Program Specification

(Postgraduate)

Program Name:	**Master of Science in Physics**
Program Code (as per the Saudi Standard Classification of Educational Levels and Specializations):	**MSc 053301**
Qualification Level:	**7**
Department:	**Physical Sciences / Physics Division**
College:	**Science**
Institution:	**Jazan University**
Program Specification:	**New** ☒ **updated*** ☐
Last Review Date:	**20/4/2024**

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information:

1. Program's Main Location:		
Physics Department, Main Campus, College of Science, Jazan University		
2. Branches Offering the Program (if any):		
Non		
3. System of Study:		
√ Coursework & Thesis	☐ Coursework	
4. Mode of Study:		
√ On Campus	☐ Distance Education	☐ Other ……(specify)
5. Partnerships with other parties (if any) and the nature of each: Non		
- Partnership Arrangement: - Type of Partnership: - Duration of Partnership:		
6. Professions/jobs for which students are qualified:		
-Education sector (public and private) - Research laboratories and research centers - Academic institutions as researchers and/or faculty members		
7. Relevant occupational/ Professional sectors:		
- Industrial sector - Work as scientists and/or consultants in industrial sectors. - Work as climatologist specialist		
8. Major Tracks/Pathways (if any): Non		

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1.		
2.		
3.		
4.		

9. Total credit hours: (……)

B. Mission, Goals, and Program Learning Outcomes

1. Program Mission:
Innovation and excellence in graduate physics education and research to prepare highly skilled graduates that fulfill the development and community needs.

2. Program Goals:
1. Provide high-quality advanced education in diverse fields of physics combined with training to extend the frontiers of physics and encourage innovation. 2. Implement high-quality research in interdisciplinary areas of physics, and enhance expertise in theoretical, computational and experimental physics. 3. Contribute to the workforce and serving the community.

3. Program Learning Outcomes: *	
Knowledge and Understanding:	
K1	Describe theories, techniques, practices, materials, and terminology relevant to physics topics.
K2	Discuss physical phenomena and their recent developments in various research fields.
Skills:	
S1	Apply theories and creative solutions to solve physical problems.
S2	Build critical thinking skills to provide reasonable justification analysis.
S3	Demonstrate abilities in qualitative and quantitative methods for analyzing and reporting data using computational and IT tools.
S4	Develop sufficient skills to conduct advanced experimental work and high-level graduate research (theoretical and experimental).
Values, Autonomy, and Responsibility:	
V1	Adhere to the ethical principles and safety requirements.
V2	Demonstrate ability of independent lifelong learning.
V3	Show effective individual responsibility and teamwork.

* 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	6	18	54.55%
	Elective	3	9	27.72%
Graduation Project (if any)		-	-	-
Thesis (if any)		1	6	18.18%
Field Experience(if any)		-	-	-
Others (.....)		-	-	-
Total		10	33	100%

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

2. Program Courses:

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	PHYS600	Mathematical Physics	Required	---	3	---
	PHYS601	Classical Mechanics	Required	---	3	---
	PHYS602	Classical Electrodynamics	Required	---	3	---
Level 2	PHYS603	Quantum Mechanics	Required	---	3	---
	PHYS604	Statistical Mechanics	Required	---	3	---
	PHYS6xx	Elective Course 1	Elective	---	3	---
Level 3	PHYS6xx	Elective Course 2	Elective	---	3	---
	PHYS6xx	Elective Course 3	Elective	---	3	---
	PHYS695	Research Seminar	Required	---	3	---
Level 4	PHYS699	Thesis	Required	---	6	---

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

3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (TPG-153)

https://drive.google.com/drive/folders/16JeHE8FUWcgHjLfAJvUD3lMUxooMIs3d?usp=drive_link
https://www.jazanu.edu.sa/en/colleges/sci/physics-department/msc-courses

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses, according to the following desired levels of performance *(I = Introduced P = Practiced M = Mastered).*

