

M. Sc. Curriculum (PHYSICS)

Course Category	Course No.	Course Title	Contact Hours			Credit	Prerequisites
			L	T	P		
Core Courses (57 Credits)	PH 401	Mathematical Physics-I	3	1	0	4	None
	PH 402	Mathematical Physics-II	3	1	0	4	None
	PH 403	Quantum Mechanics-I	3	1	0	4	None
	PH 404	Quantum Mechanics-II	3	1	0	4	PH 403
	PH405	Classical Mechanics	3	1	0	4	None
	PH 406	Statistical Mechanics	3	1	0	4	None
	PH 407	Electromagnetic Theory	3	1	0	4	None
	PH 408	Applied Optics	3	0	0	3	None
	PH 409	Basic Analog and Digital Electronics	3	0	0	3	None
	PH 422	Computational Programming	1	0	2	2	None
	PH 481	Electronics Laboratory	0	0	6	3	None
	PH 482	General Physics Laboratory	0	0	6	3	None
	PH 501	Atomic and Molecular Physics	3	1	0	4	None
	PH 503	Condensed Matter Physics	3	1	0	4	None
	PH 505	Nuclear and Particle Physics	4	0	0	4	None
	PH 581	Optics Laboratory	0	0	6	3	None
Elective Courses (12 credits)	PH 521	Light-Matter Interaction	3	0	0	3	PH 408
	PH 523	Spintronics	3	0	0	3	PH 403/PH 404
	PH 525	Biological Physics	3	0	0	3	None
	PH 527	Phase Transitions and Critical Phenomena	3	0	0	3	PH 406
	PH 529	Non- equilibrium Statistical Mechanics	3	0	0	3	PH 406
	PH 531	Nanoelectronics	3	0	0	3	PH 403/PH 404
	PH 522	Measurement Techniques and Cryogenics	3	0	0	3	None
	PH 524	Numerical Methods and Computational Physics	3	0	0	3	None
	PH 526	Non Destructive Testing Lab	0	0	6	3	None
	PH 528	Computational Lab	0	0	6	3	None
	PH 542	Science and Technology of Thins Films	3	0	0	3	PH503
	PH 544	Nanoscience and Technology	3	0	0	3	PH 403/PH 503
	PH 546	Physics of Liquid Crystals	3	0	0	3	None
	PH 548	Advanced Condensed Matter Physics	3	0	0	3	PH 503
PH 550	Physics for Semiconductor Devices	3	0	0	3	PH 409/PH 503	
PH 552	Quantum Information and Computation	3	0	0	3	PH 403/PH 503	
Electives shall include any other course of appropriate level offered by the institute and recommended by the DAC							

Seminar & Term Paper (1 credit)	PH 507	Scientific Writing and Seminar	0	0	2	1	None
Project (10 credits)	PH571	Project Stage I	0	0	4	2	None
	PH572	Project Stage II	0	0	16	8	None