geq 50\%$	Due to the low level of students in the basics of mathematics.	<ul style="list-style-type: none"> ▪ The use of different teaching methods of knowledge, skills. ▪ The use of the Presentation (based rubrics) assessment method on a regular basis to enhance <ul style="list-style-type: none"> ▪ self-learning skills, ▪ Allocate more time to problem-solving strategies assessed via summative and formative methods.
Classical Mechanics 2 PHS 212 (male section)	a grade deflation (i.e., D, F) $\geq 50\%$	<input type="checkbox"/> Basic math is the main problematic for the majority of students. <input type="checkbox"/> repeatedly absent from lectures and exercises.	<ul style="list-style-type: none"> ▪ Improve the assessment strategy based on the level of the students: ▪ The use of formative assessment on a regular basis to confront the continuous absence of students, ▪ The use of

			<p>Presentation (based rubrics) assessment method on a regular basis to enhance the self-learning skills,</p> <ul style="list-style-type: none"> Allocate more time to problem solving strategies assessed via summative and formative methods.
<p>Waves and Vibrations PHS 213 (Female section)</p>	<p>a grade deflation (i.e., $DF > 50$).</p>	<p>This result is associated with repeatedly absent from lectures and exercises. In addition, not returning assignments on time.</p> <p>Basic math is the main problem for the majority of students.</p>	<ul style="list-style-type: none"> The use of formative assessment on a regular basis to confront the continuous absence of students, The use of Presentation (based rubrics) assessment method on a regular basis to enhance the self-learning skills, Allocate more time to problem solving strategies assessed via summative and formative methods.
LEVEL 5			
<p>Thermal & Statistical Physics Phs321 (female section)</p>	<p>Grade Inflation (i.e., A+, A, and B+) ≥ 50</p>		<ul style="list-style-type: none"> Providing students with more skills in the field of mathematics. the lecture must be inside the halls at an appropriate time.
<p>Electromagnetic Laboratory PHS 332 (male section)</p>	<p>Grade Inflation (i.e., A+, A, and B+) ≥ 70 the number of students ≤ 10</p>		<ul style="list-style-type: none"> Motivate the students to make educational activity about the Practical topics overall the semester. Encouraged Students to write Laboratory reports in a scientific way
<p>Optics Lab (1) PHS352 (Female)</p>	<p>Grade Inflation (i.e., A+, A, and B+) ≥ 70 the number of students ≤ 10</p>	<p>Students are weak in English. repeatedly absent from lectures and exercises</p>	<p>More class Discussion and participation during the class.</p>

3. Result Analysis of Course Reports

(including strengths, Areas for Improvement:, and priorities for improvement)

Strengths :

For both Male and Female section

- The results show an increase in students' overall evaluation of the quality of their learning experiences in the academic year 41/42 compared to 40/41 which may be rendered to the

- continuous improvement of the teaching starting, topics, and facilities.
- The sources of helping students during the course (faculty office hours and reference material) were clear.
 - There was an effective use of technology to support the teaching methods
 - The resources of course materials were available.

Areas for Improvement:

For both Male and Female section

- The course specification and the importance of each course needs to be explained during the first week of the semester.
- The academic advisor should treat the problem of students withdrawing from courses.
- Emphasis on extra-curricular activities in the courses in order to contribute to raising the completion rate.
- For first-year students: Choosing fitting contents for the course of study in such a way students can adjust to the new environment.
- Determine the low percentage of plagiarism for the Program and urge students to adhere to the accepted levels of plagiarism while preparing their reports, research, and presentations...
- Improving students' feedback by defining a mechanism and procedures for feedback at the program level

Priorities for Improvement:

For both Male and Female section

- Emphasis on extra-curricular activities in the courses in order to contribute to raising the completion rate.
- For first-year students: Choosing fitting contents for the course of study in such a way students can adjust to the new environment.
- Determine the low percentage of plagiarism for the Program and urge students to adhere to the accepted levels of plagiarism while preparing their reports, research, and presentations...
- Improving students' feedback by defining a mechanism and procedures for feedback at the program level

E. Program Activities

1. Student Counseling and Support

Activities Implemented	Brief Description *
Orientation of new students	Electronically invitation via blackboard system to new students to attend the comprehensive program by the program faculty members. (Annex 4-5-3) Report of new students orientation day.)
Distribution of students to advisors	All the B.Sc. Physics program students are distributed to faculty members. (Annex E1) Report of new students orientation day.)
Academic advising hours	All faculty members announced the academic advising hours in blackboard and/or in the office door if they have any problems. Annex E2 (Instructors Time Tables including academic advising hours)
Academic advising	Most of advisers done on individual or group academic advising to their students during this academic year 2021-2022. (Annex APR E2 Samples of academic advisory files for the program students).
Follow up of weak students	The academic advisers follow up the weak students to rise their grades. (Annex 4.0.8.1) and Annex APR E2
Workshop for staff	Academic Advising Unit conduct a workshop to improve the academic advisor (Annex 4-0-7-13)
Workshops for graduated students & Scientific Day	The College of Science organizes annually the Scientific Day and workshops for graduated students where the faculty members introduce many specialized topics important to Physics Science students as indicated in (Annex 4.0.12.8).

