Maulana Azad

NATIONAL INSTITUTE OF TECHNOLOGY, Bhopal-462003

CENTRE OF EXCELLENCE IN PRODUCT DESIGN AND SMART MANUFACTURING
MTech. in Smart Manufacturing

PROPOSED SCHEME OF STUDY (February 2024)

First Semester

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
	Fundamentals in Robotics	3	-	-	3
SM512	CAD for Smart Manufacturing	3	-	-	3
SM513	Mechatronic System Design	3	-	-	3
	Departmental Elective – I	3	-	-	3
	Departmental Elective – II	3	-	-	3
SM514	Modelling and Simulation Lab.	-	-	2	1
SM515	Smart Manufacturing Lab. I	-	-	2	1
SM516	Seminar-I	-	-	2	1
SM517	Minor Project-I	-	-	-	2
HUM	Communication Skills	2	-	-	0
Total Hours: 23 Total Credits: 20		Total Semester Credits			20

Second Semester

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
SM521	Additive Manufacturing	3	-	-	3
	Internet of Things	3	-	-	3
	Departmental Elective – III	3	-	-	3
	Departmental Elective – IV	3	-	-	3
	Open Elective	3	-	-	3
SM523	Additive Manufacturing Lab.	-	-	2	1
SM524	Smart Manufacturing Lab. II	-	-	2	1
SM525	Seminar-II	-	-	2	1
SM526	Minor Project-II	-	-	-	2
Total Hours: 23 Total Credits: 20		Total Semester Credits			20

Third Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM611	Project Phase-I	-	-	40	40
Total Hours: 40 Total Credits: 60		Total Semester Credits			20

Fourth Semester

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
SM621	Project Phase-II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

List of Departmental Electives

Course No.	Subject	Course No.	Subject
SM551	Micro-electro Mechanical Systems	SM560	Micro Machining
AI103/ AI512	Machine Learning	SM561	Soft Robotics
SM553	Data Analytics	SM562	Metrology and Computer Aided Inspection
SM554	Creative Product Design	SM563	CNC Technology and Programming
SM555	AI for Design and Manufacturing	SM564	Finite Element Methods
SM556	Nano Finishing Processes	SM565	Entrepreneurship and Startup Creation
SM557	Soft Computing Methods	SM566	Sustainable Manufacturing
SM558	Advanced Manufacturing Processes	ME524	Research Methodology
SM559	Material and Characterization for Additive Manufacturing	SM568	Electronics Manufacturing Technology
		SM569	Cyber Physical Systems