



Program Name: Master of Science in Physics							
Program Code (as per the Saud	Program Code (as per the Saudi Standard Classification of Educational Levels and Specializations): 053301						
Qualification Level: Le	evel 7						
Department: Physics							
College: Science							
Institution: King Khalid University							
Program Specification:	New 🗆	updated*					
Last Review Date	3/2/1445						

\*Attach the previous version of the Program Specification.







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A. Program Identification and General Information:								
1. Program's Main Location:								
Department Of Physics, Building-B14 King	Department Of Physics, Building-B14 King Khalid University- Al-Faraa Campus							
2. Branches Offering the Program (if any):								
None.								
3. System of Study:								
□3√ Coursework & Thesis	Coursework							
4. Mode of Study:								
<b>√</b> On Campus □ Distan	nce Education	□ Other(specify)						
5. Partnerships with other parties (if any) and	I the nature of each:							
Not Applicable.								
6. Professions/jobs for which students are qua	lified:							
• Teacher								
<ul><li>Lecturer</li><li>Researcher</li></ul>								
<ul> <li>Laboratory Technician/Manager.</li> </ul>								
• Industry Technician.								
•								
7. Relevant occupational/ Professional sectors	3:							
• Education: e.g. High school teachers								
<ul><li>Higher education</li><li>Research and development</li></ul>								
<ul> <li>Environmental and industrial sector</li> </ul>	8							
8. Major Tracks/Pathways (if any):								
	Credit hours	Professions/jobs						
Major track/pathway	(For each track)	(For each track)						
1. NA								
9. Total credit hours: 32								





# **B.** Mission, Goals, and Program Learning Outcomes

#### **1. Program Mission:**

Excellence in higher education and scientific research in the field of physics, with a focus on graduating highly qualified students in physics and related applications who contribute to the community service and sustainable development.

#### 2. Program Goals:

- 1. Contribute to the realization of the Kingdom's Vision 2030 and its national development plans.
- 2. Provide a motivating academic and research environment that supports students to acquire advanced skills and knowledge of the latest developments in physics.
- 3. Develop students' leadership skills in scientific research in physics, independence and teamwork to prepare them for the job market and achieve sustainable development.
- 4. Competence in conducting and presenting research projects to the academic and research community, with the aim of contributing to community development.
- 5. Diversify and develop funding sources and their sustainability.

## 3. Program Learning Outcomes:\*

**Knowledge and Understanding:** 

K1	Define basic and advanced scientific knowledge, facts, and concepts in physics and related fields.
K2	Outline an advanced level of knowledge and familiarity with current concepts and theories in his/her field of physics.
K3	Describe recent practical applications of physics and their contribution to innovative developments.
K4	Name current theories and scientific techniques in physics and methods of verification.
K	
Skills:	
<b>S</b> 1	Apply various principles and theories to address and solve related problems.

S2 Apply various physics concepts and advanced theories to solve problems and make predictions in his/her field of physics





<b>S</b> 3	Apply advanced mathematical and practical skills in physics to analyze, evaluate, and interpret scientific data.
S4	Use digital technologies with optimal efficiency
S5	Show both independent and teamwork skills and demonstrate leadership qualities.
Values	, Autonomy, and Responsibility:
V1	Behave professionally and adhere to ethical scientific values
V2	Engage in volunteer work and participate in national strategies to solve community problems.
V3	Carry out assigned tasks, take initiative, and assume full responsibility
V4	Be capable of constructive criticism, and self-assessment, and demonstrate personal qualities and abilities.
V	

\* \* Add a table for each track (if any)





# **C. Curriculum:**

# **1. Curriculum Structure:**

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Course	Required	7	20	62.50%
	Elective	9	6	18.75%
Graduation Project (if any)				
Thesis (if any)		1	б	18.75%
Field Experience(if any)				
Others ()				
Total		17	32	100%

\* Add a separated table for each track (if any).