Professional day	In each academic year, prior to the commencement of the practical examinations, the college participates in the professional day. On the professional day, several workshops are held to teach students how to write a C.V., how to conduct interviews and how to choose the right job. On the professional day, the university invites a group of companies, where they are presented with graduation projects for senior students and graduates (Annex 4.0.12.14)
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Comment on Student Counseling and Support**

- Most of the activities of the academic advising were done in both sections periodically to support the students of the Physics program during this academic year 2020-2021.
- A workshop was held for the academic mentors to explain the importance of academic counseling /its objectives and open a file for each student.
- Female students participate in academic advising demonstrations through video broadcasts or in attendance at the college theatre.

* including action time, number of participants, results and any other statistics.

** including performance evaluation on these activities

2. Professional Development Activities for Faculty and Other Staff

	Activities Implemented	Brief Description*			
	Activities	Description	action time	number of participants	results and any other statistics
1	The dependence of natural radioactivity levels and its radiological hazards on the texture of agricultural soil	Developing agricultural wealth in the Al-Jouf region	1 st semester	33	
2	Electrical and thermoelectric power measurement of GaInSe ₂ single crystal	Scientific and cultural activity	1 st semester	42	
3	Estimating global diffuse solar radiation from sunshine duration	In order to protect ourselves from the harmful effects of radiation from the sun	1 st semester	20	
4	Seasonal behavior of radon decay products in indoor air and resulting radiation dose to human respiratory tract	Scientific and cultural activity	1 st semester	45	
5	How to prepare a report on the assessment of learning outcomes	Learning how to prepare a report on the assessment of learning outcomes.	1 st semester	86	

6	Workshop on Eligibility requirement for Program Accreditation	The completing accreditation requirements for the program	2 nd semester	77	
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Comment on Professional Development Activities for Faculty and Other Staff**

- There was a very good attendance rate for most of the sessions.
- The program emphasizes on the continuous development of the faculty members working in the program. The annual assessment of the faculty members in the program includes some weight on the professional development and on organizing and participating in scientific conferences.
- The performance of faculty members and staff in carrying out teaching and administrative duties has improved significantly.

Professional Development Activities for Faculty and Other Staff can be found in

➤ [Annex.APR.E2.1](#), [Annex.APR.E2.2](#), and [Annex.APR.E2.3](#)

* including action time, number of participants, results and any other statistics.

** including performance evaluation on these activities

3. Research and Innovation

Activities Implemented	Brief Description*
Publications	<ul style="list-style-type: none"> ▪ Physics Program members published 89 articles During the year 2020, all are cited in the data base WOS or SCOPUS. ▪ Classification of numbers publications according to quartile of journal Q1=16, Q2=35, Q3=22, and Q4=11. ▪ The number of members who published research is 19 members in the male section, and 13 members in the female section. ▪ The ratio of the number of Program member who published at least one article in the male and female section, to the total number is 19/20 =95% for male section, and 8/10= 80% for female section. ▪ Percentage of publications of faculty members (article/ member) for male (7.14:1) for female (1.3:1) by average(4.22:1).
Group Research	The Physics Program members got 3 group research funded deanship of scientific Research the total budget 15000 SAR. one group research of them in the female section .
Reviewers and editors in scientific journals	There are 14 reviewers and editors in 43 scientific journals this number equal 48% from the total of faculty members.
Members in scientific committees	There are 5 members of the Scientific Committee in the male section and 4 members in the female section .
Proven track record	There are 12 member have proven track record, 10 in male section and 2 in female section .
Funding project	The number of research projects that were funded reached 18(14 in the male section (190800 SAR) by ratio 77.8% and 4 in the female section (54500) by ratio 22.2% by total budget 245300 SAR.

Comment on Research and Innovation**

Physics Program has a group of distinguished members in scientific research, which contributes to raising the number of research and citations and participates in a respectable number of projects and research groups.

- [report on the research activities of the program is attached](#) including performance evaluation on these activities.
- The ninth them (Q4, Q5 and Q6) of the survey of the opinions of faculty members on the [evaluation of the program](#) 2020-2021 : Academic research, The brief results show

that The results show high value for average weight by a value of 3.99 with agreement percentage of 83%.

The publication rate was 1.25 paper per faculty member (KPIs 14, 15, 16 and KPI-AP-01-02) according [KPI report of 2020-2021](#).

❖ Physics Program hope to increase the total number in the next year by 10%.

❖ Physics Program hope to increase the rate of scientific publishing by encouraging the staff members in the **female section** to joint research with the staff members in the **male section** or from the college of Science.

* including action time, number of participants, results and any other statistics.

