Master of Science in Physics

Program Specification

(Postgraduate Programs)

Program Name:	**Master of Science in Physics - MSc**
Program Code (as per the Saudi Standard Classification of Educational Levels and Specializations):	05330101
Qualification Level:	level 7
Department:	Physics
College:	College of Science Al Zulfi
Institution:	Majmaah University
Program Specification:	New ☐ updated* ☒
Last Review Date:	2025

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information:

1. Program's Main Location:

Department of Physics, College of Science, Majmaah University, Al Zulfi Campus.

2. Branches Offering the Program (if any):

Na

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:

- Partnership Arrangement: na
- Type of Partnership: na
- Duration of Partnership: na

6. Professions/jobs for which students are qualified:

1. *Education Sector*
   a. *Physics Teacher in Public and private sectors of education*
   b. *Research associate/assistance in university*
      i. *King Abdul Aziz City of Science and technology*
2. *Researcher and application Manager*
   a. *Saudi Aramco*
   b. *Defense Organization*
3. *Financial Institution*
   a. **E-Banking sector**
4. *Energy related projects*
   i. *Solar energy power plants*
   ii. **Solar cells production Plants**
   iii. **Semiconductor Industries**
   iv. **Atomic energy**
5. **Automobile Industries**
6. **Telecommunication industries**
7. **Defense and security related**
   i. **Police Crime investigation (forensic)**
   ii. **Armed forces (Army, Navy and Airforce)**
   iii. **Nuclear safety**
8. **Medical related Jobs**
   i. **Diagnostic**
      1. **X-Ray, Ultrasound, CT Scan, MRI Scan**
      2. **Nuclear medicine and treatment**

7. Relevant occupational/ Professional sectors:

8. Major Tracks/Pathways (if any):

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
1. Material Science and Applications	18	***Education Sector: Physics Teacher in Public and private sectors of education*** ***Researcher and application Manager-Saudi Aramco, Defense Organization*** ***Financial Institution-****E-Banking sector* ***Energy related projects: Solar energy power plants,*** *Solar cells production Plants, Semiconductor Industries* Automobile Industries

2. Radiation and Environmental Protection	18	***Education Sector: Physics Teacher in Public and private sectors of education*** ***Researcher and application*** ***Manager-Saudi Aramco,*** ***Defense Organization*** Telecommunication industries Defense and security related: Police Crime investigation (forensic), Armed forces (Army, Navy and Airforce), Nuclear safety Medical related Jobs: Diagnostic-X-Ray, Ultra sound, CT Scan, MRI Scan, Nuclear medicine and treatment
3.		
...		

9. Exit Points/Awarded Degree (if any):

Exit points/Awarded degree	Credit hours
1. Na	Na
2.	
3.	

10. Total credit hours: (31)

The length of time that a learner takes to complete learning activities that lead to achievement of program learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times)

Contact Hours: 495
Other Hours: 60
Total Learning Hours: 555

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	**1**	**2**	**6.45%**
	Elective	**0**	**0**	**0**
College Requirements	Required	**0**	**0**	**0**
	Elective	**0**	**0**	**0**
Program Requirements	Required	**4**	**11**	**35.48%**
	Elective	**4**	**12**	**38.71%**
Thesis	**Required**	**1**	**6**	**19.36%**
Field Experience/ Internship		**-**	**-**	
Others				

Total	**10**	**31**	**100%**

B. Mission, Goals, and Program Learning Outcomes

1. Program Mission:

"Program of Master of Science in physics is promoting an excellence in physics education through building knowledge, creating skills, conducting research and collaborating with society"

a) The mission of the **Institution/College.**

University mission Keywords / College mission Keywords		**University Mission** The mission of Majmaah University is to offer educational programs with high quality as well as funding all types of research projects and social initiatives that contribute in achieving the sustainable development. We also committed to instill the concept of patriotism and educate students about the culture and heritage of the country.				
		Education high quality	**High Research project services**	**Contribute in achieving sustainable development**	**Concept of patriotism**	**Heritage of the country**
al g to s of ntific and or	Educational services	√		√	√	√
	Develop high scientific		√	√		
	Academic qualified	√	√	√		√
	National development	√	√		√	
	Competitors in the labor market				√	√

b) The mission of the **College/ Program.**

College Mission Keywords / Program Mission Keywords	**College Mission** The College provides educational services to its community according to national and international standards of quality, and to develop highly scientific and academic qualified graduates and successful competitors in the labor market to contribute to the national development