Level	Course Code	Course Title	Require d or Elective	Pre- Requisite Courses	Cr ed it H ou rs	<b>Type of</b> <b>requirements</b> (Institution, College, or Program)
	6001Phys	Advanced classical mechanics	Required		3	Program
Level 1	6002Phys.	Electromagnetic theory	Required		3	Program
	6003Phys	Quantum mechanics I	Required		3	Program
	6004Phys	Advanced mathematical physics	Required		3	Program
	6005Phys	Statistical mechanics	Required		3	Program
Level 2	6101Phys	Solid state physics	Elective	6003Phys	3	Program
	6201Phys	Nuclear physics	Elective	6003Phys	3	Program
	6301Phys	Atomic structure and spectroscopy	Elective	6003Phys	3	Program
	6401Phys	Quantum optics	Elective	6002Phys	3	Program
	6006Phys	Advanced physics laboratory	Required		3	Program
	6007Phys	Seminar	Required		2	Program
	6008Phys	Quantum mechanics II	Elective	6003Phys	3	Program
Level	6102Phys	Special topics in solid state physics	Elective	6101Phys	3	Program
3	6202Phys	Special topics in nuclear physics	Elective	6201Phys	3	Program
	6302Phys	Special topics in atomic physics	Elective	6301Phys	3	Program
	6402Phys	Special topics in quantum optics	Elective	6401Phys	3	Program
Level 4	6009Phys.	Thesis	Required		6	Program

## 2. Program Courses:

\* Include additional levels (for three semesters option or if needed). \*\* Add a table for the courses of each track (if any)

The elective courses for an MSc in Physics are selected based on the chosen track of the student, which could be solid state physics, nuclear physics, quantum optics, optics and lasers, or other related fields.





# **3. Course Specifications:**

Insert hyperlink for all course specifications using NCAAA template (T-104)

- **1.** Advanced Classical Mechanics
- 2. Advanced Mathematical Physics
- 3. Statistical Mechanics
- **4.** Electromagnetic theory
- 5. Quantum mechanics I
- 6. Solid state physics
- 7. Nuclear Physics
- 8. Atomic Structure and Spectroscopy
- 9. Quantum optics
- 10. Quantum Mechanics II
- 11. Advanced physics lab
- 12. Special Topics in Solid state physics
- 13. Special Topics in Nuclear physics
- 14. Special Topics in Quantum Optics
- **15.** Special Topics in atomic physics
- 16. Seminar
- **17.** Thesis

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## 4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses, according to the following desired levels of performance

Course	Program Learning Outcomes												
code & No.			nowledge and nderstanding		S		Skills					ues, Aut l Respon	• · · ·
	K1	K2	K3	K4	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S</b> 5	<b>V1</b>	<b>V2</b>	<b>V3</b>	V4
6001Phys	I	Ι	Í		Р	Р	Р			Μ	Μ	Μ	
6002Phys.	Ι	Ι	Ι		Р		Р				Μ	Μ	
6003Phys	Ι	Ι					Р			Μ		Μ	
6004Phys	Ι	Ι	Ι		Р	Р	Р			Μ		Μ	
6005Phys	Ι	Ι			Р	Р					Μ	Μ	
6101Phys	Ι	Ι			Р	Р	Р			Μ	Μ	Μ	
6201Phys	Ι	Ι			Р	Р				Μ	Μ		
6301Phys	Ι	Ι			Р	Р				Μ	Μ		
6401Phys	Ι	Ι			Р					Μ			
6006Phys	Ι	Ι			Р	Р		р	р	Μ	Μ	Μ	Μ
6007Phys	Ι		Ι		Р	Р		р	р	Μ	Μ	Μ	Μ
6008Phys	Ι	Ι	Ι		Р	Р	Р			Μ	Μ	Μ	
6102Phys	Ι	Ι		Ι	Р	Р	Р			Μ	Μ	Μ	
6202Phys	Ι	Ι	Ι	Ι	Р	Р				Μ		Μ	
6302Phys	Ι		Ι			Р	Р					Μ	
6402Phys	Ι	Ι		Ι	Р					Μ			
6009Phys.	Ι	Ι	Ι		Р	Р	Р	р	р	Μ	Μ	Μ	Μ

\* Add a separated table for each track (if any).

# 5. Teaching and learning strategies applied to achieve program learning

#### outcomes:

Describe teaching and learning strategies, to achieve the program learning outcomes in all areas.

- **1.** Teaching and learning strategies:
  - Classroom lectures
  - E-learning-virtual classrooms
  - Practical study in laboratories
  - Scientific discussion and brainstorming in a group
  - Scientific forums.
- **2.** Learning experience:

Learning experience refers to any interaction, course, program, or other experience in which learning takes place. New technologies have dramatically multiplied and diversified the ways in which students can learn from and interact with educators, in addition to the level of independence they may have when learning.

- Students can learn independently.
- Students can learn from video conversations with teachers.





