

Course List for the AY2026-27 Semester I (Aug 2026)

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Sr. No.	Department	BSMS_code	BSMS_Credit	Course Title (BSMS)	PhD_Code	PhD_Credit	Course Title (PhD)	Open to Semester	Core Dept (s) (Institute Core / Professional Compulsory / Major)	(Elective,Dept,(s)) Department Elective	Open Elective	Minor	Instructor 1	Instructor 2	Instructor 3	Instructor 4	Instructor 5
1	EES	ES101	3	Introduction to Earth System Science				I	EES				Pragnaditya Malakar	Debanjan Chandra	Joydip Mukhopadhyay		
2	EES	ES201	3	Principles of Mineralogy				III	EES				Debanjan Chandra	Joydip Mukhopadhyay			
3	EES	ES203	3	Introduction to Structural Geology				III	EES				Narayan Bose				
4	EES	ES211	1	Foundation Mineralogy-Petrology Lab				III	EES				Debanjan Chandra	Kiran Kumar Reddy	Joydip Mukhopadhyay	Azhar Mohammed Shaikh	Tushar Mouli Chakraborti
5	EES	EES301	3	Mineralogy				V	EES			PHY/CHM/MTH/BIO	Azhar Mohammed Shaikh				
6	EES	EES303	3	Igneous Petrology				V	EES			PHY/CHM/MTH/BIO	Tushar Mouli Chakraborti				
7	EES	EES305	3	Environmental Chemistry				V	EES		BIO/CHM/PHY/MTH	PHY/CHM/MTH/BIO	Ritika Kaushal	Kiran Kumar Reddy			
8	EES	EES307	3	Sedimentology				V	EES				Joydip Mukhopadhyay				
9	EES	EES321	4	Natural Hazards and their Mitigation-I				V	EES		BIO/CHM/PHY/MTH	PHY/MTH/CHM	Charan Teja Tejabath	Gagan Mandal			
10	EES	EES311	1	Mineralogy Laboratory				V	EES				Azhar Mohammed Shaikh	Ibrahim Yousuf			
11	EES	EES313	1	Igneous Petrology Laboratory				V	EES				Tushar Mouli Chakraborti	Arnob Kumar Mondal			
12	EES	EES315	1	Environmental Chemistry Laboratory				V	EES				Ritika Kaushal	Kiran kumar Reddy			
13	EES	EES317	1	Sedimentology Laboratory				V	EES				Joydip Mukhopadhyay	Arnob Kumar Mondal			
14	EES	EES319	3	Introductory Fieldwork of Environmental Sciences & Geology				V	EES				Tushar Mouli Chakrabort	Ritika Kaushal	Azhar Mohammed Shaikh	Gagan Mandal	Ibrahim Yousuf
15	EES	EES401	3	Paleontology				VII	EES		BIO/CHM/PHY/MTH	PHY/MTH/CHM/BIO	Debarati Chattopadhyay				
16	EES	EES403	3	Economic Geology				VII	EES			PHY/MTH/CHM	M.S. Pandian				
17	EES	EES405	4	Evolution of the Indian Plate				VII	EES				Joydip Mukhopadhyay	Debarati Chattopadhyay	Narayan Bose		
18	EES	EES407	4	Remote Sensing and GIS				VII	EES			PHY/MTH/CHM	Pragnaditya Malakar	Rajesh S			
19	EES	EES411	1	Paleontology Laboratory				VII	EES				Debarati Chattopadhyay	Gagan Mandal			
20	EES	EES413	1	Economic Geology Laboratory				VII	EES				M.S. Pandian	Kiran Kumar Reddy			
21	EES	EES415	4	RS-GIS &Geoinformatics Laboratory				VII	EES				Pragnaditya Malakar	Rajesh S			
22	EES	EES417	4	Geological Fieldwork				VII	EES				Narayan Bose	Debanjan Chandra	Charan Teja Tejavath	Debarati Chattopadhyay	Arnob Kumar Mondal
23					EES603	4	Igneous Processes and Volcanology	IX		EES			Tushar Mouli Chakraborti				
24					EES605	4	Indian Monsoon and its Variability	IX		EES			Charan Teja Tejavath	Gagan Mandal			
25					EES607	4	Advanced Remote Sensing and GIS	IX		EES			Pragnaditya Malakar	Rajesh S			
