Intake:	2020 onwards	Specialization:	Materials Science and Engineering
Details of the Curriculum		Stream:	

Module Code	Module Name	Category C/E/O	Time allocation [Hours/Week]		Credits offered		Norm		Evaluation %	
			Lecture	Lab / Tute	GPA	NGPA	GPA	NGPA	CA	WE
Semester 1		**Specialization requirement**					**15.0**			
MA1014	Mathematics	C	5/2	1	3.0				20	80
CS1033	Programming Fundamentals	C	2	2	3.0				20	80
EE1040	Electircal Fundamentals	C	2	2/4	2.0				20	80
ME1033	Mechanics	C	2	2/4	2.0		15.0	0.0	20	80
CE1023	Fluid Mechanics	C	2	2/4	2.0				20	80
MT1023	Properties of Materials	C	2	2/4	2.0				20	80
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0				100	0
		Total			**15.0**	**0.0**	**15.0**	**0.0**		
Semester 2		**Specialization requirement**					**22.0**			
MA1024	Methods of Mathematics	C	5/2	1	3.0				30	70
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0				100	0
EN1803	Basic Electronics for Engineering Applications	C	2	2	3.0				40	60
CS2813	Visual Programming	C	1	2	2.0		19.0		60	40
ME1091	Engineering Drawing and Computer Aided Modelling	C	1	4	3.0				100	0
MT1070	Thermodynamics and Phase Equilibria	C	5/2	1	3.0				40	60
MT1080	Fundamentals of Materials Science and Engineering	C	4	0	4.0				40	60
MT1940	Fundamentals of Engineering Design and Workshop Practice	C	1	4		3.0		3.0	100	0
		Total			**19.0**	**3.0**	**19.0**	**3.0**		
Semester 3		**Specialization requirement**					**22.0**			
EE2804	Applied Electricity	C	2	2	3.0				40	60
MA2014	Differential Equations	C	2	0	2.0				30	70
MA3024	Numerical Methods	C	2	0	2.0				30	70
MA2024	Calculus	C	2	0	2.0		22	0	30	70
MT2211	Mechanical Behaviour of Materials	C	3	2	4.0				40	60
MT2220	Ferrous Metals and Alloys	C	7/2	1	4.0				40	60
MT2021	Polymer Science and Technology	C	5/2	1	3.0				40	60
MT2053	Communication Skills	C	1	2	2.0				100	0
		Total			**22.0**	**0**	**22**	**0**		
Semester 4		**Specialization requirement**					**23.0**			
ME2833	Mechanics of Machines	C	3/2	2/2	2.0				30	70
ME2851	Fundamentals of Machine Elements Design	C	2	2	3.0				30	70
MA2034	Linear Algebra	C	2	0	2.0				30	70
MA3014	Applied Statistics	C	2	0	2.0		23.0	0.0	30	70
MT2181	Solid State Materials	C	7/2	1	4.0				40	60
MT2230	Kinetics of Materials	C	5/2	1	3.0				40	60
MT2171	Ceramic Engineering	C	7/2	1	4.0				40	60
MT3095	Polymer Engineering	C	5/2	1	3.0				40	60
		Total			**23.0**	**0.0**	**23.0**	**0.0**		
Semester 5		**Specialization requirement**					**20.0**			
HM-1	Humanities I	C			2.0		2.0		100	0
MT3880	Engineer & Society [S5 & S6]	C	0	2	1.0				100	0
ME3813	Machine Design	C	1	2	2.0				100	0
MT2075	Metal forming and Joining	C	3/2	1	2.0		12.0		40	60
MT3031	Degradation and Failure of Materials	C	5/2	1	3.0				40	60
MT3054	Characterization of Materials	C	7/2	1	4.0				40	60
MT3084	Latex Science and Technology	E	5/2	1	3.0			0.0	40	60
MT3060	Industrial Metallurgy	E	5/2	1	3.0				40	60
MT4284	Nanomaterials	E	5/2	1	3.0				40	60
MT3301	Electronic and Optical Device Engineering	E	5/2	1	3.0		6.0		40	60
MT3220	Instrumentation and Control Engineering in Materials Processing	E	5/2	1	3.0				40	60
MT3331	Construction Materials	E	5/2	1	3.0				40	60
		Total			**32.0**	**0.0**	**20.0**	**0.0**		
Industrial Training		**Specialization requirement**					**6.0**			