- Studentscan use online course-management systems to organize and exchange learning materials.
- Students can use software programs and applications to learn on their own time, at their own pace, and without instruction or supervision from teachers.
- Students can conduct online research to learn more about concepts taught in a class or use tablets to record scientific observations.
- **3.** learning activities:
  - curricular activities
    - classroom lectures, active learning, and a group project.
  - extra-curricular activities

Workshops, training courses, lectures, campaigns, and celebrations regarding national and international occasions, sports clubs and societies, volunteering, and part-time work.

#### 6. Assessment Methods for program learning outcomes:

Describe assessment methods (Direct and Indirect) that can be used to measure the achievement of program learning outcomes in all areas.

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least once in the program's cycle).

Knowledge and Understanding:		•	Written exams (midterm exam and final exam) Laboratory performance and reports Homework assignments
Skills	Cognitive Interpersonal & Responsibility	• • • • • • •	Periodic examines Laboratory performance and reports Homework assignments Research assignments. Research assignments Homework assignments
Values, Autonomy, and Responsibility:		•	Using blackboard Oral discussion



# **D.** Thesis and Its Requirements (if any):

## **1. Registration of the thesis:**

(Requirements/conditions and procedures for registration of the thesis as well as controls, responsibilities and procedures of scientific guidance)

- Degree requirements
  - Academic Integrity, All University's members, including students, are expected to follow the six core values of integrity: honesty, trust, fairness, respect, responsibility, and courage.
  - Courses, student must pass 8 required courses with 20 credit hours and 8 elective courses with 6 credit hours.
  - Master's Thesis, Student must complete a thesis based on original research work. Thesis must be approved by the designated supervision committee.
  - The thesis consists of five main parts;
    - Introduction
    - Experimental/ mathematical techniques
    - Results and Discussion
    - **o** References
    - Summary

#### 2. Scientific Supervision:

(The regulations of the selection of the scientific supervisor and his/her responsibilities, as well as the procedures/ mechanisms of the scientific supervision and follow-up)

The postgraduate committee is commissioned as an academic counselling, guiding, and advising the students throughout their research study Period The main supervisor will be a member of the Physics Department, Faculty of Science, King Khalid University, and a co-supervisor/s from on-campus or from another external similar department.

#### **3.Thesis Defense/Examination:**

(The regulations for selection of the defence/examination committee and the requirements to proceed for thesis defence, the procedures for defence and approval of the thesis, and criteria for evaluation of the thesis)

An acceptable thesis on a certain research topic must be submitted to the Physics department in the its final form. Acceptance of the thesis requires approval by a referees' committee that has been appointed/assigned by the Physics departmental board

# H. Student Admission and Support:

#### **1. Student Admission Requirements:**

#### **Application deadlines:**

- The program deadlines range from (start date) to (end date).
- After the application deadline, any application form will not be considered for evaluation.
- No changes can be made to the entrance requirements after submission.

#### Transcript deadline:

• Deadline for uploading scans of official transcripts through the applicant portal in support of a submitted applicationgn.





• Information for accessing the applicant's portal will be provided after submitting an online application for admission.

#### **Referee deadline**:

• Deadline for the referees identified in the application for admission to submit references.

#### 2. Guidance and Orientation Programs for New Students:

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

#### 2.1 Orientation for New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

One of the most important goals of King Khalid University is to offer an effective instruction to their M.Sc. students. The university strives to recruit the best faculty and teaching assistants and to support them in their teaching and research carriers. For that purpose, the university provides an overview of some basic information on instructional strategies. To situate this information within the general context of effective teaching strategies, and to assure sustainable instructional strengths development by utilizing feedback processes, given the pressure on instructors to improve and maintain their quality performance. Certain characteristics are consistently associated with good quality university teaching as viewed by students, other teachers, and program's administrators. These instructors are:

- Start class promptly and get right down to well-organized class topics. And was well organized.
- Teach at an appropriately fast pace but stop regularly to check student comprehension and engagement.
- Use a variety of instructional strategies rather than lecture alone.
- Focus on the topic/s and their instructional objectives without getting sidetracked.
- Provide clear explanations.
- Use acceptable humor occasionally and for certain limits.
- Practice excellent classroom management techniques, holding the attention and respect of the group.
- Interact with students by providing immediate answers to their questions, doubts, and comments with corrective feedback is provided when needed.
- Praise and appreciate student's answers and use probing questions to extend the answers.
- Provide a warm classroom environment by encouraging students to speak freely and express personal humor and views.
- Utilize nonverbal behavior, such as gestures, walking around, and eye contact to reinforce student comments.