		Educational services	Develop high scientific	Academic qualified	National development	Competitors in the labor market
ational ne labor s of ng to	Qualified graduates	√	√	√	√	
	Competitors in the labor market			√	√	√
	Requirements of sustainable			√	√	
	Development Research		√	√	√	√
	Developed community service	√	√		√	√

c) The mission of the **program/ Goals.**

Program Mission

The Physics program prepares qualified national graduates, who are capable of: competing the labor market needs, meeting the requirements of sustainable development, and contributing to research and community service

Program Objectives / Program Mission	Qualified *graduates*	Competitors in the labor market	Requirements of sustainable	Development Research	Developed community service
Physic graduates should have:					
1. Foundations and contemporary knowledge in Physics	√	√			
2. Skills of handling problems on the basis of physics principles	√		√	√	√
3. Foundation for basic scientific research in Physics.	√	√		√	
4. Ability to cooperate as individuals or in groups with the society to solve Physics related problems.	√	√	√	√	√

2. Program Goals:

1. Contemporary knowledge in Physics
2. Skills of handling problems on the basis of physics principles
3. Foundation for advanced scientific research in Physics.
4. Ability to cooperate as individuals or in groups with the society to solve Physics related problems.

3. Program Learning Outcomes:*

Knowledge and Understanding:	
K1	To recognize the physics conceptus at an advanced level in their physics fields of study for solving complex problems.
K2	Fundamental knowledge and interdisciplinary approach in physics.
K3	Mastery of the fundamental knowledge in physics.
K4	Identifying the key factors and applying appropriate principles and assumptions in the formulation of physics problems.
Skills:	
S1	Perform experiments, data acquisition, data analysis and draw results and conclusions.
S2	Apply the theories and concepts of physics relations relating to the global research in local and international contexts.
S3	Ability to use analytical and/or computational methods to solve physics problems.
S4	Explain to a general audience, both other experts in the field and to people outside the field, physics concepts and results.
Values, Autonomy, and Responsibility:	
V1	Work effectively in groups as well as individually
V2	Be aware of professional and ethical responsibilities
V3	Having good time management skills.

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

C. Curriculum:

1. Curriculum Structure:

Program Structure		Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	**Course**	Required	**1**	**2**	**6.45%**
		Elective	**0**	**0**	**0**
		Required	**0**	**0**	**0**

College Requirements		Elective	0	0	0
Program Requirements		Required	4	11	35.48%
		Elective	4	12	38.71%
Graduation Project (if any)					
Thesis (if any)		Required	1	6	19.36%
Field Experience(if any)					
Others (.....)					
Total			**10**	**31**	**100%**

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

2. Program Courses:

Level	Track	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	General	PHYS 611	Computational Physics	Required		3	Department
		PHYS 612	Advanced Quantum Mechanics	Required		3	Department
		PHYS 613	Electrodynamics	Required		3	Department
Level 2	Radiation	PHYS 621	Advanced Nuclear Physics	Required Track-1	PHYS 612 PHYS 613	3	Department
		PHYS 622	Radiation Physics and Dosimetry	Required Track-1	PHYS 612 PHYS 613	3	Department
	Material	PHYS 624	Physics and Technology of Semiconductors	Required Track-2	PHYS 612 PHYS 613	3	Department
		PHYS 625	Characterization of Advanced Materials	Required Track-2	PHYS 612 PHYS 613	3	Department
	General	PHYS 623	Statistical Physics	Required	PHYS 612 PHYS 613	2	Department
Level 3	Radiation	Elective	Elective Course-1	Elective	--	3	Department
		Elective	Elective Course-2	Elective	--	3	Department
	Material	Elective	Elective Course-1	Elective	--	3	Department
		Elective	Elective Course-2	Elective	--	3	Department

