

Master List of B.Tech. Courses offered by MED

Sl. No.	Course Code	Course Title	L	T	P	O	Credits	Categories/Remarks			
								PE	EI	DA	HM
General Courses											
1.	ME1001E	Computer Programming and Numerical Methods	2	0	2	5	3	PC (ME & PE)			
2.	ME1011E	Engineering Graphics	2	0	2	5	3	PC (ME, PE & EP)			
3.	ME2001E	Professional Ethics	1	0	0	2	1	PC (ME & PE)			
4.	ME2011E	Mechanical Engineering	3	0	0	6	3	PC (EE)			
5.	ME2091E	Machine Drawing	0	0	3	3	2	PC (ME & PE)			
Industrial Engineering and Management											
6.	ME2101E	Fundamentals of Management	3	0	0	6	3	PC (PE)			
7.	ME2111E	Essentials of Management	3	0	0	6	3	PC (ME)			
8.	ME2112E	Production Management	3	0	0	6	3	PC (PE)			
9.	ME2121E	Operations and Process Management	3	0	0	6	3	✓			✓
10.	ME3101E	Operations Research	3	0	0	6	3	PC (ME)			
11.	ME3102E	Industrial Engineering	3	0	0	6	3	PC (PE)			
12.	ME3103E	Quantitative Techniques for Management	3	0	0	6	3	PC (PE)			
13.	ME3121E	Fundamentals of Marketing	3	0	0	6	3	✓			✓
14.	ME3122E	Design and Analysis of Management Information Systems	3	0	0	6	3	✓			
15.	ME3123E	Work Design and Measurement	3	0	0	6	3	✓			
16.	ME3124E	Cost Analysis and Control	3	0	0	6	3	✓			✓
17.	ME3125E	Supply Chain Management	3	0	0	6	3	✓			✓
18.	ME3126E	Management of Organisational Behaviour	3	0	0	6	3	✓			✓
19.	ME3127E	Management of Human Resources	3	0	0	6	3	✓			✓
20.	ME3128E	Quality Planning and Analysis	3	0	0	6	3	✓			✓
21.	ME3191E	Management Science Laboratory	0	0	3	3	2	PC (PE)			
22.	ME4121E	Technology Management	3	0	0	6	3	✓	✓		
23.	ME4122E	Management of Lean Production Systems	3	0	0	6	3	✓			✓
24.	ME4123E	Optimization Methods in Engineering	3	0	0	6	3	✓			

25.	ME4124E	Accounting and Finance for Engineers	3	0	0	6	3	✓			✓
26.	ME4125E	Simulation Modelling and Analysis	3	0	0	6	3	✓		✓	
27.	ME4126E	Human Factors in Engineering and Design	3	0	0	6	3	✓		✓	
28.	ME4127E	Machine Learning for Data Science and Analytics	3	0	0	6	3	✓		✓	
29.	ME4128E	Product and Process development	3	0	0	6	3	✓			
30.	ME4129E	New Product Development	3	0	0	6	3	✓			
31.	ME4130E	Business Analysis and Decision Making	3	0	0	6	3	✓			✓
32.	ME4131E	Industrial Internet of Things	3	0	0	6	3	✓		✓	
Thermo-fluids and Energy Engineering											
33.	ME1201E	Thermodynamics	3	0	0	6	3	PC (ME)			
34.	ME1211E	Fluid Mechanics and Machinery	3	1	0	8	4	PC (ME)			
35.	ME1212E	Introduction to Fluid Mechanics and Machinery	3	0	0	6	3	PC (PE)			
36.	ME1213E	Thermodynamics and Heat Transfer	3	0	0	6	3	PC (PE)			
37.	ME2201E	Principles of Heat Transfer	3	0	0	6	3	PC (ME)			
38.	ME2211E	Thermal Engineering	3	0	0	6	3	PC (ME)			
39.	ME2221E	Fundamentals of Combustion	3	0	0	6	3	✓			
40.	ME2222E	Gas Dynamics	3	0	0	6	3	✓			
41.	ME2223E	Computational Methods in Engineering	3	0	0	6	3	✓		✓	
42.	ME2224E	Computational Fluid Dynamics	3	0	0	6	3	✓		✓	
43.	ME2225E	Bio-fluid Mechanics	3	0	0	6	3	✓			
44.	ME2226E	Waves on Fluid Interfaces	3	0	0	6	3	✓			
45.	ME2227E	Introduction to Unmanned Aerial Systems	3	0	0	6	3	✓			
46.	ME2291E	Fluid Mechanics and Fluid Machinery Lab	0	0	3	3	2	PC (ME)			
47.	ME2292E	Thermal Engineering Lab	0	0	3	3	2	PC (ME)			
48.	ME2293E	Fluid Mechanics Lab	0	0	2	1	1	PC (PE)			
49.	ME3221E	Automobile Engineering	3	0	0	6	3	✓			

