Curriculum of B.Sc. Engineering Degree Honours Programme
Materials Science and Engineering Specialization
Department of Materials Science and Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 1										
MA1013	Mathematics	C	3	1/1	3.0				20	80
CS1032	Programming Fundamentals	C	2	3/1	3.0				20	80
ME1032	Mechanics	C	2	3/4	2.0				20	80
MT1022	Properties of Materials	C	2	3/4	2.0				20	80
CE1022	Fluid Mechanics	C	2	3/4	2.0				20	80
EE1012	Electrical Engineering	C	2	3/4	2.0				20	80
EL1012	Language Skill Enhancement I	C	-	3/1	1.0				20	80
MN1012	Engineering in Context	C	1	-		1.0	15.0	1.0	30	70
				Total for Semester 1			15.0	1.0		
Semester 2										
MT1032	Principles of Materials Science & Engineering I	C	1.5	3/2	2.0				30	70
EN1802	Basic Electronics	C	2	3/4	2.0				30	70
MT1062	Polymer Science	C	1.5	3/2	2.0				30	70
ME1090	Engineering Drawing and Computer Aided Modeling	C	2	3/1	3.0				100	0
CS2812	Visual Programming	C	1	3/1	2.0				60	40
MA1023	Method of Mathematics	C	3	1/1	3.0				30	70
MT1162	Metals and Alloys - I	C	1.5	3/2	2.0				30	70
EL1022	Language Skill Enhancement II	C	-		1.0				30	70
ME1100	Mechanics of Materials I	C	1.5	3/2	2.0				30	70
MT1962	Engineering Skill Development	C	0.5	3/1		1.5			100	0
MT1952	Engineering Design	C	0.5	3/1		1.5	19.0	3.0	100	0
DE2XXX	Humanities Elective-I	E	1.5	3/2	2.0		2.0	0.0		
MN1030	Entrepreneurship Skill Development	O	0.5	3/2		1.0			70	30
				Total for Semester 2			21.0	3.0		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 3										
MT2122	Principles of Materials Science & Engineering II	C	1.5	3/2	2.0				30	70
ME1822	Basic Engineering Thermodynamics	C	1.5	3/2	2.0				30	70
MA2013	Differential Equations	C	2	-	2.0				30	70
MA2023	Calculus	C	2	-	2.0				30	70
MT2052	Communication Skills	C	1.5	3/2	2.0				100	0
MT2042	Ceramic Science	C	1.5	3/2	2.0				30	70
EE2802	Applied Electricity	C	1.5	3/2	2.0				30	70
EN2852	Applied Electronics	C	1.5	3/2	2.0				40	60
MT2152	Polymer Technology	C	1.5	3/2	2.0		18.0	0.0	30	70
MN1030	Entrepreneurship Skill Development	O	0.5	3/2		1.0			70	30
				Total for Semester 3			18.0	0.0		
Semester 4										
MT2142	Electrical and Magnetic Properties of Materials	C	2.5	3/2	3.0				30	70
MT2072	Metal Forming and Machining	C	1.5	3/2	2.0				30	70
MT2032	Degradation of Materials	C	1.5	3/2	2.0				30	70
MA2033	Linear Algebra	C	2	-	2.0				30	70
MA3013	Applied Statistics	C	2	-	2.0				30	70
ME2832	Mechanics of Machines	C	1.5	3/2	2.0				30	70
ME2060	Mechanics of Materials II	C	3.5	3/2	4.0				30	70
ME2850	Fundamentals of Machine Element Design	C	2	3/1	3.0		20.0	0.0	40	60
MN2010	Entrepreneurial Leadership	O	1.5	3/2	2.0				50	50
				Total for Semester 4			20.0	0.0		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 5										
MT3052	Characterisation of Materials	C	2	3/2	2.5				30	70
ME3812	Machine Design	C	1	3/1	2.0				30	70
MA3023	Numerical Methods	C	2	-	2.0				30	70
MN3042	Business Economics and Financial Accounting	C	3	-	3.0				30	70
MT3902	Industrial Visits I	C	-	-		1.0	9.5	1.0	100	0
MT3212	Metal Casting and Powder Metallurgy	E	1.5	3/2	2.0				30	70
MT3252	Ceramic Technology	E	2.5	3/2	3.0				30	70
MT3242	Joining of Materials	E	1.5	3/2	2.0				30	70
MT3092	Polymer Engineering	E	2.5	3/2	3.0				30	70
ME3012	Control Systems and Instrumentation	E	3.5	3/2	4.0				30	70
MT3082	Latex Science and Technology	E	2	3/2	3.0				30	70
MN3052	Industrial Management & Marketing	E	2.5	3/2	3.0		10.0	0.0	30	70
MN3010	Multidisciplinary Design, Innovation and Venture Creation	O	1.5	3/2	2.0				50	50
				Total for Semester 5			19.5	1.0		
Training Semester										
MT3992	Industrial Training	C	-	-		6.0	0.0	6.0	100	0
				Total for Training Semester				6.0		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 6										
DE2xxx	Humanities Elective-II	E			2.0					
MT4202	Research Projects	C			2.0				100	0
MT4902	Industrial Visits-II	C	-	-		2.0	4.0	2.0	100	0
MT4332	Heat treatments and strengthening Mechanisms of Metals	E	2.5	3/2	3.0				30	70
MT4282	Nano Materials	E	1.5	3/2	2.0				30	70
MT4772	Paint Technology	E	1.5	3/2	2.0				30	70
MT3712	Extraction of Metals	E	1.5	3/2	2.0		6.0	0.0	30	70
				Total for Semester 6			10.0	2.0		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 7										
MT4022	Total Quality Management	C	1.5	3/2	2.0				30	70
MT4202	Research Project	C	-	-	3.0				100	0
MT4032	Optical and Electron Microscopy	C	1.5	3/2	2.0				30	70
MT4052	Mechanical Behaviour of Materials	C	1.5	3/2	2.0		9.0	0.0	30	70
MT4262	Metals and Alloys - II	E	2.5	3/2	3.0				30	70
MT4302	Advanced Ceramics	E	1.5	3/2	2.0				30	70
MN4132	Consumer & Industrial Marketing	E	2	-	2.0				30	70
MT4062	Industrial Polymer Process Engineering	E	2	3/1	3.0				30	70
MT4072	Design & Fabrication of Polymer Products	E	2.5	3/2	3.0				30	70
MN4022	Engineering Economics	E	2	-	2.0				30	70
MN4122	Human Resource Management and Industrial Relations	E	2	-	2.0				30	70
MT4712	Refractories & Kiln Technology	E	1.5	3/2	2.0				30	70
MT4742	Composites	E	1.5	3/2	2.0				30	70
MN3020	Entrepreneurship Business Basics	E	2	3/1	3.0		9.0	0.0	50	50
				Total for Semester 7			18	0.0		