Level	Track	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	General	PHYS 630	Research Methodology	Required	--	2	University
Level 4	General	PHYS 640	Dissertation	Required	PHYS 605	6	Department
Department Elective Courses	Radiation	**PHYS 631**	Applications of Ionizing Radiation Physics	Elective	PHYS 621, PHYS 622	3	Department
		PHYS 632	Radiation Detection and Measurements	Elective	PHYS 622	3	Department
		PHYS 633	Detector Instrumentation	Elective	PHYS 621, PHYS 622	3	Department
		PHYS 634	Radiation Protection	Elective	PHYS 622	3	Department
	Material	**PHYS 635**	Heat Transfer in Microelectronic Devices	Elective	PHYS 611	3	Department
		PHYS 636	Solar Cells	Elective	PHYS 624	3	Department
		PHYS 637	Non Crystalline Materials	Elective	PHYS 625	3	Department
		PHYS 638	Nanostructures Engineering	Elective	PHYS 624	3	Department
		PHYS 639	Optical Properties of Nanostructures	Elective	PHYS 624	3	Department

* 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 (T-104)

https://majmaah-my.sharepoint.com/:f:/g/personal/h_hanafy_mu_edu_sa/EtMpB-2TkEhFio8wRt-C9HwBi7sfcsKAa2YM4Ur7GU0UyQ?e=mbuG3m

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).*

Level	Track	Course Code	Program Learning Measurements

			Knowledge				Skills				Values		
			K1	K2	K3	K4	S1	S2	S3	S4	V1	V2	V3
Level 1	General	PHYS 611		I	I		I	I		I		I	I
		PHYS 612		I		I	I		I		I		I
		PHYS 613	I		I			I		I	I	I	
Level 2	Radiation	PHYS 621	P			P	P		P		P		P
		PHYS 622		P	P			P	P			P	P
	Material	PHYS 624	P			P	P		P		P		P
		PHYS 625		P	P			P	P			P	P
	General	PHYS 623		P		P		P		P		P	P
Level 3	Radiation	Elective											
		Elective											
	Material	Elective											
		Elective											
	General	PHYS 630		M	M			M		M		M	M
Level 4	General	PHYS 640			M	M	M	M	M	M	M	M	M
Department Elective Courses	Radiation	PHYS 631		M	M		M		M		M		
		PHYS 632		M		M	M		M			M	
		PHYS 633	M		M		M	M		M			M
		PHYS 634		M		M			M	M	M		M
	Material	PHYS 635		M	M		M		M		M		
		PHYS 636		M		M	M		M			M	
		PHYS 637	M		M		M	M		M			M
		PHYS 638		M		M			M	M	M		M
		PHYS 639		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.

program learning outcomes	

	PLO Code	curricular activities,	extra-curricular activities
Knowledge	K1	Reports, discussions, presentations, Standardized exams, Seminars, and Assignments.	Surveys Visiting Scientific and Factory
	K2		
	K3		
	K4		
Skills	S1	Standardized exams, small projects, Reports, presentations, Assignments, Solved problems, and Lab. reports.	Surveys
	S2		
	S3		
	S4		
Values	V1	Workshops, work with social	Sharing for Public works
	V2		
	V3		

Measurable Objectives	Measurable Performance Indicators	Major Strategies
1. Contemporary knowledge in Physics	1 – Exam results 2 - Reports 3 – Assignments 4 – Surveys	1 - Lectures 2 - Presentations 3 – Group work 4 – Discussions
2. Skills of handling problems on the basis of physics principles	1 – Following laboratory safety procedures in Labs. 2 - Development and implementation of logical experimental procedures 3 - The analysis and interpretations of data using appropriate theory 4 - Demonstrating effective problem solving techniques 5 - Mathematical Procedures	1 – Laboratory practices 2 - Lectures 3 – Solving Problems 4 – Assignments
3. Foundation for advanced scientific research in Physics.	1 - The ability to use software tools to collect required topics 2 - Presentations	1 – Practical work 2 - Assignments 3 – Training

	3 – Ability to write reports 4 - Literature Surveys	
4. Ability to cooperate as individuals or in groups with the society to solve Physics related problems.	1 - Contributing ideas 2 - Students cooperation with their class fellows, teachers and administrative staff. 3 - Correlate physics laws and principles with natural phenomena	1 - Seminars 2 - Individual task 3 - Group task 4 – Scientific visits

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).