In this context, the unit of Academic Development and Quality at the College of Science organizes workshops and training programs for new teaching staff. Since teachers will naturally tend to exhibit different styles, the training programs focus on cultivation of certain teacher's styles so that they can use approaches appropriate to the instructional situations and the learners they encounter. There are five major teaching styles the unit should cover,

- **Expert**. Concerned with disseminating information from an expert status; challenges students to enhance their competence.
- **Formal Authority**. Concerned with the acceptable methods to carry out things and providing students with the structure they need to learn.
- **Personal Model**. Believes in teaching by personal example; oversees and guides students to emulate.





• **Facilitator**. Emphasizes the personal nature of teacher-student interactions; guides students toward developing their capacity for independent action.

**Delegator**. Concerned with developing students' capacity to function autonomously; encourages independent projects.

#### **3. Student Counseling Services:**

(Academic, professional, psychological and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level)

Private and confidential counselling is offered for a variety of concerns, including personal issues, academic difficulties, and career uncertainty.

- **Personal**—The Student Counseling Services provides short-term and goal orientated therapy to help address those mental health concerns. It helps students to identify specific goals to work on and a plan to develop strategies to overcome challenges and build insight into how to manage difficulties.
- Academic Academic counselling offers the students the opportunity to meet with a counselor who is specialized in helping students to improve academic performance and provide them with the assistance they need by discussing specific academic concerns and offering suggestions to improve academic performance.

**Career** – Career counselling offers students the opportunity to identify possible career paths that fit their interests and personality. The counselor will help students by facilitating career or interest assessments, including the Strong Interest Inventory (SII) offering resources and guidance to obtain educational and occupational information relevant to their skills, interests, personality, and values. Providing support with the decision-making process. Students who are looking for resume advice or help finding a job or internship in their field should contact the career services office within their college.

#### 4. Special Support:

(Low achievers, disabled, , and talented students).

The targets of the special support are the talented, disadvantaged low-income students and students with disabilities in the KSA who successfully complete a B.Sc. program. KKU University, offers an extensive range of support services to help students fulfil their potential and make the most of their time devoted to studying. The student special support team guide the student in the right direction at every turn. Also, it offers online tutors, and qualified Student Advisors to assist students with all kinds of enquiries and to offer guidance and support as they work toward their study goals. In addition, KKU employs well qualified specialists to assist students who are experiencing study-related challenges and provide them with practical advice in areas such as time management, motivation, stress-management, and self-efficacy, as well as information on proven study techniques. Thus, the Student Support Services project must provide the following services:

- Academic tutoring, directly or through other services provided by the institution.
- Advice and assistance in course selection.
- Assistance in completing financial aid applications.





# **E. Faculty and Administrative Staff:**

# **1. Needed Teaching and Administrative Staff:**

	Sp	ecialty	Special Requiremen	Requi	ired Nur	nbers
Academic Rank	General	Specific	ts / Skills (if any)	М	F	Т
		Condensed Matter Physics	Required (5)	4	1	5
Professor	Dhusias	Atomic Physics	Required (2)	1	1	2
PTOIESSO	Physics	Photonics and Optics	Required (2)	1	1	2
		Nuclear Physics	Required (2)	1	1	2
		Condensed Matter Physics	Required (5)	4	1	5
Associate Professor	Physics	Atomic Physics	Required (2)	1	1	2
Associate Professor		Photonics and Optics	Required (2)	1	1	2
		Nuclear Physics	Required (2)	1	1	2
Assistant Professor	Physics	All fields of physics	Required (12)	6	6	12
Lecturer	Physics	Physics				
Teaching Assistant		Physics				
Technicians and Laboratory Assistant		Engineering		7	5	12
Administrative and Supportive Staff		Management		3	3	6
Others (specify)	None	None		0	0	0



# **F. Learning Resources, Facilities, and Equipment:**

## **1. Learning Resources:**

Learning resources required by the Program (textbooks, references, and e-learning resources and web-based resources, etc.)

- Up to date list of textbooks and periodical scientific journals.
- Electronic library of textbooks and scientific journals.
- Software library of professional scientific codes and auxiliary programs for scientific purposes.