** including performance evaluation on these activities

4. Community Partnership

Activities Implemented	Brief Description *
1. A training explaining “The Effects of Pollution: The Effects of Pollution on the Environment	Explaining The Effects of Pollution on the Environment Annex.APR.E4.1
2. Workshop on “Scientific Research” and its importance”	Demonstrate the concept of Scientific Research” Annex.APR.E4.2
3. Open discussion about the article in the magazine Opinions on the Gulf entitled “Iranian nuclear program 29/6/2021 Truth, Capacity and Dangers, such as the issue of number.	Interpretation article in the magazine Opinions on the Gulf entitled “Iranian nuclear program 29/6/2021 Truth, Capacity and Dangers, such as the issue of number. Annex.APR.E4.3
4. Interpretation the Saudi Arabia has made progress in legislation and nuclear infrastructure and is qualified to benefit from peaceful energy	Interpretation the Saudi Arabia has made progress in legislation and nuclear infrastructure and is qualified to benefit from peaceful energy by an article in Opinions on the Gulf magazine. The reading people know the Saudi progress in legislation and nuclear infrastructure and is qualified to benefit from peaceful energy. Annex.APR.E4.4
5. National Olives Festival	Every year, the province of Al-Jouf, holds two national festivals for olives and dates as famous products of the province. Each festival is held for 3-5 days. The Jouf University participates in these two festivals by holding an exhibit for the public. The Department of Physics participates in the university’s exhibit. Such festivals are great opportunity for interaction with the community and educating the public about Physics Science aspects that touches their lives such as the utilization of solar energy and wind energy as renewable energy sources, air conditioning, etc. Annex.APR.E4.5
6. National Dates Festival	

Comment on Community Partnership **

The program partnership with the community is not strong enough. Considering the current circumstances of COVID-19 (coronavirus), most of the community partnership and social activities which are commonly held by the program are postponed this year.

The Department of Physics is eager to have a greater rule in the community and to create a stronger partnerships with industrial sector in the community.

[Community service Report B.Sc. Physics Program 2021-2020](#).

* including action time, number of participants, results and any other statistics.

** including performance evaluation on these activities

5. Analysis of Program Activities

(including strengths, Areas for Improvement:, and priorities for improvement)

Strengths :

- Jouf University support Physics faculty members through research grant to publish a high research publication.
- Several workshops and training courses have been directed to undergraduate and postgraduate students
- Three conducting seminars or weekly training workshops for 2 seminars or a workshop every week with the participation of both parts (male / female branches)

Areas for Improvement:

- Improve the program Partnership with the community

Female section

- Increase the rate of scientific publishing by encouraging joint research with the male section or from the college of Science.

Priorities for Improvement:

For Male and Female section

- Improve the program Partnership with the community.

Female section

- Increase the rate of scientific publishing by encouraging joint research with the male section or from the college of Science.

F. Program Evaluation

1. Evaluation of Courses

Course Code	Course Title	Student Evaluation (Yes-No)	Other Evaluations (specify)	Developmental Recommendations
PHS 101	General Physics (1)	Yes	Employers survey report Annex S Employers (PLOs) Alumni survey report (M and F) Annex S(M) Alumni (PLos) A Annex S(F) Alumni (PLOs) Students Survey on Evaluating the Physics Program (M and F) Annex SEP(M) Annex SEP(F)	The course instructor should encourage students to fill out the questionnaires accurately after they know that their opinion will be taken into consideration and will have a role in developing the teaching of the course.
PHS 202	General Physics (2)	Yes		
PHS 211	Classical Mechanics (1)	Yes		
PHS 212	Classical Mechanics (2)	Yes		
PHS 213	Vibrations and Waves	Yes		
PHS 203	Mathematical Physics (1)	Yes		
PHS 231	Electromagnetism	Yes		
PHS 341	Modern Physics	Yes		
PHS 332	Electromagnetism Lab	Yes		
PHS 304	Mathematical Physics (2)	Yes		
PHS 351	Optics	Yes		
PHS 352	Optics Lab	Yes		
PHS 321	Thermal and Statistical Physics	Yes		
PHS 342	Modern Physics Lab	Yes		
PHS 333	Electronics	Yes		
PHS334	Electronics Lab	Yes		
PHS335	Computational Physics	Yes		
PHS 361	Solid State Physics (1)	Yes		
PHS 422	Quantum Mechanics (1)	Yes		
PHS 471	Nuclear Physics	Yes		
PHS 462	Solid State Physics (2)	Yes		
PHS 498	Field Training	Yes		
PHS 472	Radiation Physics	Yes		
PHS 494	Quantum Mechanics (9)	Yes		
PHS 473	Nuclear Physics Lab	Yes		
PHS 463	Solid State Physics Lab	Yes		
PHS 499	Research Project	Yes		
PHS 353	Laser Physics & its Application	Yes		
PHS 365	Semiconductors Physics	Yes		
PHS 467	Introduction to Nanoscience and Nanotechnology	Yes		

2. Students Evaluation of Program Quality

Program evaluation survey (Male and Female section) Evaluation Date : 2020	Number of Participants: 11 M and 56 F
Students Feedback	Program Response
Strengths: For Male and Female section <ul style="list-style-type: none"> The teaching staff were available for guidance and advice when student needed to talk to them. Computer labs were adequate for student's needs. There are facilities suitable for performing 	The evaluation results were studied and analyzed in order to take necessary measures towards these results.