50.	ME3222E	Aerodynamics	3	0	0	6	3	✓			
51.	ME3223E	Aerospace Propulsion	3	0	0	6	3	✓			
52.	ME3224E	Refrigeration and Air-Conditioning	3	0	0	6	3	✓			
53.	ME3225E	Hydrogen Energy Technologies	3	0	0	6	3	✓			
54.	ME3226E	Renewable Energy Systems	3	0	0	6	3	✓			
55.	ME3227E	Introduction to Rheology	3	0	0	6	3	✓			
56.	ME3228E	Transport Phenomena in Porous Media	3	0	0	6	3	✓			
57.	ME3229E	Introduction to Cavitation	3	0	0	6	3	✓			
58.	ME3230E	Battery Technologies for Electric Vehicles	3	0	0	6	3	✓			
59.	ME3231E	Aeromechanics of Unmanned Aerial Systems	3	0	0	6	3	✓			
60.	ME3232E	Design of Unmanned Aerial Systems	3	0	0	6	3	✓			
61.	ME3233E	Heating, Ventilation and Airconditioning	3	0	0	6	3	Elective Course for Minor in Building Systems Engineering			
62.	ME4221E	Experimental Methods in Fluid Flow and Heat Transfer	3	0	0	6	3	✓			
63.	ME4222E	Neural Networks for CFD	3	0	0	6	3	✓		✓	
64.	ME4223E	Cyber Physical Thermal and Energy Systems	3	0	0	6	3	✓		✓	
65.	ME4224E	Thermal Management in Electric Vehicles	3	0	0	6	3	✓			
66.	ME4225E	Modeling, Simulation, and Prototyping of Unmanned Aerial Systems	3	0	0	6	3	✓		✓	
67.	ME4226E	Net Zero Energy Buildings	3	0	0	6	3	Elective Course for Minor in Building Systems Engineering			
Manufacturing and Materials Science											
68.	ME1311E	Materials Science	3	0	0	6	3	PC (ME & PE)			
69.	ME1391E	Mechanical Workshop	0	0	2	1	1	PC (ME, PE & EP)			
70.	ME1392E	Mechanical Workshop	0	0	3	3	2	PC (MS)			
71.	ME2301E	Manufacturing Technology	3	0	0	6	3	PC (PE)			
72.	ME2311E	Manufacturing Science	3	0	0	6	3	PC (ME)			

73.	ME2313E	Metrology & Computer Aided Inspection	3	0	0	6	3	PC (PE)			
74.	ME2324E	Mechatronics	3	0	0	6	3	✓		✓	
75.	ME2334E	Techniques of Material Characterisation	3	0	0	6	3	✓			
76.	ME2339E	Computer Graphics and Product Modelling	3	0	0	6	3	✓		✓	
77.	ME2391E	Production Technology Lab	0	0	3	3	2	PC (PE)			
78.	ME3301E	Metrology and Instrumentation	3	0	0	6	3	PC (ME)			
79.	ME3302E	Additive and Subtractive Manufacturing Technologies	2	0	0	4	2	PC (ME)			
80.	ME3303E	Subtractive and Additive Manufacturing Processes	3	0	0	6	3	PC (PE)			
81.	ME3311E	Computer Integrated Manufacturing	3	0	0	6	3	PC (PE)			
82.	ME3321E	Powder Metallurgy	3	0	0	6	3	✓			
83.	ME3322E	Introduction to Modern Machining Processes	3	0	0	6	3	✓			
84.	ME3323E	Design for Manufacturability	3	0	0	6	3	✓			
85.	ME3325E	Machining Science and Machine Tools	3	0	0	6	3	✓			
86.	ME3326E	Machine Tools and CNC Systems	3	0	0	6	3	✓			
87.	ME3327E	Quality, Reliability and Maintenance	3	0	0	6	3	✓			✓
88.	ME3328E	Artificial Intelligence in Manufacturing	3	0	0	6	3	✓		✓	
89.	ME3330E	Fluid Power Controls	3	0	0	6	3	✓			
90.	ME3331E	Non-Destructive Testing and Evaluation	3	0	0	6	3	✓			
91.	ME3332E	Mechatronics and Automation	3	0	0	6	3	✓		✓	
92.	ME3333E	Additive Manufacturing: Fundamentals and Applications	3	0	0	6	3	✓			
93.	ME3335E	Welding Science and Technology	3	0	0	6	3	✓			
94.	ME3336E	Forming Technology	3	0	0	6	3	✓			
95.	ME3340E	Industry 4.0 and Smart Enterprises	3	0	0	6	3	✓		✓	
96.	ME3341E	Materials Degradation and Corrosion Engineering	3	0	0	6	3	✓			
97.	ME3342E	Biomaterials Engineering: From Structure to Function	3	0	0	6	3	✓			