# https://sdl.edu.sa/SDLPortal/ar/Publishers.aspx

## 2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

- Full accommodated department library.
- Full accommodated department classrooms.
- Well-designed research laboratories equipped with advanced devises and equipment.

## 3. Procedures to ensure a healthy and safe learning environment:

(According to the nature of the program)

The program assigns planning and curriculum committee for:

- update learning resources, facilities, and equipment,
- follow-up the availability of these resources to students.
- Check the working environment and safety procedures.

# **G. Program Quality Assurance:**

1. Program Quality Assurance System: Provide a link to quality assurance manual. https://drive.google.com/file/d/1KYNQKEyhOCo\_Z8sv-DbuB2-TRSr6VI4E/view?usp=drive\_link

# https://drive.google.com/file/d/1hDi0lNhPTN9yBYidqcoCf98RTDsOknkN/view? usp=drive\_link

Quality assurance is a some of roles that are necessary to ensure good quality program planning and delivery including provision of related services, and to all teaching and other staff involved in those processes, .To satisfy this requirement:





- Quality assurance processes should deal with all aspects of program planning and delivery including services and resources provided by other parts of the institution.
- Quality evaluations should provide an overview of quality issues for the total program as well as components within it (including individual courses and program offerings in sections for male and femalestudents)
- Quality evaluations should consider inputs, processes, and outcomes, with particular attention given to learning outcomes for students.
- Quality assurance processes should include evaluations of performance in relation to both continuing routine activities and to strategic objectives.
- Quality assurance processes should ensure both that required standards are met, and that there is continuing improvement in performance.

# 2. Program Quality Monitoring Procedures:

The quality of the program and its components must be monitored regularly through appropriate evaluation mechanisms and amended as required, with more extensive quality reviews conducted periodically. The following should be applied to satisfy this requirement:

- Courses and programs should be evaluated and reported annually. The reports should include information in the effectiveness of planned strategies in achieving the intended learning outcomes. Any intended changes and the reasons for them should be retained in course and program portfolios.
- Quality indicators should be established for all courses and the program to measure the learning outcomes.
- Reports on the program should be reviewed annually by senior administrators and quality committees.
- Machinery procedure and special committee should be established for course completion and program progression analysis. This committee provide the departments with summaries of its analysis at least once each year.
- Quality indicators for the program should be compared with other programs in the institution and in relation to other appropriate external benchmarks.
- If problems are encountered through program evaluations, an appropriate and timely action should be taken to make improvements.
- In addition to annual evaluations a comprehensive reassessment of the program should be conducted at least once every five years. Procedures for conducting these reassessments should be consistent with policies and procedures established for the institution.
- Program reviews should involve experienced people from relevant industries and professions, and experienced teaching staff from other institutions.
- In program reviews, opinions on the program should be obtained from students and graduates through surveys and interviews, discussions with the teaching staff, and other stakeholders such as employers.
- If the program is offered in sections for male and female students' evaluations should provide data for each section as well as for the program, and any deficiencies in one or the other section dealt with





# **3. Procedures to Monitor Quality of Courses Taught by other Departments:** NA

#### 4. Procedures Used to Ensure the Consistency within the main campus: (including

male and female sections).

The program coordinators and teaching staff are fully cooperative in planning, decision making in the program and course reporting. The resources and facilities are equally distributed to meet the requirements of the program delivery, research, and associated services on each campus. The same quality evaluations are considered. Thus,

- Resources, facilities and staffing provisions are comparable in both sections (male and femal).
- The same courses are considered on both sections.
- The teaching staff in both sections cooperate in planning and reporting processes and decision making and communicate regularly about the program through appropriate processes that are consistent with by laws and regulations of the Higher Council of Education.
- The staff in both sections are adequately represented in the membership of relevant committees and councils.
- Planning processes, program and course specifications have the same standards in both sections while account of differing needs.
- Planning and implementation processes ensure the program and courses reporting, and key
  performance indicators are the same in both sections.

## **5.** Assessment Plan for Program Learning Outcomes (PLOs):

Fair, effective, and appropriate assessment processes must be developed to measures independently each learning outcome. To satisfy this requirement:

- Student assessment mechanisms should be appropriate for the different forms of learning thoughts
- Assessment practices should be clearly communicated to the students at the beginning of courses.
- Appropriate, valid, and reliable mechanisms should be used for verifying the standards of student achievement in relation to relevant internal and external benchmarks. (Arrangements for verifying standards may include measures such as checking the results of random samples at otherinstitutions within Saudi Arabia or international ones.)
- Grading of student's tests, assignments and projects should be assisted using matricesor other means to ensure that the planned range of domains of student learning outcomes areaddressed.
- Trainingprograms should be developed for teaching staff in the theoryand practice of student assessment.
- Action policies and procedures should be prepared to deal with situations wherestandards of student achievement are inadequate or inconsistently assessed.