Course code & No.		Program Learning Outcomes								
		Knowledge and understanding		Skills				Values, Autonomy, and Responsibility		
		K1	K2	S1	S2	S3	S4	V1	V2	V3
Mathematical Physics	PHYS600	I	I	I		I				I
Classical Mechanics	PHYS601	I	I	I					I	I
Classical Electrodynamics	PHYS602	P		P	P	P				P
Quantum Mechanics	PHYS603	P		P		P				P
Statistical Mechanics	PHYS604	M	M	M					M	M
Computational Physics	PHYS610		M	M	M	M				M
Physics Laboratory	PHYS611	M	M			M	M	M		M
Atomic and Molecular Spectroscopy	PHYS620	M	M	M	M				M	
Quantum Optics	PHYS621	M	M	M					M	
Plasma Physics	PHYS622	M	M	M					M	M
Solid State Physics	PHYS640	M	M	M						M
Materials Science	PHYS641	M	M	M	M	M				M
Magnetism and Superconductivity	PHYS642	M	M	M					M	M
Nuclear Structure and Spectroscopy	PHYS650	M	M	M					M	
Radiation Physics	PHYS651	M	M	M					M	
Quantum Field Theory	PHYS660	M		M						M
Particle Physics	PHYS661	M	M	M		M			M	
Special Topics in Physics	PHYS665	M	M	M	M	M				M
Research Seminar	PHYS695	M	M	M	M	M	M	M	M	
Thesis	PHYS699	M	M	M	M	M	M	M	M	M

* 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.

Code	Program Learning Outcomes	Teaching Strategies
Knowledge and Understanding		
K1	**Describe** theories, techniques, practices, materials, and terminology relevant to physics topics	Lectures, Tutorials, and Interactive Discussions.
K2	**Discuss** physical phenomena and their recent developments in various research fields	Lectures, Tutorials, and Interactive Discussions.
Skills		
S1	**Apply** theories and creative solutions to solve physical problems	Lectures, Problems, and Interactive Discussions
S2	**Build** critical thinking skills to provide reasonable justification analysis.	Lectures, Problems, and Interactive Discussions
S3	**Demonstrate** abilities in qualitative and quantitative methods for analyzing and reporting data using computational and IT tools.	Lectures, Problems, Presentation, Written essay, Interactive Discussions, and Seminars
S4	**Develop** sufficient skills to conduct advanced experimental work and high-level graduate research (theoretical and experimental).	Hands -on practice, Expository Discovery and Interactive Discussions
Values, Autonomy and Responsibility		
V1	**Adhere** to the ethical principles and safety requirements.	Hands -on practice, Expository Discovery and Interactive Discussions
V2	**Demonstrate** ability of independent lifelong learning.	Expository and Discovery, and Interactive Discussions.
V3	**Show** effective individual responsibility and teamwork.	Expository and Discovery, and Interactive Discussions.

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).

Direct measures:

- This type of assessment will rely on normal tests and exams and utilize rubrics that were prepared for both grading and assessment at the program level.
- The Rubrics will provide a suitable mean for faculty members to have a consistent manner of evaluation of all kinds of assessment questions based on their rubrics.
- With rubrics, the evaluation will be done systematically and consistently by any faculty member.
- Rubrics also will help students to understand the expectation of the department to gauge student progress over time, and to provide a basis for faculty discussions concerning possible areas for program improvement.
- Moreover, with Rubrics students will know in prior the judgment procedure of their achievements in all kinds of assessment.

The following are some of the practiced rubrics

Problem solving -Essay questions - Derivation and formulation - Presentation – Communication - Lab reports - Group work in lab and assignments - Evaluation of project work by supervisor and referee

Indirect Measures

- Every semester course evaluation by students (CES) is managed and reported for both course reports as well as Annual Program Report (APR).
- Two other important surveys are conducted every semester for evaluation of student experience (EES) at the middle of the program (3^{th} level) and program evaluation survey (PES) at the end of the program (4^{th} level).
- Faculty members` opinions are also taken through a Faculty Members` satisfaction Survey (annually).
- Another important survey is currently planned known as Exit Survey with which the expected graduate students will be targeted to specifically assess the Program Learning Outcomes and get a solid reflection on the gained knowledge, skills, and competence.
- Students` evaluation of the quality of academic supervision at the end of the program (4^{th} level).
- Moreover, on a periodic basis the department will solicit feedback on graduate skills from Alumni and their employers using either surveys or focus groups. These mechanisms may allow Physics Program to evaluate and improve the target of student outcomes to meet the requirements of the job market.