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Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 8										
MT4202	Research Project	C	-	-	3.0				100	0
MN4042	Technology Management	C	2	-	2.0				30	70
MT4112	Selection of Materials, Failure Analysis and Non Destructive Testing	C	2	3/2	2.5		7.5	0.0	30	70
MT4272	Smart Materials	E	1.5	3/2	2.0				30	70
MT4342	Cleaner Production	E	1.5	3/2	2.0				30	70
MN4010	Business Plan Development	E	1.5	3/2	2.0				70	30
MT4082	Dies and Moulds for Polymer Processing	E	2.5	3/2	3.0				30	70
MT4092	Polymer Process Control and Instrumentation	E	2	3/2	3.0				30	70
MA4022	Operational Research	E	3	-	3.0				30	70
MT4722	Construction Materials	E	1.5	3/2	2.0				30	70
MT4732	Bio Materials	E	1.5	3/2	2.0				30	70
MN4072	Small Business Management & Entrepreneurship	E	2	-	2.0		8.0	0.0	30	70
				Total for Semester 8			15.5	0.0		
				Total credit for the Programme			**137**	**13**		

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Modules offered for other Fields of Specialization

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 2										
MT2802	Materials Science		2	3/2	2.5				30	70
MT1812	Engineering Materials		1.5	3/2	2.0				30	70
				Total for Semester						

Modules offered for Focus Area in Polymer Engineeirng

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 5										
MT3082	Latex Science and Technology		2	3/2	3.0				30	70
Semester 6										
MT4202	Research Project(Polymer Related)		-	-	2.0				100	0
Semester 7										
MT4202	Research Project (Polymer Related)		-	-	3.0				100	0
MT4062	Industrial Polymer Process Engineering		2	3/1	3.0				30	70
MT4072	Design & Fabrication of Polymer Products		2.5	3/2	3.0				30	70
Semester 8										
MT4202	Research Project (Polymer Related)		-	-	3.0				100	0
MT4082	Dies and Moulds for Polymer Processing		2.5	3/2	3.0				30	70
MT4092	Polymer Process Control and Instrumentation		2	3/2	3.0				30	70

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Modules offered for Minor in Entrepreneurship

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		Evaluation (%)	
					GPA	NGPA	GPA	NGPA	CA	WE
Semester 2/3										
MN1030	Entrepreneurship Skill Development		1	3/1		2.0			70	30
Semester 4										
MN2010	Entrepreneurial Leadership		1.5	3/2	2.0				50	50
Semester 5										
MN3010	Multidisciplinary Design, Innovation and Venture Creation		1.5	3/2	2.0				50	50
Semester 7										
MN3020	Entrepreneurship Business Basics		2	3/1	3.0				50	50
Semester 8										
MN4010	Business Plan Development		1.5	3/2	2.0				70	30