program learning outcomes			
	PLO Code	curricular activities,	extra-curricular activities
Knowledge	K1	Reports, discussions, presentations, Standardized exams, Seminars, and Assignments.	Surveys Visiting Scientific and Factory
	K2		
	K3		
	K4		
Skills	S1	Standardized exams, small projects, Reports, presentations, Assignments, Solved problems, and Lab. reports.	Surveys
	S2		
	S3		
	S4		
Values	V1	Workshops, work with social	Sharing for Public works
	V2		
	V3		

	Assessment task	Week Due	Proportion of Total Assessment
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First exam*	6-7	10%
2	Second exam*	11-12	10%
3	E-exam	13	10%
4	Presentation	One/ semester	5%
5	Homework	Every week	10%
6	Quizzes	End topics	10%
7	Discussions	Every week	5%
8	Final exam*	At the end	40%

Timetable for evaluating learning outcomes of the program

Program Learning Outcomes	Term of Measurements	Course code & No.	Assessment Methods	Assessment Tools
K1	461	PHYS 613, PHYS 621, PHYS 624, PHYS 633, PHYS 635, PHYS 638	Exams, Assignments, Quiz, Lab. Report, Small project Surveys, and Volunteer	➢ Conceptual Understanding: Force Concept Inventory (FCI), Conceptual Survey of Electricity and Magnetism (CSEM), and
K2		PHYS 611, PHYS 612, PHYS 622, PHYS 623, PHYS 625, PHYS 630, PHYS 631, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S1		PHYS 611, PHYS 612, PHYS 621, PHYS 624, PHYS 625, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 637, PHYS 638,		
S4		PHYS 611, PHYS 613, PHYS 624, PHYS 640, PHYS 631, PHYS 632, PHYS 634, PHYS 637, PHYS 639,		
V1		PHYS 612, PHYS 613, PHYS 621, PHYS 624, PHYS 625, PHYS 631, PHYS 640, PHYS 634, PHYS 636, PHYS 639,		
V3		PHYS 611, PHYS 612, PHYS 621, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 636, PHYS 639		
K3	462	PHYS 611, PHYS 613, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 638		

K4		PHYS 612, PHYS 621, PHYS 624, PHYS 623, PHYS 640, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		Maryland Physics Expectations (MPEX): ➢ Problem-Solving Ability: Open-ended questions, Problem sets and Laboratory reports
S2		PHYS 611, PHYS 613, PHYS 622, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
S3		PHYS 612, PHYS 621, PHYS 623, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
V2		PHYS 611, PHYS 613, PHYS 622, PHYS 624, PHYS 623, PHYS 630, PHYS 640, PHYS 632, PHYS 633, PHYS 637, PHYS 638		
K1	471	PHYS 613, PHYS 621, PHYS 624, PHYS 633, PHYS 635, PHYS 638		
K2		PHYS 611, PHYS 612, PHYS 622, PHYS 623, PHYS 625, PHYS 630, PHYS 631, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S1		PHYS 611, PHYS 612, PHYS 621, PHYS 624, PHYS 625, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 637, PHYS 638,		
S4		PHYS 611, PHYS 613, PHYS 624, PHYS 640, PHYS 631, PHYS 632, PHYS 634, PHYS 637, PHYS 639,		
V1		PHYS 612, PHYS 613, PHYS 621, PHYS 624, PHYS 625, PHYS 631, PHYS 640, PHYS 634, PHYS 636, PHYS 639,		
V3		PHYS 611, PHYS 612, PHYS 621, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 636, PHYS 639		
K3	472	PHYS 611, PHYS 613, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 638		
K4		PHYS 612, PHYS 621, PHYS 624, PHYS 623, PHYS 640, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S2		PHYS 611, PHYS 613, PHYS 622, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
S3		PHYS 612, PHYS 621, PHYS 623, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
V2		PHYS 611, PHYS 613, PHYS 622, PHYS 624, PHYS 623, PHYS 630, PHYS 640, PHYS 632, PHYS 633, PHYS 637, PHYS 638		

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)