26					EES615	4	Advanced Environmental Chemistry	IX		EES			Kiran Kumar Reddy	Ritika Kaushal			
27					EES617	4	Advanced Sedimentology and Basin Analysis	IX		EES			Joydip Mukhopadhyay				
28	HS	HS101	1	Basic Communication Skills				I					Chandan Kumar				
29	HS	HS103	1	Fundamental of Physical Education and Well-Being				I					Gohil Singh Thakur	Kashi Nath Yadav			
30	HS	HSS504	1	Law Relating to Intellectual Property and Patents				IX					Abhay Kumar				
31	EES	EES501	18	MS project				IX					Azhar Mohammed Shaikh				
32	PHY	PS101	3	Fundamentals of Physics I				I	PHY				Tanmoy Modak	Md Nasim			
33	PHY	PS201	3	Classical Mechanics				III	PHY				Md Nasim	Tanmoy Modak			
34	PHY	PS203	3	Mathematical Methods I				III	PHY				Vyas Akondi				
35	PHY	PS205	1	Physics Laboratory II				III	PHY				Shashi Bhushan Singh	Tanmoy Modak	Y. N. Mohapatra		
36	PHY	PHY301	4	Mathematical Methods I *(to be conducted together with PHY 203, except the complex variables part)				V	PHY				Vyas Akondi	Victor Mukherjee			
37	PHY	PHY303	4	Quantum Mechanics I				V	PHY				Ujjal Kumar Dey	Sandeep Chatterjee			
38	PHY	PHY305	4	Classical Mechanics (to be conducted together with PHY 201)				V	PHY				Md Nasim	Tanmoy Modak			
39	PHY	PHY307	3	Physics Laboratory I				V	PHY				Vyas Akondi	Ujjal Kumar Dey	Rahul Sharma		
40	PHY	PHY309	4	Thermal Physics				V		PHY			Bikashkali Midya				
41	PHY	PHY401	4	Electrodynamics and Special Theory of Relativity	PHY601	4	Electrodynamics and Special Theory of Relativity	VII	PHY				Rahul Sharma				
42	PHY	PHY403	4	Condensed Matter Physics	PHY603	4	Condensed Matter Physics	VII	PHY				Ajay Perumal				
43	PHY	PHY405	3	Condensed Matter Physics Lab				VII	PHY				Ajay Perumal	Rohit Soni	Md Nasim		
44	PHY	PHY425	4	Elective I - Quantum Information Theory	PHY625	4	Elective I - Quantum Information Theory	VII, IX, PHD		PHY			Victor Mukherjee				
45	PHY	PHY447	4	Elective II - Basic Electronics	PHY647	4	Elective II - Basic Electronics	VII, IX, PhD		PHY			Rohit Soni				
46	PHY	PHY435	4	Elective III - Application of Group Theory in Physics	PHY635	4	Elective III - Application of Group Theory in Physics	VII,IX,PhD		PHY			Ujjal Kumar Dey	Sandeep Chatterjee			
47	PHY	PHY438	3	Elective IV - Spintronics: Fundamentals and Applications	PHY638	3	Elective IV - Spintronics: Fundamentals and Applications	VII, IX, PhD		PHY			Sougata Mallick				
48	PHY	PHY501	16	MS Project				IX	PHY				Victor Mukherjee				
49	PHY				PHY699	8	Research Projects/Lab rotations/Reading projects		PHY								
50	MTH	MS101	3	A Potpourri of Mathematics				I	Institute				Prem Prakash Pandey				
51	MTH	MS103	1	Writing of Mathematics				I	Institute				Prem Prakash Pandey	Senthil Raani K S			
52	MTH	MS201	4	Linear Algebra				III	Pre-Major				Senthil Raani K S				
53	MTH	MS203	3	Introduction to Probability and Statistics				III	Pre-Major				Sangita Das				
54	MTH	MTH301	4	Group Theory				V	MS				Amiya Mondal				
55	MTH	MTH303	4	Real Analysis I				V	MS				Senthil Raani K S				
56	MTH	MTH305	4	Elementary Number Theory				V	MS				Jewel Mahajan	Kasi Viswanadham G			
