

Course Curriculum of M.Sc. Physics Program



Department of Physics

School of Technology

Pandit Deendayal Energy University

Course structure

<u>Semester-I</u>						
Course Code	Course Name	Teaching Scheme				
		L	T	P	Credit	Contact Hr.
21MSP501T	Classical Mechanics	3	0	0	3	3
21MSP502T	Mathematical Physics	3	0	0	3	3
21MSP503T	Thermodynamics & Statistical Mechanics	3	0	0	3	3
21MSP504T	Solid State Physics	3	0	0	3	3
21MSP504P	Solid State Physics Laboratory	0	0	3	1.5	3
21MSP505T	Numerical Methods & Computer Programming	2	0	0	2	2
21MSP506P	Computer Programming Lab	0	0	4	2	4
21MSP507T	Atomic & Molecular Physics	3	0	0	3	3
Total		17	0	7	20.5	24

<u>Semester-II</u>						
Course Code	Course Name	Teaching Scheme				
		L	T	P	Credit	Contact Hr.
21MSP508T	Quantum Mechanics	4	0	0	4	4
21MSP509T	Nuclear and Particle Physics	3	0	0	3	3
21MSP509P	Nuclear and Particle Physics Laboratory	0	0	3	1.5	3
21MSP510T	Classical Electrodynamics & Basic Plasma Physics	4	0	0	4	4
21MSP511T	Basic electronics and Instrumentation	3	0	0	3	3
21MSP511P	Basic electronics and Instrumentation Laboratory	0	0	2	3	6
21MSP512T	LASER Physics and Spectroscopy	3	0	0	3	3
Total		17	0	5	21.5	22

Semester-III						
Course Code	Course Name	Teaching Scheme				
		L	T	P	Credit	Contact Hr.
21RM601T	Research Methodology	1	0	0	1	1
	Elective-I (specialization)	3	0	0	3	3
	Elective-II (specialization)	3	0	0	3	3
	Elective-III (specialization)	3	0	0	3	3
	Lab (specialization)	0	0	6	3	6
21MSP601	Project -I	0	0	16	8	16
Total		10	0	22	21	32

Semester-IV						
Course Code	Course Name	Teaching Scheme				
		L	T	P	Credit	Contact Hr.
21MSP622	Project -II	0	0	40	20	40
Total		0	0	40	20	40
Total Course details		44	0	74	83	118

Specialization Electives & Laboratories:

Renewable Energy Resources		
I.	21MSP602T	Energy Harvesting And Storage Methods
II.	21MSP603T	Solid State Solar and Thermal Energy Harvesting
III.	21MSP604T	Wind, Hydro and Bioenergy Harvesting
IV.	21MSP618P	Renewable Energy Resources Laboratory

Advanced Fabrication and Experimental techniques		
I.	21MSP605T	Advanced Experimental and Characterization Techniques-I
II.	21MSP606T	Advanced Experimental and Characterization Techniques-II
III.	21MSP607T	Advanced Fabrication Techniques
IV.	21MSP619P	Advanced Fabrication and experimental techniques Laboratory

Advanced Condensed matter Physics		
I.	21MSP608T	Advanced Condensed matter Physics
II.	21MSP609T	Computational Techniques for Solid State Physicist
III.	21MSP610T	Characterization Techniques
IV.	21MSP621P	Advanced Condensed matter Physics Laboratory

Atmospheric Physics & Oceanography		
I.	21MSP611T	Fundamentals of Ocean Sciences
II.	21MSP612T	Instrumentation and modelling of Oceans and Atmosphere
III.	21MSP613T	Physics and dynamics of the atmosphere
IV.	21MSP620P	Atmospheric Physics & Oceanography Laboratory

Advanced Electronics		
I.	21MSP614T	Basic Communication Systems
II.	21MSP615T	Organic Electronics
III.	21MSP616T	Semiconductor Physics and Devices
IV.	21MSP617P	Advanced Electronics Laboratory