1- Upon enrollment in the program, an academic advisor is appointed for each graduate student.
2- In the second year, after passing 70% of the program hours, the advisor guides the student and helps him choose the topic of the dissertation and the research plan in accordance with the controls approved by the University Council based on the recommendations of the Council of the Deanship of Graduate Studies.
3- Individually, each student needs to work with a supervisor in the department. The results of this work should lead to the development of new devices and processes for the benefit of society.
4- The progress of the work will be monitored by the Department Council twice a semester.
5- If the proposal is approved, the Department Council will appoint either a thesis advisor and co-advisor if necessary, or members and chair of the thesis committee.
6- This information is then submitted to the Council of the Deanship of Graduate Studies for approval based on the recommendation of the College Council.
7- After nominating the thesis supervisor and approving the proposed thesis title, a date is set for the student to defend the thesis until the thesis is awarded.

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)

1- Supervision is a recognized aspect of the academic duty of teaching.
2- Supervision involves responsibilities on the part of both the supervisor and supervisee.
3- The thesis/dissertation advisors must be of professorial or an associate professorial rank who are faculty members of the University.
4- An assistant professor may be a master's thesis advisor, if he has spent at least two years in the University as assistant professor and has at least two papers published or accepted for publication in his field of specialty in refereed journals.
5- A professor or associate professor from the same department can participate and help in supervision.
6- The assistant professor can participate and help in supervision for master's thesis if he has spent at least one year as an assistant professor and has at least one paper published or accepted for publication (in his field of specialization) in a refereed journal.
7- A faculty member can be a thesis advisor or co-advisor for a maximum of four master's thesis dissertations simultaneously.
8- If it is highly and deeply necessary, the number can be raised to five following the recommendations of the Department Council concerned and the approval of the College Council, and the Council of the Deanship of Graduate Studies.
9- For the purpose of calculating a faculty-member's teaching load, the supervision of a thesis/dissertation will be counted as one credit hour, whether the faculty member is the sole advisor or the major advisor.
10- If the advisor cannot continue supervising the thesis/dissertation, or if his service to the University is discontinued, the Department concerned should suggest a replacement, to be approved by the College Council and the Council of the Deanship of Graduate Studies.
11- By the end of each semester, the advisor should report, in detail, to the Chairman of the Department, about the progress of the student's work.
12- A copy of the report should be sent to the Dean of Graduate Studies. Student completion of the thesis/dissertation must be reported by the advisor to the Chairman of the Department concerned, in

order to initiate the completion of the procedure determined 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)

1- The student's completion report for the thesis must be submitted by the advisor to the relevant department head, in order to begin completing the procedure determined by the Council of the Deanship of Graduate Studies.
2- The thesis must be discussed by the department head or a faculty member in the department.
3- The message is sent to the Scientific Council for approval and discussion.
4- Based on the recommendations of the relevant department and college councils, a discussion committee is formed by the Council of the Deanship of Graduate Studies. The discussion and defense session must be held no later than one semester, starting from the date of issuance of the Deanship of Graduate Studies' decision to form the defense committee.
5- The master's thesis discussion committee must fulfill the following requirements:
   - It must consist of an odd number of members, headed by the thesis advisor.
   - The committee must include at least three members. The advisor and co-adviser, if any, must not constitute a majority in the committee.
   - The committee members must meet the conditions for supervising the thesis.
   - At least one of the committee members must be a professor or associate professor.
   - The Committee's decisions shall be taken by a majority vote of at least two-thirds of the total number of members.
6- After agreeing to form the discussion committee, the college dean notifies the external member of the committee, and a copy of the letter is sent to the member.
7- The department head or his representative attends the discussion and defense session as a representative of the Deanship of Graduate Studies and members of the defense committee approved by the Council of the Deanship of Graduate Studies.
8- The representative of the Deanship of Graduate Studies is not considered a member of the Defense Committee.
9- A report is prepared and signed by all members of the thesis/dissertation committee. The report must be submitted to the head of the relevant department within a week from the date of the public defense. The report must include one of the following recommendations:
   - The thesis/thesis is accepted and recommended for awarding the degree.
   - The thesis is accepted with some modifications without the need for re-discussion. One of the committee members is assigned to recommend granting the degree after ensuring that the required amendments have been implemented within three months from the date of the first public pleading. This period may be waived by the University Council.
   - It is recommended to continue work on the dissertation/thesis, followed by a second discussion within a certain period of time decided by the Council of the Deanship of Graduate Studies based on the recommendation of the relevant department council. This period must not exceed one year from the date of submitting the first defense.