In all above-mentioned Surveys, Physics Program sets a threshold level of score 3 out of 5 for all responses on these surveys for satisfactory achievements.

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)

The procedures for registration of the thesis

- A graduate student may, after passing at least 50% of the academic courses and a cumulative average of no less than very good in the master's stage, submit the research plan for the scientific thesis topic to the department based on the approval of the scientific advisor.
- Passing the research plan "research seminar course" is a requirement for registering the scientific thesis
- After a recommendation for approval, the department council proposes the name of the thesis supervisor and the assistant supervisor, if any, and this is submitted to the college council for approval.
- The research plan is submitted after its approval to the deanship of graduate studies and scientific research.
- If the student needs to make a fundamental amendment to the approved research plan or to the title or if the amendment exceeds 25%, he/she submits a request for amendment to the department based on the approval of his/her supervisor and submits it to the college council for approval

The procedures of scientific guidance

- Each graduate student shall have a scientific advisor at the beginning of his/her enrollment in the program to guide him in his/her studies and assist him/her in choosing the thesis topic and preparing the research plan.

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 selection of the scientific supervisor

- The scientific thesis is supervised by professors and associate professors, and the subject of the thesis must be in the field of specialization of the supervisor. The assistant professor may supervise scientific theses in accordance with ***Article No. 38*** of the regulations of graduate studies at Jazan University, which states that "the assistant professor supervises scientific theses if he/she has two research papers in his/her field of specialization that are published or accepted for publication in a peer-reviewed scientific journal.
- Supervisors with experience in the field of scientific thesis research from outside the faculty members, whether from inside or outside the university, may supervise or assist in supervising scientific theses based on the recommendation of the department council and the approval of the college council (***Article No. 39***).
- The supervisor, whether alone or jointly with others, has the right to supervise a maximum of seven scientific theses at one time. The permanent committee may make an exception to this, based on the recommendation of the department and college councils, in accordance with controls approved by the university council based on the proposal of the permanent committee (***Article No. 45***). The supervision quota for a faculty member,

whether head or assistant, for each thesis is calculated within the teaching load, according to controls approved by the university council based on the proposal of the permanent committee (***Article No. 46***).

- Upon terminating the University service of the supervisor or her/his inability to continue with the supervision of the dissertation, the Department proposes a substitute supervisor to be concurred by the College Council and approved by the Deanship of Graduate Studies Council.

The procedures/mechanisms of the scientific supervision and follow-up:

- The supervisor evaluates the student's performance at the end of each semester and determines the extent of his/her progress in the scientific thesis, according to the mechanisms approved by the permanent committee (***Article No. 42***).
- If it is proven that the student is not serious in the thesis stage - based on the report of the thesis supervisor- the student will be warned by a letter from the relevant department. If the student is warned twice and does not address the reasons for the warning, his/her registration will be cancelled, based on the recommendation of the department and college councils Committee (***Article No. 44***).
- Upon completing the dissertation by the student, the supervisor submits a report to the Department Chairperson in this respect to continue with the procedures specified by the Council of the Deanship of Graduate Studies.

3.Thesis Defense/Examination:

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

The regulations for selection of the defense/examination committee

- A committee is appointed to discuss the scientific thesis by a decision of the college council, based on the recommendation of the department council (graduate studies regulations ***No. 48***).
- The University Council sets the criteria for selecting members of the master's dissertation discussion committees and the mechanism for conducting these discussions, based on the proposal of the permanent committee council (***Article No. 49***). The Master's examination board should fulfill the following:

1. An odd number of examiners shall be selected, and the supervisor is its reporter.
2. The minimum number of examiners is three provided that the supervisor and the co-supervisor, if any, do not constitute a majority.
3. The board members are subject to the requirements of dissertation supervision.
4. A professor, or at least an associate professor, should be on the examination board.
5. Resolutions are taken upon the approval of at least two thirds of the board members.