<p>religious rites.</p> <ul style="list-style-type: none"> • An ability to identify, formulate, and solve complex Physics problems by applying principles of physics, and mathematics • An ability to communicate effectively with a range of audiences • An ability to acquire and apply new knowledge as needed, using appropriate learning strategies • Generally, students satisfied with the quality of their educational experience at the university. 	
<p>Areas for Improvement: For Male and Female section</p> <ul style="list-style-type: none"> • Improve the skills of practical experimentation and dynamic and creative consensus. • Motivate students to use the library and digital library . • Encouraging male and female students to participate in extra-curricular activities. 	Based on the study and analysis of the evaluation results, some points of improvement have been identified.
<p>Suggestions for improvement: For Male and Female section</p> <ul style="list-style-type: none"> • Improve the skills of practical experimentation and dynamic and creative consensus. • Encouraging male and female students to participate in extra-curricular activities. 	Based on the study and analysis of the evaluation results, and on the suggested improvement points, a mechanism for implementing improvement processes was determined

* Attach report on the students evaluation of program quality-[Annex SEP\(M\)](#) (Male students) and [Annex SEP\(F\). J3b](#) (Female students)

3. Other Evaluations

(e.g. Evaluations by independent reviewer, program advisory committee, and stakeholders (e.g., faculty members, alumni, and employers)

Evaluation method : Alumni survey	Date: 2021	Number of Participants : 11 M and 34 F
Summary of Evaluator Review		Program Response
<p>Strengths:</p> <ul style="list-style-type: none"> • Number of male alumni that find a job after their graduation is 3 with a percentage of 50 %. • Number of female alumni that find a job after their graduation is 6 with a percentage of 22% 		The evaluation results were studied and analyzed in order to take necessary measures towards these results.
<p>Points for Improvements: For Male and Female section</p> <ul style="list-style-type: none"> • A high number of graduates are employed in temporary jobs that are not commensurate with the specialty. • Develop teaching and learning methods and assessment methods to face job market needs. • Make labor market analysis and update the alignment with labor market requirements. • More communication with alumni's and stockholders to know what they need. 		Based on the study and analysis of the evaluation results, some points of improvement have been identified.

<ul style="list-style-type: none"> • Continuous review of the PLOs and graduate attributes as well as teaching and learning strategies and assessment methods to face job market needs. <p>For Female section</p> <ul style="list-style-type: none"> • Paying more attention to the field training course and research project. 	
<p>Suggestions for improvement</p> <p>For Male and Female section</p> <ul style="list-style-type: none"> • Continuous review of the PLOs and graduate attributes to face job market needs. • Develop teaching and learning methods and assessment methods to face job market needs. • Make labor market analysis and update the alignment with labor market requirements. <p>For Female section</p> <ul style="list-style-type: none"> • Give more attention to internships and graduate projects (work experience). These courses give graduates practical skills and greater knowledge of the labor market requirement. • Encouraging female students to come to the central laboratory in the main building, and the participation with male students in experimental work, and encouraging them to collective effort. 	<p>Based on the study and analysis of the evaluation results, and on the suggested improvement points, a mechanism for implementing improvement processes was determined.</p>

* Attach independent reviewer's report and stakeholders' survey reports (if any)

Examination paper evaluation report [Annex APR1a](#)

Independent reviewer's report - [Annex APR. J4a](#)

Internal audit review APR [Annex APR J5](#)

Internal verification report [Annex APR1b](#)

4. Key Performance Indicators (KPIs)

List the results of the program key performance indicators (including the key performance indicators required by the National Center for Academic Accreditation and evaluation)

No	KPI	Target Benchmark	Actual Value			Internal Benchmark	Analysis	New Target Benchmark
			M	F	Total			
KPI-P-01	Percentage of achieved indicators of the program operational plan objectives.	80 %	62.5%			57 %	The actual benchmark (62.5%) is based on the Percentage of achieved indicators of Physics program operational plan objectives for the year 2020-2021.	80 %
KPI-P-02	Students' Evaluation of quality of learning experience in the program	4	4.33	4.2	4.3	3.54	NCAAA has been developed This KPI to capture the opinion the final year students about the quality of learning experiences of the students given by the program. It is noted that the actual benchmark value (4.3) is considerably higher than both values of the internal (3.54) and external benchmark by Northern Border (3.56) as it equal to the value of Prince Sattam University (4.33). the targeted value (4) has been achieved for male and female students. it decided to increase the target benchmark to 4.5.	4.5
KPI-P-03	Students' evaluation of the quality of the courses.	4.5	4.38	4.28	4.33	4.2	It is clear that the actual performance indicator of the Students' evaluation of the quality of the courses has been slightly increased and reached (4.33). And the target (4.5) didn't achieve for male and female students, and it is still higher than the external benchmark by NBU and PSAU (3.44, 4.21 respectively). It is decided to set a new target at (4.5)	4.5
KPI-P-04	Completion rate.	80%	10 %	30 %	23 %	7.5%	The value of actual performance indicator in 2020/2021 reached (23%). the number of students attends this program and finish it in minimum time is considerably higher than the internal benchmark (7.5%) and the external benchmark by NBU and PSAU (23%,22.5 %). the target doesn't achieved for male students and at the level of the program. So it is decided to fix the target at 80%.	80 %
KPI-P-05	First-year students retention rate	80%	74.1	74.1 %	74.1 %	72.5%	the actual performance indicator of the percentage number of students who entering the program and successfully complete first year has been increased by a small value and reached 74.1 %. for male and female students, however the target (80%) and external benchmark value(100%) For NBU are not reached. The target benchmark doesn't achieved for male and female students and at the program. So the target performance indicator value will be fixed at the same value (80 %).	80 %

