

## M.Phil Physics

Admissions: Fall

Program Duration: 2 years

Total Semesters: 4

Total Credit Hours: 30

### Scheme of Studies:

SEMESTER 1		
Course Code	Course Title	Credit Hour
PHY-701	Advanced Mathematical Physics	3(3-0)
PHY-703	Advance Quantum Mechanics	3(3-0)
PHY-XXX	Elective I	3(3-0)
PHY-XXX	Elective II	3(3-0)
Total Cr. Hrs. = 12		
SEMESTER 2		
Course Code	Course Title	Credit Hour
PHY-705	Advanced Electrodynamics	3(3-0)
PHY-733	Techniques of Experimental & Computational Physics	3(3-0)
PHY-7xx	Elective III	3(3-0)
PHY-7xx	Elective IV	3(3-0)
Total Cr. Hrs. = 12		
SEMESTER 3		
Course Code	Course Title	Credit Hour
PHY-7xx	Graduate Level Physics Course (Elective V)	3(3-0)
PHY-7xx	Graduate Level Physics Course (Elective VI)	3(3-0)
OR		
PHY-799	Thesis (Graduate Level)	6(0-6)
SEMESTER 4		
Course Code	Course Title	Credit Hour
PHY-799	Thesis (Graduate Level) (Continued)	
Total Cr. Hrs. = 06		
Total Credit Hours = 30		

List of Elective Courses		
Course Code	Course Title	Credit Hour
PHY-701	Mathematical Methods of Physics	3(3-0)
PHY-702	Classical Mechanics	3(3-0)
PHY-703	Quantum Mechanics	3(3-0)
PHY-704	Electrodynamics	3(3-0)
PHY-705	Statistical Physics	3(3-0)
PHY-706	Materials Science	3(3-0)
PHY-707	Nanoscale Physics	3(3-0)
PHY-708	Semiconductor Devices	3(3-0)
PHY-709	Materials Synthesis and Characterization	3(3-0)
PHY-710	Dielectric Physics	3(3-0)
PHY-711	Surface Physics	3(3-0)
PHY-712	Functional Materials and Devices	3(3-0)
PHY-713	Electrochemistry and Electrocatalysis	3(3-0)
PHY-714	Piezoelectric Materials and Devices	3(3-0)
PHY-715	Physics of Thin Film	3(3-0)
PHY-716	Advanced Scintillation Materials	3(3-0)
PHY-717	Advance Laser Optics	3(3-0)
PHY-718	Optoelectronics and Photonics	3(3-0)
PHY-719	Particle Physics	3(3-0)
PHY-720	Quantum Field Theory	3(3-0)
PHY-721	Group Theory	3(3-0)
PHY-722	Heavy Ion Physics	3(3-0)
PHY-723	Radiation Detection& Measurement	3(3-0)
PHY-724	Advanced Magnetic Resonance Imaging	3(3-0)
PHY-725	Spectroscopy	3(3-0)
PHY-726	Superconductivity	3(3-0)
PHY-727	Plasma Physics	3(3-0)
PHY-728	Optical Properties of Solids	3(3-0)
PHY-729	Magnetism in Condensed Matters	3(3-0)
PHY-730	Advanced Nuclear Physics	3(3-0)
PHY-731	General Relativity& Cosmology	3(3-0)
PHY-732	Advance Computational Physics	3(3-0)
PHY-733	Techniques of Experimental & Computational Physics	3(3-0)