The requirements to proceed for thesis defense

- After the student has completed preparing the thesis, the supervisor of the thesis shall submit a report on its completion to the head of the department, attaching a copy of the thesis, in preparation for completing the discussion procedures determined by the college council (***Article No. 47***).

The procedures for defense

- The discussion committee shall prepare a report signed by all its members and submitted to the department head within one week of the date of the discussion (***Article No. 50***).

The criteria for evaluation and approval of the thesis

A report signed by all examiners shall be submitted to the Department Chairperson within one week of the examination with one of the following recommendations:

1. Accepting the thesis and recommending awarding the degree.
2. Accepting the thesis with some amendments, without further discussion. One of the members of the discussion committee shall be authorized to recommend awarding the degree after ensuring that these amendments have been taken into account within a period not exceeding three months from the date of the discussion. The college council may make an exception to this, provided that it does not exceed six months from the date of the discussion Council.
3. Completing the deficiencies in the scientific thesis, and the committee will rediscuss it within the period specified by the college council, based on the recommendation of the relevant department council, provided that it does not exceed one year from the date of the discussion.
4. Not accepting the scientific thesis. Each member of the discussion committee on the scientific thesis has the right to submit any opposing views or reservations he has in a detailed report to the head of the department within a period not exceeding one week from the date of the discussion, and it will be submitted to the dean of the college with the report of the discussion committee.

H. Student Admission and Support:

1. Student Admission Requirements:

The university council determines the number of students admitted each year to graduate studies programs based on the recommendation of the council of the deanship of graduate studies, and the proposal of the departments and colleges concerned in accordance with the ***Articles No. 43*** and ***No. 45*** of graduate studies regulations. The deanship of graduate studies shall be responsible for the applicants' admission and registration in coordination with the deanship of admission and registration.

1.General Instructions

- For admission to graduate studies, the applicant must fulfill the following general requirements: Applications are available through the electronic portal and during the specified period for postgraduate programs. No paper applications or any applications will be received after the end of the application period.
- This application is for Saudis only and depends on the applicant's civil registry number. Non-Saudis must have obtained an official scholarship.
- The applicant must pay the application fee of 575 riyals, which is a non refundable fee, paid through the electronic payment system.

- All admission requirements announced for each program must be met during the application period on the electronic portal, including the general aptitude tests for university students and English language tests.
- The general aptitude test for university students will not be accepted after five years from the date of the test, nor will English language tests be accepted after two years for TOEFL and IELTS, and three years for competencies from the date of the test.
- The applicant uploads all documents in one file in PDF format.
- The applicant can modify his/her application during the application submission period, even after saving the application, through the service (Modify Application for Admission).
- Upon completion of filling out the application, the data and application number are printed or saved.
- The applicant is fully responsible for the accuracy of his/her data and documents entered on the admission portal, and the deanship has the right to cancel his/her application or withdraw his/her acceptance even after he/she has started studying in the case the data is not completed, or the required documents are not uploaded. If the data and documents entered are proven to be incorrect, the university has the right to take the necessary regulatory measures against the applicant.
- Candidates will be contacted to take the tests and be selected for the required programs after completing the data verification procedures and the entered documents.
- Bring the employer's approval after announcing the names of those accepted and the applicant receiving the acceptance notice.
- The applicant must ensure the accuracy of his/her communication data (mobile number - email).
- The student's enrollment in the program will not be considered until he/she is notified of the final acceptance by the deanship.
- The university has the right not to open the program if the required number for the program is not completed
- The allocation in the thesis or research project system is based on the student's average in the first semester, the opinion of the academic advisor, and the department's capacity

2. Requirements:

The following are generally required for admission to graduate studies:

- The applicant must be a Saudi or have an official scholarship for graduate studies if he/she is a non-Saudi.
- The applicant must have a bachelor's degree according to the required average for each major at the undergraduate level and have a graduation document and academic record, and the certificate must be equivalent from the Ministry of Education if the qualification is obtained from outside the Kingdom.
- The applicant must be of good conduct and medically fit.
- The applicant must submit two academic recommendations from professors who have previously taught him/her.
- The employer's approval for the study if he/she is an employee.

