

M. Tech in Smart Manufacturing

SCHEME OF STUDY (wef July 2021)

First Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM 511	Robotics and Automation	3	-	-	3
SM 512	Computer Aided Design in Smart Manufacturing	3	-	-	3
SM 513	Finite Element Methods	3	-	-	3
SM 514	Micro-electro Mechanical System	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective 1(A)	3	-	-	3
	Elective 2 (B)	3	-	-	3
SM 515	Smart Manufacturing System Lab	-	-	2	1
SM 516	Seminar-1	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM 521	Additive Manufacturing	3	-	-	3
SM 522	Micro Manufacturing	3	-	-	3
SM 523	Soft Computing Methods	3	-	-	3
	Elective 3 (A)	3	-	-	3
	Elective 4 (A)	3	-	-	3
	Elective 5 (C)	3	-	-	3
ME 524	Research Methodology	1	1	-	2
SM 525	Modeling and Simulation Lab	-	-	2	1
SM 526	Seminar-2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM 611	Dissertation Phase - I	-	-	32	16
Total Hours:32 Total Credits:60		Total Semester Credits			16

Fourth Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
SM551	Supply Chain Management	ARP - 581	Introduction to Urban Planning
SM552	Internet of Things	BSE – 581	Bioprocess Engineering
SM553	Machine Learning in Design and Manufacturing	BSE – 582	Biophysics Tools and Techniques
SM554	Nano Finishing Processes	CHE – 581	Analytical Techniques
SM555	Advanced Manufacturing Processes	CHE – 582	Green Technology & Processes
SM556	Material and Characterization for Additive Manufacturing	CE – 581	Solid Waste Management
SM557	Non-linear Finite Element Methods	CE – 582	Basic Concept of GIS
SM558	Physics of Manufacturing Processes	CE – 583	Road Safety
SM559	Metrology and Computer Aided Inspection	CSE – 581	Machine Learning
SM560	CNC Technology and Programming	CSE – 582	Advanced Data Structures and Algorithms
SM561	Product Design for Manufacturing and Assembly	PHY – 581	Nanotechnology and Nanoscience
SM562	Entrepreneurship & Startup Creation	EE – 581	Electric Machines & Applications
SM563	Reverse Engineering & Rapid Prototyping	EE – 582	Control and Instrumentation
SM564	Mechanics of Machining	ECE – 581	Introduction to Fuzzy Logic
SM565	Advanced Machining Processes	ECE – 582	Neural Networks and its Applications
SM566	Mechanics of Sheet Metal Forming	EC - 581	Energy Resource Technologies
		HUM – 581	Intellectual Property Rights for Engineers
		HUM – 582	Applied Psychology: Human Centered Design and Engineering
List of Departmental Electives B		MTH – 581	Advanced Operations Research
ID 512	Accelerated Product Design & Development	MTH – 582	Computing Technologies
ID 514	Advanced Computer Graphics	MME – 581	Advanced Instrumentation Methods for Material Analysis
AM 513	Mechanical Behaviour of Materials	MME – 582	Smart Materials and their Application
SV 511	Theory of Elasticity	MBA-581	Engineering Startup Management