KPI-P - 06	Students' performance in the professional and/or national examinations.	25%	12%	4%	8%	ND	The results indicate that the actual performance indicator (8 %) of the percentage of graduates who pass professional and or / national exams are approximately equal to the external benchmark of NBU (7%) whenever there is no value for PSAU, and the target (25%) was not achieved for male and female students. Based on the analysis of the indicator's development, the target performance indicator value will be fixed. The value of the new target indicator is (25 %).	25 %
KPI-P - 07	Graduates' employability and enrolment in postgraduate programs.	50%	50 %	22%	27.3%	15.8%	The results indicate that the value of the actual performance indicator (27.3 %) of the percentage of the employability of graduates of the physics program is considered higher than the internal benchmark value (15%) and external benchmark of NBT (7.4%) but there is no value for PSAU, also it is lower than the target value (50%), however the target was not achieved for female(22.2%) and for the program (27.3%). the target performance indicator value will be fixed at (50 %).	50%
		10%	33.3 %	0%	16.65 %	5.5%	The results indicate that the actual performance indicator (16.7%) of the percentage of the Enrollment of graduates of the program to postgraduate studies of the physics program has been increased in the last year. and the target (10%) was achieved for male graduates and at the level of the program. Also, the Actual benchmark is higher than the external benchmark of NBU (7.4%). Based on the analysis of the indicator's development, the target performance indicator value will be increased to 25 %.	25%
KPI-P - 08	Average number of students in the class.	25	12	16	14	11	The results indicate that the actual performance indicator of the average number of students in the class in the physics program has been increased and reached 14 in the last year and the target approximately was achieved. It is also noticed that the Actual benchmark still higher than the external benchmark (11) in NBU but less than value of PSAU (20). Based on the analysis of the indicator's development, the target performance indicator value will be fixed. The value of the new target indicator is (25).	25

KPI-P - 09	Employers' evaluation of the program graduates proficiency.	4.1	4	4	4	3.94	The results indicate that the actual performance indicator(4) of the employers' evaluation of the graduates proficiency is higher than the values of the internal benchmark (3.94). the target (4) benchmark was achieved for male and female students. Based on the analysis of the indicator's development, the target performance indicator value will be increased to (4.1).	4.2
KPI-P - 10	Students' satisfaction with the offered services.	4	3.9	4.02	3.88	3.53	it noticed that the actual performance of the student satisfaction with the offered services is (4) which higher than internal benchmark (3.53) and the external benchmark of NBU (3.85) university but it is lower than PSAU (4.4) university. The target performance (4) has been achieved for female and the program. Based on the analysis of the indicator's development, the target performance indicator value will increased. The value of the new target indicator is (4.2).	4
KPI-P - 11	Ratio of students to teaching staff.	20:1	3:1	14:1	7:1	8:1	Ratio of students to teaching staff indicator is from negative polarity indicators. The results indicate that the actual performance of the ratio of students to teaching staff for the program reach (7:1), female (14:1) and male (3:1) in the last year. The actual value of the Ratio of students to teaching staff indicator (7:1) exceeded external benchmark in both NBU & PSAU (8:1 & 9:1) and also the target value (20:1) has been achieved. Based on the analysis of the indicator's development, the target performance indicator value will be fixed.	20:1
KPI-P - 12	Percentage of teaching staff distribution.	M:60% F:40 % Prof.: 12 % Assoc. P:40 % Assist. P:48 %	M:74.2% F:25.8 % Assist. P: 71 % Assoc. P: 25.8 % Prof.: 3.2 %	M. 65.63% F. 34.37 % Prof.: 2.9 % Assoc. P: 29.5 % Assist. P:67.56 %	The distribution of the B.Sc. Physics program at JU by rank, we note that there are currently 3.2 % Full Professors in the department, while the distribution of Associate and Assistant Professors is 25.8% and 71% respectively. Keeping in view the actual, and target benchmarks, the quality committee has decided to retain the target benchmark. i.e. 12% Full Professor, 40% Associate Professor, and 48% Assistant Professor.	M:60% F:40 % Assist. P:48 % Assoc. P:40 % Prof.: 12 %		
KPI-P - 13	Proportion of teaching staff leaving the program.	6%	4.7	18.2 %	11.5%	14.5	The results indicate that the actual performance indicator of Percentage of faculty member's dropout from the program has been decreased in recent year. The actual performance for male section (4.7%) lower than female section (18.2%) and the target was not achieved for them. The number of teaching staff which leaving the program (11.5%) is still higher than that of the external benchmark in both NBU & PSAU (10% & 6%). Based on	6 %