3.General Documents

- The documents required to be uploaded to the website:

- A copy of the national ID. Bachelor's degree document.
- Academic record General Aptitude Test score for university students.
- language test score Scientific recommendations.

4.Admission requirements for the Master of Science in Physics program

- The applicant must have a Bachelor's degree in Physics with a general grade of no less than C+ " above average" and a grade of no less than "very good" in the specialization subjects from a recognized educational institution and have a graduation document and an academic record that is equivalent to the Ministry of Education if the qualification is obtained from outside the Kingdom.
- The applicant must have obtained a minimum of (70) points in the General Aptitude Test for University Students. The applicant must have obtained (4) in the International English Language Testing System (IELTS) test or its equivalent.
- The applicant must pass the comparison criteria conducted by the department.
- The applicant must pass the supplementary subjects that the department deems necessary to join the program, provided that the added and non-financially affected are treated in accordance with the decisions of the university council.
- Payment of the program application fee of five hundred and seventy-five riyals (575 riyals) including the value of the value-added tax and is non-refundable Payment of any other service fees. Any other conditions at the time by the permanent committee for graduate Studies

https://www.jazanu.edu.sa/en/administration/deanships/deanship-graduate-studies
https://www.jazanu.edu.sa/sites/default/files/2022-06/jaz-1444-01-ds-01_002.pdf
https://www.jazanu.edu.sa/sites/default/files/2022-06/jaz-1444-01-ds-01_01.pdf

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).

The orientation program for students is held every year. The department Head presides over a welcoming session for new students attended by almost all the faculty members and administration staff. The Orientation program is to familiarize new students the learning environment and provide opportunities for teaching staff to introduce themselves and their specialties to new students. Essential information needed to successfully learn at JU as learning environment and spaces, courses coordinators, classroom places, online learning, activities and who should students ask\contact when they have questions or problems. The orientation in held in the university, college then in the department as follow:

- University orientation day.
- New students are welcomed at Faculty and Department level in a social annual meeting.
- College QA Unit Orientation Week.

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)

- Student Academic Counseling Committee is in charge of student counseling.
- Each Faculty is assigned a group of students for counseling.
- Faculty will be available for student counseling at specific office hours on daily basis.
- Faculty should make a file for each student in his counseling group where student contact information, a copy of the student timetable and a copy of the student`s academic record are kept and updated every semester.
- JU have different clubs to improve social and career of students as:

Science Club:
https://www.jazanu.edu.sa/ar/administration/deanships/deanship-student-affairs/scienceclub

4. Special Support:

(Low achievers, disabled, and talented students).

Low achievers:

- Teachers assign those students more assignments, help them during office hours and give them opportunities as and when needed.

Disable:

- The department, along with the college administrators, tries to create relevant conditions for the study of students and applicants with special needs without reducing the requirements for their study performance and in accordance with the principles of equal treatment.
- During an exam, an applicant with special needs shall be, at his request and based on the evaluation of his special needs, determined a form of the exam and method of taking it, taking regard of his special needs.

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff:

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	4	All Physics specialties	-	2	2	4
Associate Professor	6	All Physics specialties	-	3	3	6
Assistant Professor	8	All Physics specialties	-	4	4	8
Technicians and Laboratory Assistant	4	-	-	2	2	4
Administrative and Supportive Staff	2	-	-	1	1	2

Others (specify)	2	Secretary	-	1	1	2

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.)

The mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

- A list of learning resources is kept in the Program QA Unit.
- The list of learning resources is annually updated by the teaching Faculty and gets approval from Program Board.
- The updated list of learning resources is then raised to the College of Science Deanship and hence to the Deanship for Library Affairs.
- Every year, the Head of physics department collects from faculty their need concerning the research databases and he sends them to the library Deanship.
- The faculty and students have free access to the digital library where they can find various materials including textbooks, references, thesis, and scientific journals.

2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

Every year the physics department collects the equipment needed in all lab and sends the request to the Science College that in its turn send it to the JU equipment purchase administration.