57	MTH	MTH311	4	Advanced Linear Algebra				V		MS			Chandan Maity	Agnid Banerjee			
58	MTH	MTH408	4	Numerical Analysis				V			BIO/PHY/MTH/EES/CHM		Haritha C				
59	MTH	MTH401	4	Fields and Galois Theory				VII	MS				Seshadri Chintapalli				
60	MTH	MTH403	4	Real Analysis II				VII	MS				Agnid Banerjee	Debaprasanna Kar			
61	MTH	MTH405	4	Partial Differential Equations				VII	MS				Prashanta Garain	Sanjit Biswas			
62	MTH	MTH407	4	Complex Analysis I				VII	MS				Kasi Viswanadham G				
63	MTH	MTH507	4	Algebraic Topology	MTH605	4	Topology I	IX		MS			Seshadri Chintapalli	Chandan Maity			
64	MTH	MTH408	4	Numerical Analysis				VII			BIO/PHY/EES/CHM/MTH		Haritha C				
114	MTH	MTH501	18	MS Project				IX	MS			BIO	Vinay Bulusu				
65	MTH	MTH503	4	Functional Analysis	MTH614	4	Functional Analysis	IX	MS				Prashanta Garain				
66	MTH				MTH601	4	Algebra I		MS				Pabitra Barik				
67	CHM	CH101	3	General Chemistry I				I					Parikshit Moltra	Prosenjit Daw			
68	CHM	CH201	3	Organic Chemistry I				III					Thirupathi Barla				
69	CHM	CH205	3	Inorganic Chemistry I				III					Rakesh Kumar Pathak				
70	CHM	CH203	1	Synthetic Chemistry Laboratory				III					Gohil Singh Thakur				
71	CHM	CHM301	4	Symmetry and Group Theory				V	CHM			BIO/EES/PHY/MTH/EES/CDS	Somrita Ray				
72	CHM	CHM311	4	Organic Chemistry I				V	CHM			BIO/EES/PHY/MTH/EES/CDS	Shikha Gandhi				
73	CHM	CHM313	3	Organic Chemistry Laboratory II				V	CHM				Laxmidhar Rout				
74	CHM	CHM321	4	Physical Chemistry of Solutions				V	CHM			BIO/EES/PHY/MTH/EES/CDS	Santanu Bhattacharyya				
75	CHM	CHM343	4	Chemistry of Biological Systems				V		CHM	BIO/EES/PHY/MTH		Subal Dey				
76	CHM	CHM323	4	Solid State Chemistry				V		CHM	BIO/EES/PHY/MTH		H. S. S. Ramakrishna Matte				
77	CHM	CHM325	4	Mathematical Methods for Chemists				V		CHM			Saumyak Mukherjee				
78	CHM	CHM324	4	Physical Properties of Matter				V		CHM			Sulakhana P Mukherjee				
79	CHM	CHM401	4	Non-transition Metal Chemistry	CHM601	4	Non-transition Metal Chemistry	VII	CHM			BIO/EES/PHY/MTH/EES/CDS	Gohil Singh Thakur	Adinarayana Doddi			
80	CHM	CHM411	4	Physical Organic Chemistry	CHM611	4	Physical Organic Chemistry	VII	CHM			BIO/EES/PHY/MTH/EES/CDS	Parikshit Moltra				
81	CHM	CHM421	4	Statistical Mechanics	CHM621	4	Statistical Mechanics	VII	CHM			BIO/EES/PHY/MTH/EES/CDS	Malay Kr Rana				
82	CHM	CHM423	3	Physical Chemistry Laboratory II				VII	CHM				Archita Patnaik				
83	CHM	CHM609	4	Transition Metal Organometallic Chemistry	CHM609	4	Transition Metal Organometallic Chemistry	VII		CHM			Prosenjit Daw	Adinarayana Doddi			
84	CHM	CHM613	4	Advanced Organic Chemistry I	CHM613	4	Advanced Organic Chemistry I	VII		CHM			Amit Kumar Simlandy				
85	DCS	CHM628	4	Electrochemistry: Fundamentals and Applications				VII	CHM628				Sourav Mallick				
86	DCS	CHM632	4	Physical Chemistry of Polymers	CHM632	4	Physical Chemistry of Polymers	VII		CHM			Aritra Sarkar				
87	CHM	CHM637	4	Chemistry and Physics of Materials	CHM637	4	Chemistry and Physics of Materials	VII		CHM	BIO/EES/PHY/MTH		Goutam De				
88	CHM	CHM501	18	MS Project				IX	CHM				Somrita Ray				
