

Model Plan Semester-wise: MSc Physics Curriculum: Autumn 2019 onwards

Proposed Model Plan				
Semester I				
Course code	Course Name	L-T-P	C	Prerequisites
PH 401	Mathematical Physics-I	3-1-0	4	None
PH 403	Quantum Mechanics-I	3-1-0	4	None
PH 405	Classical Mechanics	3-1-0	4	None
PH 407	Electromagnetic Theory	3-1-0	4	None
PH 409	Basic Analog and Digital Electronics	3-0-0	3	None
PH 481	Electronics Laboratory	0-0-6	3	None
			22	
Semester II				
PH 402	Mathematical Physics-II	3-1-0	4	None
PH 404	Quantum Mechanics-II	3-1-0	4	PH 403
PH 406	Statistical Mechanics	3-1-0	4	None
PH 408	Applied Optics	3-0-0	3	None
PH 422	Computational Programming	1-0-2	2	None
PH 482	General Physics Laboratory	0-0-6	3	None
			20	
Semester III				
PH 501	Atomic and Molecular Physics	3-1-0	4	None
PH 503	Condensed Matter Physics	3-1-0	4	None
PH 505	Nuclear & Particle Physics	4-0-0	4	None
PH 507	Scientific Writing and Seminar	0-0-2	1	None
PH 581	Optics Laboratory	0-0-6	3	None
----	Elective-I	3-0-0	3	None
PH571	Project-Stage I	0-0-4	2	None
			21	
Semester IV				
----	Elective -II	3-0-0	3	None
----	Elective-III	3-0-0	3	None
----	Elective-IV	3-0-0	3	None
PH 572	Project-Stage II (Projects will be assigned at the beginning of Semester III.)	0-0-16	8	None
			17	
Total			80	

Electives	Course Code	Course Name	L-T-P	C	Prerequisites
Elective-I	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
Elective-II	PH 522	Measurement Techniques and Cryogenics	3-0-0	3	None
	PH 524	Numerical Methods & Computational Physics	3-0-0	3	None
Elective-III	PH 526	Non Destructive Testing Lab	0-0-6	3	None
	PH 528	Computational lab	0-0-6	3	None
Elective-IV	PH 542	Science and Technology of Thin Films	3-0-0	3	PH 503
	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 409

MSc Physics Credit Distribution Semester-wise

Component	No. of Courses	Semester-wise distribution				Total Credit
		I	II	III	IV	
Core Courses	12	5(19)	4(15)	3(12)	---	46
Practical	4	1(3)	2(5)	1(3)	---	11
Departmental Elective	4	---	---	1(3)	3(9)	12
Scientific Writing and Seminar	1	---	---	1(1)	---	01
Project	1+1			1(2)	1(8)	10
Total	23	6(22)	6(20)	7(21)	4(17)	80

**Number of courses (Total Credit)