

Maulana Azad National Institute of Technology, Bhopal – 462003
Mechanical Engineering Department

M Tech in Advanced Material Technology

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
AM 511	Advanced Computational Techniques	3	-	-	3
AM 512	Material Technology	3	-	-	3
AM 513	Mechanical Behavior of Materials	3	-	-	3
AM 514	Reliability Engineering	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
AM 515	Behavior of Materials Laboratory	-	-	2	1
AM 516	Seminar-I	-	-	2	1
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
AM 521	Material Processing	3	-	-	3
AM 522	Advanced Composite Materials	3	-	-	3
AM 523	Failure and Fracture Analysis	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
ME 524	Research Methodology	1	1	-	2
AM 525	Advanced Materials Laboratory	-	-	2	1
AM 526	Seminar-II	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

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

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
AM 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	
AM 551	Process Planning in Material Systems	ARP - 581	Introduction to Urban Planning
AM 552	Mechanics of Bio Materials	BSE – 581	Bioprocess Engineering
AM 553	Materials for Automotive Applications	BSE – 582	Biophysics Tools and Techniques
AM 554	Impact Mechanics	CHE – 581	Analytical Techniques
AM 555	Material Management and Inventory Control	CHE – 582	Green Technology & Processes
AM 556	Intellectual Property Rights	CE – 581	Solid Waste Management
AM 557	Product Design & Material Selection	CE – 582	Basic Concept of GIS
AM 558	Concurrent Engineering	CE – 583	Road Safety
AM 559	Material Characterization	CSE – 581	Machine Learning
AM 560	Powder Materials Processing	CSE – 582	Advanced Data Structures and Algorithms
AM 561	Industrial Psychology	PHY – 581	Nanotechnology and Nanoscience
AM 562	Organizational Behavior	EE – 581	Electric Machines & Applications
AM 563	Nano Materials, SMAs and Plastics	EE – 582	Control and Instrumentation
AM 564	Aerospace Materials	ECE – 581	Introduction to Fuzzy Logic
AM 565	Forming Processes	ECE – 582	Neural Networks and its Applications
List of Departmental Electives B		EC - 581	Energy Resource Technologies
ID 554	Design for Reliability	HUM – 581	Intellectual Property Rights for Engineers
ID 557	Material Selection in Mechanical Design	HUM – 582	Applied Psychology: Human Centered Design and Engineering
ID 513	Product Planning & Design for Market	MTH – 581	Advanced Operations Research
ID 561	Additive Manufacturing	MTH – 582	Computing Technologies
TH 551	Renewable Energy	MME – 581	Advanced Instrumentation Methods for Material Analysis
SV 567	Product Design & Development	MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management