89	CS	CS201	2	Introduction to Data Analytics: Concepts and Applications		-	-	III	CS			-	Anabik Pal	Neelam Sinha	Sambit Shukla		
90	CS	CDS301	4	Programming and Data Structures Lab – I	CDS501	4	Programming and Data Structures Lab – I	V	CS			CS	Chinmaya Kumar Dehury				
91	CS	CDS303	4	Theory of Computation				V	CS			CS	Satyabrata Jana				
92	CS	CDS401	4	Design and Analysis of Algorithms				VII	CS	CS		CS	Tribikram Pradhan				
93	CS	CDS605	4	Machine Learning	CDS605	4	Machine Learning	VII	CS	CS		CS	Anabik Pal				

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94	CS	CS503	1	Research Asset Management and Latex	CS503	1	Research Asset Management and Latex	VII / IX / XI / XIII			BIO/CHM/PHY/MTH/EES		Chinnmaya Kumar Dehury				
95	CS	CS307	4	Architecture and Operations of Computer System				V	CS			CS	Sambit Shukla				
96	CS	CS409	4	Approximation Algorithms				VII		CS		CS	Satyabrata Jana				
97	BIO	BS101	3	Biology I: Basic properties of living organisms				I	BIO				Vivek Tiwari	Vinay Bulusu			
98	BIO	BS103	1	General Biology Laboratory-I				I	BIO				Prabhat Singh	Vivek Tiwari	Vinay Bulusu		
99	BIO	BS201	3	Biology III: Introduction to Evolution, Ecology and Behaviour				III	BIO				Bodhisatta Nandy				
100	BIO	BS203	3	Biology IV: Fundamentals of Cell and Molecular Biology				III	BIO				Shanti Swaroop Srivastava				
101	BIO	BS205	1	Biology pre-major lab I				III	BIO				Prabhat Singh	Bodhisatta Nandy	Shanti Swaroop Srivastava		
102	BIO	BIO301	4	Advanced Cell Biology				V	BIO			BIO	Prosenjit Mondal				
103	BIO	BIO305	4	Plant forms and functions	BIO620	4	Plant - Environment Interactions	V	BIO			BIO	Jose Sebastian				
104	BIO	BIO303	3	Structural Biology	BIO603	4	Advanced Structural Biology	V			BIO/CHM/PHY/MTH/EES	BIO	Shanti Swaroop Srivastava	Arunkumar Krishnan			
105	BIO	BIO313	4	Biostatistics	BIO623	4	Biostatistics and Experimental Design	V	BIO			BIO	Aabeer Kumar Basu				
106	BIO	BIO307	3	Biology Laboratory I				V	BIO				Prabhat Singh	Jose Sebastian	Bhavana Tiwari	Prosenjit Mondal	
107	BIO	BIO315	3	Population Ecology	BIO625	4	Advanced Population Ecology and Modelling	V			BIO/CHM/PHY/MTH/EES	BIO	Bodhisatta Nandy				
108	BIO	BIO309	3	Microbiology				V	BIO			BIO	Bhavana Tiwari				
109	BIO	BIO403	4	Biochemistry II				VII	BIO			BIO	Pravat Kumar Parida				
110	BIO	BIO402	4	Bioinformatics	BIO602	4	Advanced Bioinformatics	VII	BIO			BIO	Arunkumar Krishnan				
111	BIO	BIO410	4	Advanced Genetics	BIO610	4	Advanced Genetics	VII	BIO			BIO	Ruthrotha Selvi Bharathavikru				
112	BIO	BIO405	3	Biology Laboratory III				VII	BIO				Prabhat Singh	Pravat Kumar Parida	Arunkumar Krishnan	Ruthrotha Selvi Bharathavikru	
113	BIO	BIO404	4	Neurobiology	BIO604	4	Advanced Neurobiology	VII		BIO		BIO	Vivek Tiwari				
114	BIO	BIO406	3	Cancer Biology	BIO606	4	Cancer Biology: Mechanisms and theraputic Strategies	VII		BIO		BIO	Vinay Bulusu				
114	BIO	BIO501	18	MS Project				IX	BIO			BIO	Vinay Bulusu				
115	BIO	BIO503	4	Metabolic Engineering	BIO503	4	Metabolic Engineering	VII		BIO		BIO	Pravat Kumar Parida				