							the analysis of the indicator's development, the target performance indicator value will be fixed at the same values (6 %).	
KPI-P - 14	Percentage of publications of faculty members.	70%	100 %	66.6 %	90%	69.7%	The results indicate that the actual performance of the scientific publication percentage indicator of the faculty members in the program is increasing from year to year. The actual value of male section is 100% which is higher than female section(66.6%) and it achieve the target benchmark. It is noticed that the value of the actual performance indicator for the program is (90%) is considerably higher than both of the target (85%), internal benchmark (69.7%) and external benchmark for both NBU & PSAU (66.8%& 78.3%).	100 %
KPI-P - 15	Rate of published research per faculty member.	2:1	4.19 :1	1.3: 1	2.9:1	1.2:1	The actual performance indicator of the rate of published research per faculty member reach 2.9:1 and the target performance (2:1) was achieved for the program. the actual value of male section 4.19:1 is higher than the value of female section (1.3:1) and it achieve the targeted value. It is noticed that the actual benchmark is considerably higher than, the target value, internal benchmark and the external benchmark for both NBU & PSAU. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The new value is 3:1.	3:1
KPI-P - 16	Citations rate in refereed journals per faculty member.	30:1	44.7 :1	27:1	38.8:1	23.6:1	The Results of number of citations in refereed journals show good progress in the academic year 2020/2021 for the female and male branches compared to the academic year 2019/2020 however the number of citations in refereed journals for female branch is still less than male branch. The results indicate that the actual performance indicator of the Citations rate in refereed journals per faculty member has been increased in recent year and exceeds both value of the target performance (30) and the value of internal and external bench mark for NBU but less than the value for PSAU, and the target performance was achieved. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The new value is 40:1.	40:1

KPI-P - 17	Satisfaction of beneficiaries with the learning resources.	4.2	4.5	3.9	4.04	4.1	The results indicate that the value of the actual performance indicator (4.04) of the satisfaction of beneficiaries with the learning resources in the physics program are approximately the same and the target was not achieved for male and female sections. in the last two years. the value of the actual benchmark (4.04) is higher than the values of External benchmark of both NBU (3.8) and PSAU (4). Also target performance value (4.2) of the indicator was not achieved, By studying the status and development of the indicator, it is decided that the new target performance value will be fixed at 4.2.	4.2
KPI-AP-1	Number of research groups in the program	2	2	2	2	1	the actual performance indicator of the number of research group's projects received by faculty members in the program has been increased and reached 2 for male section and at the level of the program in the last year, and the target (2) has been achieved, but the actual value of female section (0) is very low and the target was not achieved. Based on the analysis of the indicator's development, the target performance indicator value will be fixed. The value of the new target indicator is (1).	1
KPI-AP-2	The number of supported research projects obtained by the program per year	10	14	4	18	7	The results indicate that the actual performance indicator of the number of research projects received by faculty members in the program has been increased and reached 14 projects for male section and program (18) while it reached (4) projects in female section which is considerably low comparing with male section. and the target (10) has been achieved for male section and program. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The value of the new target indicator is (20).	20
KPI-AP-3	Percentage of students participating in extracurricular activities	45%	51.5 %	53%	52.6 %	43.4%	The results indicate that the actual performance indicator of the percentage number of students participating in the activities extra-curricular in the program has been increased and reached 52.60 % in the last year; and the target was achieved for both male and female section. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The value of the new target indicator is (60%).	60%

KPI-AP-4	Employers' satisfaction with the program's target, vision and mission	4	4.71	4.71	4.71	3.8	The results indicate that the actual performance indicator of Employers' satisfaction with the program's target, vision and mission in the program has been increased and reached 3.86 in the last year, and the target has been achieved for male and female sections. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The value of the new target indicator is (4).	4.2
KPI-AP-5	Percentage of student graduation projects related to the surrounding community	25	33.3 %	50%	40 %	22.2%	the actual performance indicator of the Percentage of student graduation projects related to the surrounding community in the program has been increased and reached 29 % in the last year, and the target has been achieved for male and female students. Based on the analysis of the indicator's development, the target performance indicator value will be increased. The value of the new target indicator is (35).	45 %

Comments on the Program KPIs and Benchmarks results :

Twenty two KPIs have been measured

For male section

12 KPIs have achieved the target. The rest of KPIs are being made to achieve the target in the next years.

For Female section

8 KPIs have achieved the target. The rest of KPIs are being made to achieve the target in the next years.

For the program

10 KPIs have achieved the target. The rest of KPIs are being made to achieve the target in the next years.

- [A complete report of KPI analysis of Physics program](#)

5. Analysis of Program Evaluation

(including strengths, Areas for Improvement:, and priorities for improvement)

Strengths :

- “The physics program operational plan objectives” has been achieved and exceeded the value of both the target performance indicator, and the internal Benchmark values.
- Relevant surveys are conducted regularly which allows for consistent evaluation of the overall learning experience from final year students' perspective.
- “The average number of students in the class in the physics program” has been achieved and exceeded the internal Benchmark values. Optimal ratio of students in the class exists currently.
- The Students' satisfaction with the offered services in the physics in the last year has been achieved and exceeded the value of both the target performance indicator, and the internal Benchmark values, but this value needs some improvements to increase it.