- In the event of rejection of the thesis/thesis. Each member of the committee has the right to submit his observations or reservations in a separate report to the head of the relevant department, within two weeks from the date of the defense.

10- The relevant department head must submit the dissertation committee report to the Dean of Graduate Studies no later than three weeks from the date of the defense. The discussion committee's report must be submitted by the department head to the Dean of Graduate Studies through the Dean of the College. The Dean of Graduate Studies must submit recommendations to grant the degree to the University Council for approval

H. Student Admission and Support:

1. Student Admission Requirements:

- ✓ The Executive Principles of Majmaah University Approved by the decree of the university council, on its sixth session, held on 1/3/1342 H Requirements of Admission
- ✓ He should have obtained a Bachelor Degree or its equivalent from within or without the Kingdom of Saudi Arabia.
- ✓ His high Bachelor Degree or its equivalent should not be older than five years. The University Council may make some exceptions if convincing reasons are provided.
- ✓ He should be of a good conduct.
- ✓ He should successfully pass any test or interview assigned by the University Council.
- ✓ He should be medically fit.
- ✓ He should provide a permission for study from his reference, if he works in government or private sector.
- ✓ He should satisfy any other conditions the University Council determines, announced during application.
- ✓ He should not be dismissed from any other university for disciplinary or academic reasons. If that became clear after his, his acceptance shall be deemed cancelled from the day of his admission.
- ✓ A student dismissed from the university for academic reasons may be enrolled in some programs that do not award a master's degree, as decided by the University Council, or whoever it delegates. This shall not be allowed for the transitional program.
- ✓ Those who already had obtained a master's degree, or its equivalent shall not be admitted obtaining another master's degree. The University Rector has the right for exceptions.

A student registered for another university degree or below, shall not be admitted, either in the selfsame university or another.

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 Vice Dean of Student Affairs is considered the first and most important service center for the College male & female students. The Vice Dean is providing its services through the Student Activities, Student Fund and full supervision & follow-up of these services so that the students can live in campus environment that suits their aspirations helping them to progress and succeed in their university.
1- The committees for student's orientation in any department.
2 - The meeting with new students

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)

Sponsored by the Vice Dean of Student Affairs

1- The committees for academic advisor in the departments by faculty members in the male and female sections.
2- Assign an academic supervisor for each student with a maximum of 10 students for each faculty member if possible.
3- Announce the office hours for each faculty member to be part of the academic supervision and scientific help.
4-Provide counselling to the students.
5- Awareness of academic difficulties and study skills
6- Follow-up students who are struggling to study and help them acquire the skills necessary to increase their educational attainment
7 -The availability of full information about the department and its members, and their contact information (website).
8 - Develop everyday skills of college students
9 - Consolidate ethical and behavioral values among students
10 - Raise students' awareness and strength their sense of belonging to their nation
11- Develop students' talents and tap them to serve their community
12- Provide care to students through material and moral support
13 - Provide cultural, scientific, social and sports services to students

4. Special Support:

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

Sponsored by Vice Dean of Student Affairs
The committees of student's affairs
-Raise the awareness of students whom are low achievers, disabled and strengthen their sense of belonging to their department
-Provide care to students through material and moral support
-Develop students' talents and benefit from them to serve their community
-Providing cultural, scientific, social and sports services to students

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				0	0	0
Associate Professor				0	0	0
Assistant Professor	Physics	Radiation		1	1	2
Technicians and Laboratory Assistant	Physics	Physics		1	1	2
Administrative and Supportive Staff	Physics	Physics		2	2	4
Others (specify)	Physics	Physics		2	2	4

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 staff members may send a request for the provisional of any needed textbook / reference book to the library through the Head of Department.

2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

1. Using the public library of the University.
2. Adopting the references and text books approved by the council of the physics department or any authorized committee.
3. Participating in the University's database that allows the access to most international publishers.
4. Writing books and translation by the department members.
5. Purchasing and providing the necessary books.