- Effective procedures should be used to ensure the submitted assessments is done by the targeted students.
- Feedback to students on their performance and results of assessments during each semestershould be given promptlyand accompanied by mechanisms for assistance if needed.
- Assessments of student work should be conducted fairly and objectively.
- Criteria and processes for academic appeals should be made known to students and administered equitably.

#### **6. Program Evaluation Matrix:**

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching and Assessment	Students, Quality Committee,	Reports, surveys and Interviews	End of each semester
Learning resources	Lecturers, students	Reports and surveys	End of the academic year
Program Leaderships	Staff members, Quality Committee,	Reports, surveys and Interviews	End of the academic year
Students' educational services	Students and Instructors	Reports and surveys	End of the academic year
Students' professional skills	Stakeholders, graduates and employers	Surveys and Interviews	End of the academic year

Evaluation Areas/Aspects (e.g., leadership, effectiveness of teaching & assessment, learning resources, services, partnerships, etc.)

**Evaluation Sources** (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others.

Evaluation Methods (e.g., Surveys, interviews, visits, etc.)

Evaluation Time (e.g., beginning of semesters, end of the academic year, etc.)





# 7. Program KPIs:\*

The period to achieve the target (\_\_\_\_) year(s).

No.	KPIs Code	KPIs	Targete d Level	Measurement Methods	Measurement Time
1.	KPI-PG-1	Students' Evaluation of quality of learning experience in the program	70%	<ol> <li>Program evaluation         Questionnaire         2- student's expérience             questionnaire         </li> </ol>	At the end of academic year (Annually)
2.	KPI-PG-2	Students' evaluation of the quality of the courses	70%	Questionnaires	At the end of academic year (Annually)
3.	KPI-PG-3	Students' evaluation of the quality of scientific supervision	70%	Statistical data analysis	At the end of academic year (Annually)
4.	KPI-PG-4	Average time for students' graduation	70%	Statistical data analysis	At the beginning of academic year (Annually)
5.	KPI-PG-5	Rate of students dropping out of the program	70%	Statistical data analysis	At the end of academic year (Annually)
6.	KPI-PG-6	Employers' evaluation of the program graduates' competency	70%	Statistical data analysis	At the beginning of academic year (Annually
7.	KPI-PG-7	Students' satisfaction with the provided services	70%	Alumni Questionnaires Program evaluation Questionnaires	At the end of academic year (Annually)
8.	KPI-PG-8	Ratio of students to faculty members	70%	Statistical data analysis	At the beginning of academic year (Annually)
9.	KPI-PG-9	Percentage of publications of faculty members	70%	Statistical data analysis	At the end of academic year (Annually)
10.	KPI-PG-10	Rate of published research per faculty member	70%	Statistical data Analysis based on the web platforms	At the end of academic year (Annually)
11.	KPI-PG-11	Citations rate in refereed journals per faculty member	70%	Web surveys	At the end of academic year (Annually





No.	KPIs Code	KPIs	Targete d Level	Measurement Methods	Measurement Time
12.	KPI-PG-12	Percentage of students' publication	70%	Web surveys	At the end of academic year (Annually
13.	KPI-PG-13	Number of patents, innovative products, and awards of excellence	70%	Web surveys	At the end of academic year (Annually
14.	KKU-1	Students' Evaluation of quality of Research Output	70%	Web surveys	At the end of academic year (Annually
15.	KKU-2	Postgraduate Students' Satisfaction Index (CSI)	70%	Web surveys	At the end of academic year (Annually

\*including KPIs required by NCAAA

# H. Specification Approval Data:

Council / Committee	Plans and Curricula Committee & Development and Quality Committee		
Reference No.			
Date	3-2-1445 H		

COUNCIL /COMMITTEE	Physics department Council
<b>REFERENCE NO.</b>	The meeting No. 1 for the academic year 1445, the
DATE	6-2-1445 H

COUNCIL /COMMITTEE	College Council
<b>REFERENCE NO.</b>	The meeting No.5for the academic year 1445.
DATE	25-3-1445