- **Library**

  The College library contains books in sufficient numbers for all students in the college including physics students. Also, the central library in the university student may use beside the digital library of Saudi Arabia all students use their ID to enter its site https://www.jazanu.edu.sa/en/sdluserguid

- **Textbooks and Course Materials**

  Wherever necessary, a scheduled course has a designated textbook, which has been adopted by the department. As all students registered in a course will have a copy of this book, an instructor may freely refer to the textbook as and when necessary. An instructor can propose a new textbook, either as a replacement for an existing one or as a new addition to a course, by following the University`s procedure, which requires the approval of the department, the college, and the University.

- **Teaching Laboratories**

  The laboratories are well equipped with standard educational equipment. Multiple teaching laboratories serve students in all fields of Physics, including introductory courses and courses in Optics, Properties and Matter, Modern Physics, Atomic Physics, Solid State Physics and Nuclear Physics.

- **Other Facilities**
  Physics Department offers to their students male and female a well-equipped infrastructure (classrooms, laboratories, library facilities, IT and audio-visual teaching materials, safety, first aids and consumables. There are several study open places in all floors, computer rooms, Sports activities Room, Cafeteria, theater, and all other necessary premises.

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

(According to the nature of the program)

The college of science is committed to providing a safe and healthy campus environment. Among its highest priorities are the health and safety of all faculty, staff, and students, the visiting public, and members of the neighboring community to implement environmental and occupational health and safety programs and to ensure compliance with all relevant governmental laws and regulations. A variety of health care services to students, faculty, staff, and community members.

- The Campus Health Clinic is located inside the main/girls' campus.
- Smoking is prohibited in any University facility and on any University grounds.
- First aids boxes are in almost all rooms.
- The purpose of the Chemical Safety Program is to ensure the proper handling of hazardous chemicals, as well as hazardous waste management and disposal. Exposure to hazardous chemicals is kept at a minimum by using the appropriate Personal Protective Equipment and by performing experiments in a certified chemical fume hood.
- Fire prevention guidelines are listed in all places
- Emergency Exit doors in all parts with sufficient Signboards in all places.

Safety and safety instructions are announced at the laboratories and the places where students gather.

G. Program Quality Assurance:

1. Program Quality Assurance System:

Provide a link to quality assurance manual.

https://drive.google.com/drive/folders/1UqguKdhMGAj_KquAroamYXymVtVx0R_q

2. Program Quality Monitoring Procedures:

Planning; the process of setting goals, developing strategies, outlining the implementation arrangements and allocating resources to achieve those goals. It is important to note that planning involves looking at several different processes**:**

- Identifying the vision, goals, or objectives to be achieved
- Formulating the strategies needed to achieve the vision and goals
- Determining and allocating the resources (financial and other) required to achieve the vision and goals
- Outlining implementation arrangements, which include the arrangements for monitoring and evaluating progress towards achieving the vision and goals

Review processes to support academic quality assurance should, ideally, be in place at different levels and cover specific issues:

- Quality is delivered through performance and improvement. This is the basic assumption of the system of quality assurance of teaching and learning.
- Performance is achieved by complying with the performance criteria derived from our mission and Policy.

Improvement is achieved by continuously working towards improving the quality of teaching and learning throughout the department, while the performance criteria function as the touchstone of good quality. Improvements are monitored during the planning and control cycle.

4. Procedures Used to Ensure the Consistency between within the main campus:

(including male and female sections).

In sections for male and female students the leaders of both sections participate in institutional governance and are fully involved in strategic planning, decision making, and senior administration with effective and continuing communication between sections. Strategic planning ensures equitable distribution of resources and facilities to meet the requirements of program delivery, research, and associated services in each section and quality evaluations consider performance at each section as well as for the institution.

- Male and female sections are represented in the membership of relevant committees and councils and participate fully in decision making through processes that are consistent with bylaws and regulations of the Higher Council of Education.
- Effective communication between members from each section on these committees and councils was established, and individuals in the different sections carrying out related activities were fully involved in planning, evaluations and decision making.
- Planning processes and mechanisms for performance evaluation led to comparable standards in each section while taking into account of differing needs.
- Quality indicators, evaluations and reports show results for both sections indicating similarities and differences as well as overall performance.

