MIRPUR UNIVERSITY OF SCIENCE & TECHNOLOGY (MUST),
MIRPUR-10250, (AJK)-Pakistan
Department of Physics
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Eligibility & Admission Criteria for MS Physics Program

As per University rules and HEC Graduate Education Policy 2023.

Scheme of Studies for MS Physics Program

Revised for the Sessions	Session Fall 2025 and Onwards
Degree title	Master of Science in Physics (under review in FC)
Duration	4-8 Semesters (4 Years)
Course work Understanding of Holy Quran (UHQ-796 and UHQ-797) Seminar (PHY-798) Thesis (PHY-799)	24 Credit Hours 02 Credit Hours 01 Credit Hours 06 Credit Hours
Total	**33 Credit Hours**

Semester I

Course Code	Course Title	Cr. Hrs.	Remarks
UHQ-796	Understanding of Holy Quran-I	0+1	Compulsory
PHY-Y01	Advanced Quantum Mechanics	3+0	Core
PHY-Y02	Advanced Mathematical Physics	3+0	Core
PHY-YXX	Graduate level Physics course	3+0	Elective
PHY-YXX	Graduate level Physics course	3+0	Elective
	Total	**13**	

Semester II

Course Code	Course Title	Cr. Hrs.	Remarks
UHQ-797	Understanding of Holy Quran-II	0+1	Compulsory
PHY-Y03	Advanced Electrodynamics	3+0	Core
PHY-Y04	Techniques of Experimental & Computational Physics	3+0	Core
PHY-YXX	Graduate level Physics course	3+0	Elective
PHY-YXX	Graduate level Physics course	3+0	Elective
	Total	**13**	

Eligibility & Admission Criteria for PhD Physics Program

As per University rules and HEC Graduate Education Policy 2023.

Scheme of Studies for PhD Physics Program

Revised for Sessions	**Session Fall 2025 and Onwards**
Degree title	Doctor of Philosophy in Physics
Duration	6-16 Semesters (3-8 years)
Course work Comprehensive Examination (Written & Oral) (PHY-896) Understanding of Holy Quran (UHQ-894 and UHQ-895) Seminar I (PHY-897) Seminar II (PHY-898) Thesis (PHY-899)	18 Credit Hours Non Credit Pass/Fail Basis 02 Credit Hours 01 Credit Hours 01 Credit Hours 50 Credit Hours
Total	**72 Credit Hours**

Semester I

Course Code	**Title**	**Cr. Hrs.**	**Remarks**
UHQ-894	Understanding of Holy Quran-I	0+1	Compulsory
PHY-YXX	Elective Graduate level physics course-I	3+0	Elective I
PHY-YXX	Elective Graduate level physics course-II	3+0	Elective II
PHY-YXX	Elective Graduate level physics course-III	3+0	Elective III
	Total	**10**	

Semester II

Course Code	**Title**	**Cr. Hrs.**	**Remarks**
UHQ-895	Understanding of Holy Quran-II	0+1	Compulsory
PHY-YXX	Elective Graduate level physics course-IV	3+0	Elective IV
PHY-YXX	Elective Graduate level physics course-V	3+0	Elective V
PHY-YXX	Elective Graduate level physics course-VI	3+0	Elective VI
PHY-YXX	**Total**	**10**	

Y = 7 for MS and Y = 8 for PhD courses. XX is the course number selected from the list of graduate level elective courses.

List of Elective Courses for MS and Ph.D. Programs

XX	**Course Title**	**Cr. Hrs.**
05	Advanced Nuclear Physics	3+0

06	Advanced Plasma Physics	3+0
07	Applications of Nanotechnology	3+0
08	Applied Quantum Mechanics	3+0
09	Atomic and Molecular Spectroscopy	3+0
10	Classical Theory of Fields	3+0
13	Experimental Plasma Physics	3+0
14	Experimental Techniques in Particle and Nuclear Physics	3+0
15	Fluid Dynamics	3+0
16	Fundamentals of Polarized Light	3+0
17	Group Theory	3+0
18	Laser Induced Breakdown Spectroscopy (LIBS)	3+0
19	Magnetism and Magnetic Materials	3+0
20	Material Studies by Electron Emission	3+0
21	Materials Science-I	3+0
22	Materials Science-II	3+0
23	Advanced Methods and Techniques of Experimental Physics	3+0
24	Nano Science and Technology	3+0
25	Non-Linear Physics-I	3+0
26	Non-Linear Physics-II	3+0
27	Optoelectronics	3+0
28	Organic Semiconductor Devices	3+0
29	Particle Physics	3+0
30	Physics of Semiconductors	3+0
31	Physics of Semiconductor Devices	3+0
32	Physics of Thin Films-I	3+0
33	Physics of Thin Films-II	3+0
34	Plasma Hydrodynamics and Controlled Fusion	3+0
35	Plasma Kinetic Theory and its Applications	3+0
36	Quantum Field Theory-I	3+0
37	Quantum Field Theory-II	3+0
38	Quantum Information Theory-I	3+0
39	Quantum Information Theory-II	3+0
40	Quantum Optics-I	3+0
41	Quantum Optics-II	3+0
42	Advanced Statistical Physics	3+0
43	Surface Science and Scanning Electron Microscopy	3+0