- “The percentage of scientific publication for faculty members” has been achieved and exceeded the value of both the target performance indicator value, and the value of the internal Benchmark in the last year, which confirms the scientific research activities as an apparent strength point in the program.
 - The actual performance indicator of “the rate of published research per faculty member in the physics program” has achieved and exceeded the value of both the target performance indicator value, and the value of the internal Benchmark, which confirms the scientific research activities as an apparent strength point in the program.
 - “The number of research groups projects received by faculty members” program has achieved and exceeded the value of both the target performance indicator value, and that of the internal Benchmark, which confirms the scientific research activities as an apparent strength point in the program.
 - “The number of research projects received by faculty members” has achieved and exceeded the value of both the target performance indicator, and the internal Benchmark values, which confirms the scientific research activities as an apparent strength point in the program. Despite the distinction of scientific research in the program, there is a lack of some equipment required for the preparation and characterization of samples.
 - “The percentage number of students participating in the extra-curricular activities” has been achieved and exceeded the value of both the target performance indicator, and the internal Benchmark values, but this value is small and needs to be improved.
10. “The percentage number of students graduation projects related to the surrounding community” has been achieved and exceeded the value of both the target performance indicator, and the internal Benchmark values, but this value is small and needs to be improved.

Areas for Improvement:

- Completion rate of the program should be enhanced. the results show a decrease in the number of students attends this program and finish it in minimum time comparable to the past academic year and the values is small which mean that this indicator need more improvements to increase its values.
- First-year students retention rate is needed to be improved. First-year students are new to the university’s study system, so they must be made aware of the studysystem and the examination regulations used in the program.
- Students' performance in the professional and/or national examinations, where the program should have a clear plan to improve the student’s performance.
- Graduates’ employability and enrolment in postgraduate programs.
- Introductory courses to the Program of Physics and the importance of this science in community service to attract students.

Priorities for Improvement:

- Completion rate of the program should be enhanced.
- First-year students retention rate is needed to be improved.
- Graduates’ employability and enrolment in postgraduate programs.

G. Difficulties and Challenges Faced Program Management

Difficulties and Challenges	Implications on the Program	Actions Taken
<u>Female section</u> Lack of some equipment in the laboratories	To enhance the compatibility between the theoretical and practical aspects of the physics program courses.	A request of a list of laboratories’ equipment’s to the university administration for maintenance.

Students' guidance need to be strengthened.	To increase the completion rate and reduce First-year students retention rate.	Follow-up academic guidance provided by faculty members Interviews with students who have special problems with the program coordinator or department head.
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*Internal and external difficulties and challenges

H. Program Improvement Plan

No.	Priorities for Improvement	Actions	Action Responsibility	Date		Achievement Indicators	Target Benchmark
				Start	End		
1	At the level of the Program Improve student completion rate.	<p>For Male students Disallow late registration and late enrollment in classes because this practice is associated with lower grades, lower re-enrollment rates the following term, and lower completion rates. As an alternative, offer "late start" classes for late registrants that begin 2-3 weeks into the term to provide students with shorter, more intensive learning and academic skill-building experiences.</p> <p>For Male and Female students •Implement the mechanism and procedures of the Student retention policy and increased completion rates.</p>	Students affairs and alumni committee /Academic advising committee	Sep 2021	Dec 2021	KPI-P-04	25%
2	For male and female students Improve the First-year student's retention rate	<ul style="list-style-type: none"> Choose fitting contents for the course of study in such a way students can adjust to the new environment. Implement the mechanism and procedures of the Student retention policy and increased 	Students affairs and alumni committee /Academic advising committee /Course coordinator	Sep 2021	Dec 2021	KPI-P-05	80%

		completion rates					
3	<p><u>For male and female students</u> Improving the passing rates in the final years</p>	<p>Intensifying academic advising for students who have failed to identify the real reasons for their failure to complete their studies.</p>	<p>Academic advising committee/ Academic advisor</p>	<p>Sep 2021</p>	<p>Dec 2021</p>	<p>passing rates</p>	
4	<p><u>For male students</u> PLOs K1, K2, K3, K4. It is recommended to: <u>Improve the student ability to knowledge and understanding the Physics Science and its application in formulating solving and different complex physics problem.</u></p> <ul style="list-style-type: none"> ▪ Apply physical information in a variety of scenarios and make connections between new and prior knowledge. ▪ Use a variety of formal and informal assessments to construct a comprehensive and nuanced picture of each student <p><u>PLOs S3. It is recommended to:</u> <u>Improve the student ability to analyze practical experiments and hypotheses to solve problems in Physics</u></p> <ul style="list-style-type: none"> ▪ Encourage hands-on experimentation and authentic inquiry. <p><u>PLOs V2. It is recommended to:</u></p> <ul style="list-style-type: none"> ▪ Improve the student ability to Collaborate effectively within teams via establishing goals, planning tasks, meeting deadlines, and analyzing risk and uncertainty. <p>Rely on teaching strategies that center on the student and encourage active learning, including the introduction of extra-curricular activities in the courses, which stimulates self-learning skills.</p> <p><u>For female students</u></p> <p>PLOs V1. It is recommended to: Improve the student ability to Learn self-sufficiently and continuously to improve social and professional leadership value</p> <p>PLOs V3. It is recommended to: Improve the student ability to learn self-sufficiently and continuously to improve social and</p>	<p>-Review the teaching and learning strategies and - update the assessments methods.</p> <p>-Review the alignments between PLOs/CLOs and teaching and learning strategies and the assessments methods</p>	<p>Study plan committee/ Quality committee/ Course coordinator</p>	<p>Sep 2021</p>	<p>Dec 2021</p>	<p>KPI of PLO</p>	

