

BS Material Science

Course Code	Knowledge Area/Name of Subject	Theory	Lab	Req. Courses	Req. CH	Prerequisites
Foundation						
MTS-1101	Fundamentals of Materials Science	2	0	11	31	
MTS-1102	Compter Aided Drawing & Manufacturing	2	1			
MTS-1103	Workshop Practice	0	1			
MTS-1104	Materials Thermodynamics	3	0			
MTS-2105	Physical Metallurgy	3	1			Fundamentals of Materials Science
MTS-2106	Mechanics of Materials	2	0			
MTS-2107	Smart and Functional Materials	3	0			Fundamentals of Materials Science
MTS-2108	Materials Testing Techniques	3	1			
MTS-2109	Ceramics & Refractory Materials	3	1			
MTS-2110	Polymer Science	2	1			
MTS-2111	Health Safety & Environment	2	0			
Major						
MTS-3201	Materials for Sustainable Infrastructure	3	0	10	29	Fundamentals of Materials Science
MTS-3202	Electromagnetic Materials	2	0			Fundamentals of Materials Science
MTS-3203	Composite Materials	2	1			Materials Thermodynamics
MTS-3204	Mineral Sciences	3	0			
MTS-3205	Extraction of Materials	2	0			Fundamentals of Materials Science
MTS-3206	Crystal Structure & Analysis	3	0			
MTS-3207	Heat Treatment of Materials	3	1			Fundamentals of Materials Science
MTS-3208	Materials Characterization Techniques	3	0			Applied Chemistry
MTS-3209	Surface Sciences	3	0			Physical Metallurgy
MTS-3210	Biomaterials	3	0			
Electives						
MTS-4301	Joining Processes of Materials	2	1	4	12	Offered in Final Year Only
MTS-4302	Corrosion & protection of Materials	3	0			Offered in Final Year Only
MTS-4303	Advanced Materials and Nanotechnology	3	0			Offered in Final Year Only
MTS-4304	Failure Analysis of Materials	2	1			Offered in Final Year Only
MTS-4305	Materials Fabrication	3	0			Offered in Final Year Only
MTS-4306	Materials for Aerospace Applications	3	0			Offered in Final Year Only
MTS-4307	Materials for Renewable Energy	3	0			Offered in Final Year Only
MTS-4308	Nuclear Materials	3	0			Offered in Final Year Only
Interdisciplinary Electives						
IDE-x401	Circuits & Electronics	2	1	4	12	
IDE-x402	Instrumentation & Control	3	1			
IDE-x403	Research Methodology	3	0			
IDE-x404	Project Planning & Management	2	0			
Final Year Project						
MTS-4999	Final Year Project-I	0	3	1	6	Offered in Final Year Only
MTS-4999	Final Year Project-II	0	3			Offered in Final Year Only