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MT3993	Industrial Training	C	0	0		6.0		6		100
		Total			0.0	6.0	0	6		
Semester 6		Specialization requirement					8.0			
HM-2	Humanities II	C			2.0		2.0		100	0
MT4204	Research Project [S6, S7 & S8]	C	0	2	1.0		3.0		100	0
MT3880	Engineer & Society [S5 & S6]	C	1	2	2.0			0.0	100	0
MT3714	Extraction Metallurgy	E	5/2	1	3.0				40	60
MT3350	Materials Modelling	E	2	2	3.0		3.0		50	50
MT4761	Electro Ceramics	E	5/2	1	3.0				40	60
		Total			14.0	0.0	8.0	0.0		
Semester 7		Specialization requirement					13.0			
MN4023	Engineering Economics	C	2	0	2.0				30	70
MT3201	Comprehensive Design Project	C	0	8	4.0				100	0
MT4204	Research Project [S6, S7 & S8]	C	0	4	2.0		13.0		100	0
MT4024	Total Quality Management	C	3/2	1	2.0				40	60
MT4130	Selection of Materials for Engineering Applications	C	5/2	1	3.0				40	60
MT4281	Surface Engineering and Tribology	E	5/2	1	3.0				40	60
MT4064	Industrial Polymer Porcess Engineering	E	5/2	1	3.0			0.0	40	60
MT4074	Design and Fabrication of Polymer Products	E	5/2	1	3.0				40	60
MT4744	Composites	E	3/2	1	2.0				40	60
MT4781	Smart Materials and Devices	E	5/2	1	3.0				40	60
MT4262	Non-Ferrous Metals and Alloys	E	5/2	1	3.0				40	60
MT4810	Continuum Scale Numerical Simulation of Material Systems	E	5/2	1	3.0				40	60
		Total			33.0	0.0	13.0	0.0		
Semester 8		Specialization requirement					9.0			
MN4043	Technology Management	C	2	0	2.0				30	70
MT4121	Cleaner Production	C	5/2	1	3.0		9.0		40	60
MT4204	Research Project [S6, S7 & S8]	C	0	8	4.0				100	0
MT4401	Magnetism and Magnetic Materials for Device Engineering	E	5/2	1	3.0				40	60
MT4084	Dies and Moulds for Polymer Processing	E	5/2	1	3.0				40	60
MT4430	Compounding and Testing of Polymers	E	5/2	1	3.0			0.0	40	60
MT4301	Non-Destructive Testing	E	3/2	1	2.0				40	60
MT4410	Advanced Materials Characterization	E	5/2	1	3.0				40	60
MT4420	Energy Materials	E	5/2	1	3.0				40	60
MT4774	Paint Technology	E	5/2	1	3.0				40	60
MT4733	Biomaterials	E	5/2	1	3.0				40	60
		Total			32	0	9.0	0.0		
		Grand Total			190.0	9.0	129.0	9.0		

Total credit requirement for the Specialization	138.0
Faculty/Specialization Electives beyond the specialization requirements [refer faculty electives table]*	12
TOTAL CREDIT REQUIREMENT FOR GRADUATION	150.0

Service modules

Code	Module Name	Semeter	Time allocation [Hours/Week]		Credits		Offered to		Evaluation %	
			Lecture	Lab / Tute	GPA	NGPA			CA	WE
MT1814	Engineering Materials		3/2	1	2		ME	TT	40	60