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

- Courses and programs are evaluated and reported on annually and reports include information about the effectiveness of planned strategies and the extent to which intended learning outcomes are being achieved.
- When changes are made as a result of evaluations details of those changes and the reasons for them will be retained in the course and program portfolios.
- Quality indicators that include learning outcome measures were established for all courses and programs.
- Records of student completion rates are kept for all courses and for programs as a whole and included among quality indicators.
- Reports on programs are reviewed annually by the program coordinator and quality committees.

- JU Edugate System is established for central recording and analysis of course completion and program progression and completion rates and student course and program evaluations, with summaries and comparative data distributed automatically to departments, colleges, senior administrators, and relevant committees at least once each year.
- Appropriate actions are taken to solve evaluations problems (if any) to make improvements, either within the program or through institutional action as appropriate.
- In addition to annual evaluations a comprehensive reassessment of the program will be conducted at least once every five years. Policies and procedures for conducting these reassessments are published within the program.
- Program reviews should involve experienced people from relevant industries and professions, and experienced faculty from other institutions.
- In program reviews opinions about the quality of the program including the extent to which intended learning outcomes are achieved will be sought from students and graduates through surveys and interviews, discussions with faculty, and other stakeholders such as employers.

6. Program Evaluation Matrix:

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching & assessment	Students, Faculty	Direct assessment of CLOs, Surveys	End of semester
Leadership	Graduates, Alumni, Employers	Surveys	End of academic year
Partnership	Employer	Survey	End of academic year
Learning resources	Employers	Survey, visits, interviews	End of 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 (2) year(s).

No.	KPIs Code	KPIs	Measurement Methods	Measurement Time
1	KPI-PG-1	Students' Evaluation of Quality of learning experience in the Program	Average of overall rating of final year students for the quality of learning experience in the program.	End of academic year
2	KPI-PG-2	Students' evaluation of the quality of the courses	Average students' overall rating of the quality of courses in an annual survey.	End of every semester
3	KPI-PG-3	Students' evaluation of the quality of academic supervision	Average students' overall rating of the quality of scientific supervision in an annual survey.	End of academic year
4	KPI-PG-4	Average time for students' graduation	Average time (in semesters) spent by students to graduate from the program.	End of academic year
5	KPI-PG-5	Rate of students dropping out of the program	Percentage of students who did not complete the program to the total number of students in the same cohort.	End of academic year
6	KPI-PG-6	Employers' evaluation of the program graduates' competency	Average of the overall rating of employers for the competency of the program graduates in an annual survey.	End of academic year
7	KPI-PG-7	Students' satisfaction with services provided	Average of students' satisfaction rate with the various services provided by the program (food, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey.	End of academic year
8	KPI-PG-8	Ratio of students to faculty members	The ratio of the total number of students to the total number of full-time and full-time equivalent faculty members participating in the program.	End of academic year
9	KPI-PG-9	Percentage of publications of faculty members	Percentage of faculty members participating in the program with at least one research publication during the year to total faculty members in the program	End of academic year
10	KPI-PG-10	Rate of published research per faculty member	The average number of refereed and/or published research per each faculty member participating in the program during the year. (Total number of refereed and/or published research to the total number of faculty members during the year)	End of academic year

No.	KPIs Code	KPIs	Measurement Methods	Measurement Time
11	KPI-PG-11	Citations rate in refereed journals per faculty members	The average number of citations in refereed journals from published research (total number of citations in refereed journals from published research for faculty members to the total published research).	End of academic year
12	KPI-PG-12	Percentage of students' publication	Percentage of students who: a. published their research in refereed journals. b. presented papers at conferences. to the total number of students in the program during the year	End of academic year
13	KPI-PG-13	Number of patents, innovative products, and awards of excellence	Number of: a. Patents and innovative products b. National and international excellence awards obtained annually by the students and staff of the program.	End of academic year

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	Department Council
Reference No.	Psci2415
Date	1/10/2024