

# B.Tech in Mechanical Engineering (2020-21)

Semester	Semester Course Code, Course Name (L-T-P) Credits							GP	Community Service	Hrs. Per week			Contact Hours per Semester	Credits	
	L	T	P												
1	<b>MAL151</b> Engineering Maths-I (3-0-2) 4	<b>CSL106</b> FOCP-I (2-0-4) 4	<b>CHL150</b> Engineering Chemistry (2-0-2) 3	<b>CLL101</b> Effective Communication-I (2-0-1) 2.5	<b>MEP110</b> Engineering Graphics & Drawing (1-0-4) 3	<b>CSL110</b> Problem Solving and Design Thinking (2-0-2) 3			<b>MER118</b> GP 1 Credit	<b>MES100</b> CS-I (70 Hours)	12	1	14	405	20.5
2	<b>MAL152</b> Engg Maths-II (3-0-2) 4	<b>CSL108</b> FOCP-II (2-0-4) 4	<b>PHY150</b> Engineering Physics (3-0-2) 4	<b>CLL102</b> Effective Communication-II (2-0-1) 2.5	<b>MEL150</b> Basic of Mechanical and Civil Engineering (2-0-2) 3	<b>ECL110</b> Basic of Electrical & Electronics Engineering (2-0-2) 3			<b>MER119</b> GP 1 Credit	<b>MES100</b> CS-II (70 Hours) 2 Credits	14	1	12	405	21.5+2
		<b>MED 210: Minor Project *</b>													02
3	<b>MEL215</b> Production Engineering (3-0-2) 4	<b>MEL203</b> Mechanics of Solids-I (3-0-2) 4	<b>MEL290</b> Thermodynamics (3-1-0) 4	<b>MEL205</b> Engineering Mechanics (3-1-0) 4	<b>MEP207</b> M/c Drawing (0-0-4) 2	Open Elective-1 (3-0-0) 3		<b>MEP200</b> Special Software Solidworks/ANSYS/MATLAB/other software packages (0-0-2) 1	<b>MER218</b> GP 1 Credit	<b>MES200</b> CS-III (35 Hours)	15	2	10	405	23
4	<b>MEL 314</b> Energy Conversion (3-0-2) 4	<b>MEL206</b> Theory of Machines (3-1-2) 5	<b>MEL208</b> Fluid Mechanics (3-1-0) 4	<b>MEL209</b> Materials Science and Engg. (2-0-2) 3	Open Elective-2 (3-0-0) 3	<b>CLL120</b> Human Values and Professional Ethics (2-0-0) 2		<b>MEP220</b> Special Software Solidworks/ANSYS/MATLAB/other software packages (0-0-2) 1	<b>MER219</b> GP 1 Credit	<b>MES200</b> CS-IV (35 Hours) 1 Credit	16	2	8	390	23+1

MET 310: Industrial Training I														02	
5	<b>MEL202</b> Heat and Mass Transfer (3-0-2) 4	<b>MEL207</b> Machine Design I (3-1-0) 4	<b>MEL303</b> Fluid Machines (2-1-2) 4	<b>SML300</b> Entrepreneurs hip (3-0-0)3	PE-1 (2-0-2) 3	<b>SML200</b> Engineering Economics (2-0-2) 3		<b>MEP300</b> Special Software Solidworks /ANSYS/ MATLAB/other software packages (0-0-2) 1	<b>MER318</b> GP 1 Credit	<b>MES300</b> CS-V (35 Hours)	15	2	10	405	23
6	<b>MEL 326</b> Instrumentation & Control Engineering (3-0-2) 4	<b>MEL 310</b> Industrial Engineering (3-1-0) 4	PE-2 (2-0-2) 3	PE-3 (2-0-2) 3	Open Elective-3** (MOOC/45) (3-0-0) 3	Foreign Language Elective (3-0-0) 3	<b>CLP300</b> Campus to Corporate (1-0-0) 1		<b>MER319</b> GP 1 Credit	<b>MES300</b> CS-VI (35 Hours) 1 Credit	17	1	6	360	22+1
MET 410: Industrial Training-II														03	
7	<b>MEL401</b> Operations Research (2-1-0) 3	PE-4 (2-0-2) 3	PE-5 (2-0-2) 3	<b>CHL100</b> Environmental Studies (3-0-0) 3	<b>MED423</b> Major Project I 4 Credits		<b>MEC321</b> Seminar 1 Credit			<b>MES400</b> CS-VII (70 Hours)	9	1	8	270	17
8	<b>MED424</b> Major Project II /Internship 6 Credits	PE-6 (2-0-2) 3	Open Elective-4** (MOOC/45) (3-0-0) 3				<b>SEG 400</b> Self study Gate Non Credit			<b>MES400</b> CS-VIII (70 Hours) 2 Credit	6	-	6	180	12+2
<b>Total =112 (BS=21, ESTA=30, HMS=17, PC=44); ELECTIVE COURSES = 30 (OE=12, PE=18); SPT =18 ; VA = 3 ; GP = 6</b>											10 9	10	62		<b>169+6 =175</b>

## PROGRAM ELECTIVES FOR EACH TRACK

Tracks	Robotics and Automation		Non specialization	
Program Elective-1	MEL-478 Robotics and Control (2-0-2) 3		MEL 312 ICE & GT (2-0-2) 3	MEL 418 Vehicle Development and Testing (2-1-0) 3
Program Elective-2	MEL-479 Industrial Automation and Process Control (3-0-0) 3		MEL 328 Machine Design II (2-1-0) 3	MEL 613-IP Project Management (2-1-0) 3
Program Elective-3	MEL-480 Mechatronics System Design (2-0-2) 3		MEL 473 Additive manufacturing Technologies (2-0-2) 3	MEL 412 Supply Chain Management (2-1-0) 3
Program Elective-4	MEL-481 Advanced Robotics (2-1-0) 3		MEL478 Robotics and Control (2-0-2) 3	MEL 485 Smart Manufacturing (2-0-2) 3
Program Elective-5	MEL-486 Signal Processing, AI & NN Technique (2-0-2) 3		MEL 470 Product Design & Development Engineering (2-0-2) 3	MEL-611-TH Renewable Energy Sources (2-1-0) 3
Program Elective-6	MEL-677-IP Optimization Techniques (2-0-2) 3		MEL 483 Heating Ventilation Air Conditioning (2-1-2) 4	MEL-475 E-Mobility (2-1-0) 3