



MAULANA AZAD
NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL-462003
MECHANICAL ENGINEERING DEPARTMENT
M. TECH. IN INDUSTRIAL ENGINEERING AND MANAGEMENT
SCHEME OF STUDY (w.e.f. July 2022)

First Semester:

Course No.	Course Name	Periods per week			Credits
		L	T	P	
IEM 511	Work System Design and Ergonomics	3	-	-	3
IEM 512	Decision Modeling	3	-	-	3
IEM 513	Industrial Design and Processes	3	-	-	3
IEM 514	Production and Operations Management	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
	Elective -1 (A)	3	-	-	3
	Elective -2 (B)	3	-	-	3
IEM 515	Industrial Design, Processes and Ergonomics Laboratory	-	-	2	1
IEM 516	Seminar – I	-	-	2	1
Total Hours – 24		Semester Credits			22
Total Credits – 22					

Second Semester:

Course No	Course Name	Periods per week			Credits
		L	T	P	
IEM 521	Supply Chain Management	3	-	-	3
IEM 522	Advanced Decision Modeling	3	-	-	3
IEM 523	Principles and Practices of Management	3	-	-	3
	Elective -3 (A)	3	-	-	3
	Elective -4 (A)	3	-	-	3
	Elective -5 (C)	3	-	-	3
ME 524	Research Methodology	1	1	-	2
IEM 525	Decision Modeling Laboratory	-	-	2	1
IEM 526	Seminar – II	-	-	2	1
Total Hours – 24		Semester Credits			22
Total Credits – 44					

Third Semester:

Course No	Course Name	Periods per week			Credits
		L	T	P	
IEM 611	Dissertation Phase –I	-	-	32	16
Total Hours – 32 Total Credits – 60		Semester Credits			16

Fourth Semester:

Course No	Course Name	Periods per week			Credits
		L	T	P	
IEM 621	Dissertation Phase –II	-	-	40	20
Total Hours – 40 Total Credits – 80		Semester Credits			20

List of Electives:

List of Program Electives A		List of Open Electives C	
IEM 551	Marketing Management	ARP – 581	Introduction to Urban Planning
IEM 552	Production Planning and Control	BSE – 581	Bioprocess Engineering
IEM 553	Lean Manufacturing	BSE – 582	Biophysics Tools and Techniques
IEM 554	Reliability, Availability and Maintainability	CHE – 581	Analytical Techniques
IEM 555	Materials Management	CHE – 582	Green Technology & Processes
IEM 556	Total Quality Management	CE – 581	Solid Waste Management
IEM 557	ERP and MIS	CE – 582	Basic Concept of GIS
IEM 558	Maintenance Management	CE – 583	Road Safety
IEM 559	Entrepreneurship & Start up Creation	CSE – 582	Advanced Data Structures and Algorithms
IEM 560	Concurrent Engineering	PHY – 581	Nanotechnology and Nanoscience
IEM 561	Design of Experiments	EE – 581	Electric Machines & Applications
IEM 562	Control Application of Mechanical Systems	EE – 582	Control and Instrumentation
IEM 563	Manufacturing Processes and Systems	ECE – 581	Introduction to Fuzzy Logic
IEM 564	Organizational Behavior	ECE – 582	Neural Networks and its Applications
IEM 565	Industrial safety and Environment Management System	EC – 581	Energy Resource Technologies
IEM 566	Probability Models, Stochastic Processes and Simulation	HUM -581	Intellectual Property Rights for Engineers
List of Departmental Electives B		HUM –582	Applied Psychology: Human Centered Design and Engineering
ID 512	Accelerated Product Design & Development	MTH – 581	Advanced Operations Research
SM 511	Robotics and Automation	MTH – 582	Computing Technologies
AI 513	Machine Learning	MME –581	Advanced Instrumentation Methods for Material Analysis
		MME –582	Smart Materials and their Application
		MBA – 581	Engineering Startup Management