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

(According to the nature of the program)

Safety is a core value at Zulfi College of Science and Majmaah University is committed to continued advancement of an institutional safety culture with strong programs of personal safety, accident and injury prevention, wellness promotion, and compliance with applicable environmental and health and safety laws and regulations.

Physics Department makes all reasonable efforts to:

- Promote occupational and personal safety, health and wellness;
- Protect the health and safety of Physics department faculty, staff and students;
- Provide information to faculty, staff, and students about health and safety hazards;

- Identify and correct health and safety hazards and encourage faculty, staff, and students to report? potential hazards;
- Conduct activities in a manner protective of the environment, and inform the Zulfi community regarding environmental impacts associated with institutional operations;
- Maintain a risk-based emergency management program to reduce the impact of emergency events to the Zulfi community.

Faculty, staff and students are responsible for:

- Keeping themselves informed of conditions affecting their health and safety;
- Participating in safety training programs as required by Zulfi policy and their supervisors and instructors;

Adhering to health and safety practices in their workplace, classroom, laboratory and student campus residences; Advising of or reporting to supervisors, instructors potentially unsafe practices or serious hazards in the workplace, classroom or laboratory.

G. Program Quality Assurance:

1. Program Quality Assurance System:

Provide a link to quality assurance manual.

https://www.mu.edu.sa/en/deanships/deanship-of-quality-and-skills-development

2. Program Quality Monitoring Procedures:

- Polls for the enrolled students and those who graduated from the program
- Alumni surveys
- Establishing an internet open forum to get student feedback

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

1- Survey's to evaluate the different courses.
2- Survey's to evaluate the faculty member by the student.
3- Internal workshops in the department

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

(including male and female sections).

Not applicable

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

Timetable for evaluating learning outcomes of the program

Program Learning Outcomes	Term of Measurements	Course code & No.	Assessment Methods	Assessment Tools
K1	461	PHYS 613, PHYS 621, PHYS 624, PHYS 633, PHYS 635, PHYS 638	Exams, Assignments, Quiz, Lab. Report, Small project Surveys, and Volunteer	➢ Conceptual Understanding: Force Concept Inventory (FCI), Conceptual Survey of Electricity and Magnetism (CSEM), and Maryland Physics Expectations (MPEX): ➢ Problem-Solving Ability: Open-ended questions, Problem sets and Laboratory reports
K2		PHYS 611, PHYS 612, PHYS 622, PHYS 623, PHYS 625, PHYS 630, PHYS 631, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S1		PHYS 611, PHYS 612, PHYS 621, PHYS 624, PHYS 625, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 637, PHYS 638,		
S4		PHYS 611, PHYS 613, PHYS 624, PHYS 640, PHYS 631, PHYS 632, PHYS 634, PHYS 637, PHYS 639,		
V1		PHYS 612, PHYS 613, PHYS 621, PHYS 624, PHYS 625, PHYS 631, PHYS 640, PHYS 634, PHYS 636, PHYS 639,		
V3		PHYS 611, PHYS 612, PHYS 621, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 636, PHYS 639		
K3	462	PHYS 611, PHYS 613, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 638		
K4		PHYS 612, PHYS 621, PHYS 624, PHYS 623, PHYS 640, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S2		PHYS 611, PHYS 613, PHYS 622, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
S3		PHYS 612, PHYS 621, PHYS 623, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
V2		PHYS 611, PHYS 613, PHYS 622, PHYS 624, PHYS 623, PHYS 630, PHYS 640, PHYS 632, PHYS 633, PHYS 637, PHYS 638		
K1	471	PHYS 613, PHYS 621, PHYS 624, PHYS 633, PHYS 635, PHYS 638		
K2		PHYS 611, PHYS 612, PHYS 622, PHYS 623, PHYS 625, PHYS 630, PHYS 631, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S1		PHYS 611, PHYS 612, PHYS 621, PHYS 624, PHYS 625, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 637, PHYS 638,		
S4		PHYS 611, PHYS 613, PHYS 624, PHYS 640, PHYS 631, PHYS 632, PHYS 634, PHYS 637, PHYS 639,		
V1		PHYS 612, PHYS 613, PHYS 621, PHYS 624, PHYS 625, PHYS 631, PHYS 640, PHYS 634, PHYS 636, PHYS 639,		
V3		PHYS 611, PHYS 612, PHYS 621, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 636, PHYS 639		
K3	472	PHYS 611, PHYS 613, PHYS 622, PHYS 625, PHYS 630, PHYS 640, PHYS 631, PHYS 633, PHYS 635, PHYS 638		
K4		PHYS 612, PHYS 621, PHYS 624, PHYS 623, PHYS 640, PHYS 632, PHYS 634, PHYS 636, PHYS 637, PHYS 639		
S2		PHYS 611, PHYS 613, PHYS 622, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
S3		PHYS 612, PHYS 621, PHYS 623, PHYS 623, PHYS 630, PHYS 640, PHYS 633, PHYS 635, PHYS 636, PHYS 638, PHYS 639,		
V2		PHYS 611, PHYS 613, PHYS 622, PHYS 624, PHYS 623, PHYS 630, PHYS 640, PHYS 632, PHYS 633, PHYS 637, PHYS 638		