98.	ME3343E	Mechanical Behaviour and Testing of Engineering Materials	3	0	0	6	3	✓			
99.	ME3344E	Reliability, Safety and Asset Management	3	0	0	6	3	✓			✓
100.	ME3391E	Production Engineering Lab	0	0	3	3	2	PC (ME)			
101.	ME3392E	CAD / CAM Lab	0	0	2	1	1	PC (ME)			
102.	ME3393E	Metrology and Instrumentation Lab	0	0	3	3	2	PC (ME)			
103.	ME3394E	Machining Science Laboratory	0	0	2	1	1	PC (PE)			
104.	ME3395E	Metrology & Computer Aided Inspection Lab	0	0	3	3	2	PC (PE)			
105.	ME3396E	Computer Integrated Manufacturing Laboratory	0	0	2	1	1	PC (PE)			
106.	ME4329E	Surface Engineering and Coating Technology	3	0	0	6	3	✓			
107.	ME4337E	Functional Materials: Theory and Applications	3	0	0	6	3	✓			
108.	ME4338E	Design of Jigs, Fixtures and Press Tools	3	0	0	6	3	✓			
Mechanics and Machine Design											
109.	ME1401E	Engineering Mechanics	3	0	0	6	3	PC (ME, PE & EE)			
110.	ME1411E	Solid Mechanics	3	0	0	6	3	PC (ME & PE)			
111.	ME2401E	Mechanics of Machines	3	1	0	5	3	PC (ME)			
112.	ME2411E	Design of Machine Elements	3	0	0	6	3	PC (PE)			
113.	ME2421E	Theory of Elasticity	3	0	0	6	3	✓			
114.	ME2422E	Newtonian and Analytical Mechanics	3	0	0	6	3	✓			
115.	ME2423E	Elements of Mechanical Vibration	3	0	0	6	3	✓			
116.	ME2424E	Life Cycle Assessment	3	0	0	6	3	✓			
117.	ME3411E	Machine Design	3	0	0	6	3	PC (ME)			
118.	ME3421E	Introduction to Finite Element Methods	3	0	0	6	3	✓		✓	
119.	ME3422E	Nonlinear Dynamics and Chaos	3	0	0	6	3	✓			
120.	ME3423E	Engineering Fracture Mechanics	3	0	0	6	3	✓			
121.	ME3424E	Theory of Plasticity	3	0	0	6	3	✓			
122.	ME3425E	Vehicle Dynamics	3	0	0	6	3	✓			
123.	ME3426E	Introduction to Robotics	3	0	0	6	3	✓		✓	
124.	ME3427E	Introduction to Tribology	3	0	0	6	3	✓			
125.	ME3428E	Practical Finite Element Analysis	3	0	0	6	3	✓		✓	

126.	ME3429E	Control Systems Engineering	3	0	0	6	3	✓		✓	
127.	ME3430E	Vibration with Control	3	0	0	6	3	✓			
128.	ME3431E	Mechanics of Composite Materials	3	0	0	6	3	✓			
129.	ME3432E	Vehicle Dynamics and Control	3	0	0	6	3	✓			
130.	ME3434E	Design of Mechanical Systems	3	0	0	6	3	✓			
131.	ME3435E	Applied Data-Driven Techniques in Engineering	3	0	0	6	3	✓		✓	
132.	ME3436E	Product Design	2	0	2	5	3	✓			
133.	ME3437E	Experimental Vibration Analysis	2	0	2	5	3	✓			
134.	ME4421E	Experimental Stress Analysis	3	0	0	6	3	✓			
135.	ME4422E	Design of Power Transmission Elements	3	0	0	6	3	✓			
136.	ME4423E	Mobile Robotics	3	0	0	6	3	✓		✓	
Project											
137.	ME3099E	Project-Part-I	0	0	0	9	3	PC (ME & PE)			
138.	ME4097E	Summer Internship	0	0	0	*	2	PC (ME & PE)			
139.	ME4098E	Project-Part-II	0	0	0	9	3	PC (ME & PE)			
140.	ME4099E	Project-Part-III	0	0	0	18	6	✓			

Note: ME4097E Summer Internship (including the academic internship) is to be completed during the vacation after S6, and the evaluation will be done in S7. Working hours will be decided by the organization in which the internship is done.