MIRPUR UNIVERSITY OF SCIENCE & TECHNOLOGY (MUST),

MIRPUR-10250, (AJK)-Pakistan

Department of Physics

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Scheme of Studies for M.Phil. Physics Program Fall 2019 and Onwards

Revised for the Sessions	Session Fall 2019 and Onwards
Duration	4-8 Semesters
Course work Seminar (PHY-798) Thesis (PHY-799)	24 Credit Hours 01 Credit Hours 06 Credit Hours
Total:	**31 Credit Hours**

Semester I

Course Title	Cr. Hrs.	Remarks
Mathematical Methods of Physics	03	Compulsory
Graduate level physics course	03	Elective I
Graduate level physics course	03	Elective II
Graduate level physics course	03	Elective III
Total	**12**	

Semester II

Course Title	Cr. Hrs.	Remarks
Electrodynamics	03	Compulsory
Graduate level physics course	03	Elective IV
Graduate level physics course	03	Elective V
Graduate level physics course	03	Elective VI
Total	**12**	

Scheme of Studies for Ph.D. Physics Program Fall 2019 and Onwards

Revised for the Sessions	Session Fall 2019 and Onwards
Duration	6-16 Semesters
Course work Comprehensive Examination (Written & Oral) (PHY-896) Seminar I (PHY-897) Seminar II (PHY-898) Thesis (PHY-899)	18 Credit Hours Non Credit 01 Credit Hours 01 Credit Hours 50 Credit Hours
Total	**70 Credit Hours**

Semester I

Title	Cr. Hrs.	Remarks
Graduate level physics course	03	Elective I
Graduate level physics course	03	Elective II
Graduate level physics course	03	Elective III
Total	**09**	

Semester II

Title	Cr. Hrs.	Remarks
Graduate level physics course	03	Elective IV
Graduate level physics course	03	Elective V
Graduate level physics course	03	Elective VI
Total	**09**	

List of compulsory courses for M.Phil. Program

Course Code	Course Title	Credit Hours
PHY-701	Mathematical Methods of Physics	03
PHY-702	Electrodynamics	03

List of elective courses for M.Phil./Ph.D. programs

Semester-I

Course Code	Course Title	Credit Hours
PHY-Y03	Advanced Nuclear Physics	03
PHY-Y04	Advanced Quantum Mechanics	03
PHY-Y05	Applied Quantum Mechanics	03
PHY-Y06	Group Theory	03
PHY-Y07	Material Science-I	03
PHY-Y08	Methods and Techniques of Experimental Physics-I	03
PHY-Y09	Nano Science and Technology	03
PHY-Y10	Non-Linear Physics-I	03
PHY-Y11	Optoelectronics	03
PHY-Y12	Organic Semiconductor Devices	03
PHY-Y13	Physics of Semiconductors	03
PHY-Y14	Physics of Thin Films -I	03
PHY-Y15	Plasma Hydrodynamics and Controlled Fusion	03
PHY-Y16	Quantum Field Theory-I	03
PHY-Y17	Quantum Information Theory-I	03
PHY-Y18	Quantum Optics-I	03

Semester-II

Course Code	Course Title	Credit Hrs
PHY-Y19	Advanced Plasma Physics	03
PHY-Y20	Applications of Nano-Technology	03
PHY-Y21	Atomic and Molecular Spectroscopy	03
PHY-Y22	Classical Theory of Fields	03
PHY-Y23	Defects in Materials and Measuring Techniques	03
PHY-Y24	Dielectric Properties of Solids	03
PHY-Y25	Experimental Plasma Physics	03
PHY-Y26	Experimental Techniques in Particle and Nuclear Physics	03
PHY-Y27	Fluid Dynamics	03
PHY-Y28	Fundamentals of Polarized Light	03
PHY-Y29	Laser Induced Breakdown Spectroscopy (LIBS)	03
PHY-Y30	Magnetism and Magnetic Materials	03
PHY-Y31	Material Studies by Electron Emission	03
PHY-Y32	Materials Science–II	03
PHY-Y33	Methods and Techniques of Experimental Physics-II	03
PHY-Y34	Non-Linear Physics-II	03
PHY-Y35	Particle Physics	03
PHY-Y36	Physics of Semiconductors Devices	03
PHY-Y37	Physics of Thin Films-II	03
PHY-Y38	Plasma Kinetic Theory and its Applications	03
PHY-Y39	Quantum Field Theory-II	03
PHY-Y40	Quantum Information Theory-II	03
PHY-Y41	Quantum Optics-II	03
PHY-Y42	Statistical Physics	03
PHY-Y43	Surface Science and Scanning Electron Microscopy	03

Y= 7 for M Phil and Y= 8 for PhD course