

SoP Course list Varsha 2026

First year		Second year		
Code	Course details	Code	Course details	Other information
Course code	Course Name Course structure Instructor name (s)	Course code	Course Name Course structure Instructor name (s)	Mention if Minor Mention if compulsory for other major students
PHY111	Mechanics [2103] Dr. Soumen Basak, Dr. Dipankar Roy	PHY212	Optics [3003] Dr. Ravi Pant	
IDC111	Mathematical Tools-I [3104] Dr. Rajeev Kini, Dr. Tanmoy Sarkar	PHY211	Thermal and Statistical Physics [3104] Dr. Deepshikha Jaiswal Nagar	
PHY112	Physics Lab I [0031] Dr. Manoj Namboothiry, Dr. S. Kumaragurubaran			

Third year		
Code	Course details	Other information
Course code	Course Name Course structure Instructor name(s)	Mention if Minor Mention if compulsory for other major students
PHY327 / MSP427	Quantum Mechanics-II [3003] Dr. Bindusar Sahoo	
PHY312 / PHY3120 / MSP412	Classical Mechanics [3003] Dr. Senthilkumar D. V.	
PHY322 / MSP422	Condensed Matter Physics - I [3003] Dr. Suraj Hegde	Minor
PHY324 / MSP424	Numerical Methods [3003] Dr. Solingyur Zimik Kachui	
PHY325 / MSP425	Advanced Physics Lab II — [0093] Dr. Ramesh C. Nath, Dr. S. Kumaragurbaran	Compulsory for experiment track PHY, MSc 1st year and Elective for i2P
MSP428	Mathematical Methods in Physics-I [3003] Dr. Sreedhar Dutta	Only for MSc First year
I2P321 / PHY4219 / AOE4219 / PHY6219	Electrochemical Energy Systems [3003] Dr. M. M. Shaijumon	core for i2P, elective for PHY 3rd year, MSc-IPHD 1st year, elective for PhD, AOE for other schools
PHY4206 / PHY6206	Astrophysics [3003] Dr. Abhimanyu Susobhanan	elective for I2P- PHY 3rd year, MSc-IPHD 1st year, elective for PhD
PHY4217 / PHY6217	Quantum Information Theory [3003] Dr. Anil Shaji	compulsory for theory track PHY and Elective for i2P, MSc 1st year, 2nd year

Fourth year		
Code	Course details	Other information
Course code	Course Name Course structure Instructor name(s)	Mention if Minor/Open-elective Mention if compulsory for other major students
PHY421 / PHY612 / MSP512	Condensed Matter Physics II [3003] Dr. Amal Medhi	for all, PHY, I2P 4th year, MSc-iPhD 2nd year, for PHD
PHY411 / PHY611 / MSP511 / PHY4119	Nuclear Particle Physics [3003] Dr. Mathew Arun Thomas	compulsory for theory track, elective for I2P -minor course
PHY423 / PHY623 / I2P423 / MSP523	Modeling Materials [2033] Dr. Souvik Paul	Core for I2P and experiment track but elective for theory track - minor course
PHY4130 / PHY6130 / I2P413	Fluid Mechanics & Transport Phenomena [3003] Dr. Suhesh Kumar Singh	Core for I2P and elective for experiment track and theory track 4th year PHY and elective for 2nd year MSc- iPHD
PHY5128 / PHY6128	General Relativity and Cosmology [3003] Dr. Sreedhar Dutta	
PHY5213 / PHY6213	Quantum Field Theory-I [3003] Dr. Tanumoy Mandal	
PHY4211 / PHY6211	Materials Growth and Processing Techniques [2103] Dr. Tuhin S. Maity	
PHY5236 / PHY6236	Ultrafast Molecular Dynamics [3003] Dr. Krishnendu Gope	
PHY5215 / PHY6215	Quantum Transport [3003] Dr. Madhu Thalakulam	
PHY5202 / PHY6202	Organic Semiconductors:Fundamentals and Applications [3003] -Dr Bikas C Das	
PHY5203 / PHY6203	Sensor Technology [3003] Dr. Vinayak B. Kamble	7th sem,9 th Sem and PHD elective

Only fifth year		
Code	Course details	Other information
Course code	Course Name Course structure Instructor name(s)	Mention if Minor/Open- elective Mention if compulsory for other major students
PHY5212 / PHY6212	Theory of Open Quantum systems [3003] Dr. Soumik Bandyopadhyay	9th sem and PHD elective
PHY5233 / PHY6233	Plasmonics and Photonics [3003] Dr. Joy Mitra	9th sem and PHD elective
PHY5217 / PHY6217	Radiative Processes in Astrophysics [3003] Dr. Shabnam Iyyani	9th sem and PHD elective
PHY5203 / PHY6203	Sensor Technology [3003] Dr. Vinayak B. Kamble	9th sem and PHD elective