6. Program Evaluation Matrix:

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	program leaders	Surveys	End of Academic year
Effectiveness of teaching & assessment	students, graduates, alumni	Surveys	End of Academic Semester
Learning resources,	independent reviewers	Surveys	End of Academic year
Partnerships	program leaders	Surveys	End of Academic year
Achievements	program leaders	Surveys	End of Academic year
Scientific Research	program leaders	Surveys	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 (2024) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-P01	Percentage of achieved indicators of the program operational plan objectives	90%	statistical	September 2023
2	KPI-P02	Students' Evaluation of quality of learning experience in the program	4	Statistical	May 2023
3	KPI-P03	Students' evaluation of the quality of the courses	4	Statistical	May 2023
4	KPI-P04	Completion rate	40%	Statistical	Jul 2023
5	KPI-P05	Percentage of students entering programs who successfully complete first year.	40%	Statistical	May 2023
6	KPI-P06:	Students' performance in the professional and/or national examinations	70%	statistical	September 2023
7	KPI-P07	Percentage of graduates from the program who within a year of graduation were: Employability Graduates' employability and Enrolment in postgraduate programs	40%	Survey	September 2023
8	KPI-P08	Average number of students in the class	10	Statistical	September 2023
9	KPI-P09	Employers' evaluation of the program graduates proficiency	4	Survey	September 2023
10	KPI-P10	Students' evaluation of the offered services	4	Survey	September 2023

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
	KPI-P11	Ratio of students to teaching staff	1:20	Statistical	October 2023
	KPI-P12	Percentage of teaching staff distribution Percentage of teaching staff distribution (based on gender and academic ranks)	27%/27%/46%	Statistical	September 2023
	KPI-P13	Proportion of teaching staff leaving the program	0%	Statistical	September 2023
	KPI-P14	Percentage of publications of faculty members	93%	Statistical	Jun 2023
	KPI-P15	Number of refereed publications / member of teaching staff	3	Statistical	Jun 2023
	KPI-P16	Number of citations/ All teaching staff: X/1	275	Statistical	Jun 2023
	KPI-P17.a	Stakeholder evaluation of the learning resources (Digital Library)	3.6	survey	Jun 2023
	KPI-P17.b	Stakeholder evaluation of the learning resources (IT services)	3.6	survey	Jun 2023
	KPI-P17.c	Stakeholder evaluation of the learning services (e-learning services)	3.6	survey	Jun 2023
	KPI-P17.d	Stakeholder evaluation of the learning resources (Policy Handbook)	3.5	survey	Jun 2023
	KPI-P17.e	Stakeholder evaluation of the learning resources (library and media centre)	3.5	survey	Jun 2023
	MU-P01	Stakeholder evaluation of community services	4.5	survey	Jun 2023
	MU-P02	Proportion of students have one notification or more	5%	Statistical	Jun 2023
	MU-P03	Proportion of deprived students.	2%	Statistical	Jun 2023
	MU-P04	The number of student researches	1	Statistical	Jun 2023
	MU-P05	Percentage of teaching staff participating in professional development activities	50%	Statistical	Jun 2023
	KPI-PH1	Stakeholder evaluation ratings of the Mission Statement and Objectives	4	survey	Jun 2023

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	**Physics Committee**
Reference No.	**(7)**
Date	**9/10/2023**