

Department of Mechanical Engineering

M.Tech. Materials and Manufacturing Technology Curriculum

(Applicable to the students admitted from AY: 2023 onwards)



**School of Engineering and Sciences
SRM University AP, Andhra Pradesh**

ABBREVIATIONS

AEC	Ability Enhancement Courses
VAC	Value Added Courses
SEC	Skill Enhancement Courses
FIC	Foundation & Interdisciplinary Courses
OE	Open Elective
RDIP	Research / Design / Industrial Practice / Project / Thesis / Internship
CE	Core Elective
CC	Core Course
SE	Stream Elective
TE	Technical Elective

SEMESTER - I							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U AEC	Community Engagement and Social Responsibility	0	0	1	1*
2	VAC	U AEC	Research Seminar - I	0	0	1	1*
3	SEC	D SEC	Design Thinking	1	0	1	2
4	FIC	S FIC	Advanced Numerical Techniques	2	1	1	4
5	Core	CC	Industrial Surface Engineering	3	0	1	4
6	Core	CC	Sustainable Manufacturing	3	0	1	4
7	Core	CC	Materials for Manufacturing	3	0	1	4
8	Core	CC	Production and operation management	3	0	0	3
Semester Total				15	1	5	21

SEMESTER - II							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	VAC	U VAC	Community Engagement and Social Responsibility	0	0	1	1
2	VAC	U AEC	Research Seminar - II	0	0	1	1
3	SEC	S SEC	Entrepreneurial Mindset	1	0	1	2
4	Elective	CE	Core Elective	3	0	1	4
5	Elective	CE	Core Elective	3	0	1	4
6	Core	CC	Advanced Materials Processing Technologies	3	0	1	4
7	Core	CC	Additive Manufacturing	3	0	1	4
8	Core	CC	Material Characterization Processes	3	0	1	4
9	RDIP	RDIP	Project Management	0	0	3	3
Semester Total				16	0	11	27

SEMESTER - III							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Thesis - I	0	0	14	14
2	RDIP	RDIP	Industrial Practice	0	0	3	3
Semester Total				0	0	17	17

SEMESTER - IV							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	RDIP	RDIP	Thesis - II	0	0	15	15
Semester Total				0	0	15	15

Core Electives							
S. No	Category	Sub-Category	Course Title	L	T/D	P/Pr	C
1	Elective	CE	Analysis of machining processes	3	0	1	4
2	Elective	CE	Lasers in Manufacturing	3	0	1	4
3	Elective	CE	Lean manufacturing	3	0	1	4
4	Elective	CE	Reliability engineering	3	0	1	4
5	Elective	CE	Tool design	3	0	1	4
6	Elective	CE	Digital Manufacturing	3	0	1	4
7	Elective	CE	Advanced Metal Forming	3	0	1	4
8	Elective	CE	Precision and Micro Manufacturing	3	0	1	4
9	Elective	CE	Quality engineering	3	0	1	4
10	Elective	CE	Finite element methods for Manufacturing	3	0	1	4
11	Elective	CE	Inspection and Testing in Manufacturing	3	0	1	4
12	Elective	CE	Flexible Manufacturing System	3	0	1	4
13	Elective	CE	Product Design and Manufacturing	3	0	1	4
14	Elective	CE	Biomaterials Processing and Applications	3	0	1	4
15	Elective	CE	Powder Materials and Processing	3	0	1	4
16	Elective	CE	Design and Analysis of Experiments	3	0	1	4
17	Elective	CE	Robotics and AI/ML for Manufacturing	3	0	1	4
18	Elective	CE	Manufacturing Automation and Industry 4.0	3	0	1	4