	<p>professional leadership value</p> <p><u>For both male and female section</u> PLOs S1. It is recommended to: Improve the student ability to solve broadly defined scientific problems by applying knowledge of mathematics and science to areas relevant to physics.</p> <ul style="list-style-type: none"> Develop problem-solving skills. 						
5	<p><u>At the level of the Program</u> Use the technique of measuring learning outcomes based on the capstone courses instead of using the averages of all courses.</p>	<p>Develop a PLOs Assessment Plan based on the capstone courses for Physics Program</p>	<p>Study plan and quality committee</p>	<p>Dec. 2021</p>	<p>Dec. 2021</p>	<p>KPI of PLO</p>	
6	<p><u>At the level of the Program</u> Add extra-curricular activities to the program and courses, and serve as a tool for measuring learning outcomes indirectly</p>	<p>Add extra-curricular activities to the program and courses</p>	<p>Study plan and quality committee /Quality committee</p>	<p>Feb. 2022</p>	<p>Feb. 2022</p>	<p>KPI-AP-3</p>	<p>60%</p>
7	<p><u>At the level of the Program</u> Determine the low percentage of plagiarism for the Program and urge students to adhere to the accepted levels of plagiarism while preparing their reports, research, and presentations...</p>	<p>Develop mechanisms and procedures at the program level to determine the minimum citation percentage</p>	<p>Academic Affairs Committee</p>	<p>Apr. 2022</p>	<p>May. 2022</p>	<p>KPI- P - 06</p>	<p>30%</p>
8	<p><u>At the level of the Program</u> Improving students' feedback by defining a mechanism and procedures for feedback at the program level</p>	<p>Developing mechanisms and procedures at the program level for the feedback to students</p>	<p>Course instructor/ course coordinator</p>	<p>Feb. 2022</p>	<p>Feb. 2022</p>	<p>KPI- P - 06</p>	<p>25%</p>
9	<p>Unify the experimental materials for the laboratories at both male and female section</p>	<p>Update the practical Handbook of Experiments (Physics program)</p>	<p>Laboratories committee</p>	<p>Feb. 2022</p>	<p>March . 2022</p>	<p>KPI- P - 10</p>	<p>4</p>
10	<p><u>For male and Female section</u> Provide students at the first week of the begin of each semester with comprehensive information about the course, including learning outcomes, teaching and learning strategies, and assessment methods and dates.</p>	<p>Provide student with information about the course at the first week of the begin of each semester</p>	<p>Course instructor/ E-Learning Committee</p>	<p>Sep. 2021</p>	<p>Oct. . 2021</p>	<p>KPI- P- 03</p>	<p>4.5</p>
11	<p><u>At the level of the Program</u> Improve the quality of field training activities</p>	<ul style="list-style-type: none"> - Increase contacts with companies to cover more areas. - Holding workshops for students to be more aware and familiar with all aspects of 	<p>Training Committee</p>	<p>Sep 2021</p>	<p>May 2022</p>		

12	For female sections Increase the rate of scientific publishing	training. Support joint interaction between male and female staff in the field of research	Scientific Research Committee	May 2021	May 2022		
13	For male and female students Involve students in research activities, such as participating in scientific seminars within the college, scientific research...	Encouraging students to participate in research activities	Course instructor/Scientific Research Committee	May 2021	May 2022	KPI-AP-5	45 %
14	Graduates' employability and enrolment in postgraduate programs.	Make labor market analysis and update the alignment with labor market requirements.	SPC	May 2021	May 2022	KPI- P- 07	50%
							25 %
15	Improve the skills of practical experimentation and dynamic and creative consensus.	Take students to participate in practical experiments in the central laboratory	Course coordinator	Sep 2021	Dec 2021		
16	Improve the program Partnership with the community	Activate the plan of the community service.	Committee of community service	May 2021	May 2022		
17	Increase the Achieved indicators of the program operational plan objectives	- Follow up all aspects of operational plan	KPIs Committee	Sep 2021	May 2022	KPI-P-1	80%

I. Report Approving Authority

Council / Committee	Physics Department Council
Reference No.	DEPARTMENT MINUTES NO. (9/1443)
Date	(23-12-2021) corresponding to (19/5/1443)

J. Attachments :

- A separate cohort analysis report for male and female sections and for each branch - [Annex APR. J1](#)
- A report on the program learning outcomes assessment results for male and female sections and for each branch (if any) - [Annex APR. J2a](#) and [Annex APR. J2b](#)
- A report on the students evaluation of program quality - [Annex SEP\(M\)](#) (Male students) and [Annex SEP\(F\)](#) (Female students).
- Independent reviewer's report and other survey reports (if any)- [Annex APR. J4a](#)
- Employers survey report [Annex S Employers \(PLOs\)](#).
- Alumni survey report [Annex S\(M\) Alumni \(PLOs\)](#) (Male students) and [Annex S\(F\) Alumni \(PLOs\)](#) (Female students).