

BACHELOR OF TECHNOLOGY IN MECHATRONICS ENGINEERING

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
II	BB 0025	Value, Ethics and Governance	2	0	0	2	EO 2001	Economics	3	0	0	3
	MA 2102	Engineering Mathematics-III	2	1	0	3	MA 2204	Engineering Mathematics-IV	2	1	0	3
	MC 2101	Strength of Materials	3	1	0	4	MC 2201	Design of Machine Elements	3	1	0	4
	MC 2102	Linear Integrated Circuits	3	1	0	4	MC 2202	Digital System Design	3	0	0	3
	MC 2103	Theory of Machines	3	1	0	4	MC 2203	Fluid Mechanics	3	1	0	4
	MC 2104	Sensor and Instrumentation	3	0	0	3	** 20**	Open Elective-I	3	0	0	3
	MC 2130	Simulation and Modelling Lab	0	0	2	1	MC 2230	Programmable Logic Controller Lab	0	0	3	1
	MC 2131	Sensor& Instrumentation Lab	0	0	2	1	MC 2231	Integrated Electronics Lab	0	0	2	1
	MC 2170	Seminar	0	0	2	1	MC 2270	Project Based Learning-I	0	0	2	1
			16	4	6	23			17	3	7	23
	Total Contact Hours (L + T + P)		26			Total Contact Hours (L + T + P)+OE			27			
III	FIFTH SEMESTER						SIXTH SEMESTER					
	BB 0026	Organization and Management	3	0	0	3	MC 3201	Robotics	3	1	0	4
	MC 3101	Signal and Systems	3	0	0	3	MC 3202	Computer Integrated Manufacturing	3	1	0	4
	MC 3102	Microcontroller Based System Design	3	1	0	4	MC 3203	Power Electronics and Electrical Drives	3	1	0	4
	MC 3103	Pneumatic and Hydraulic Systems	3	1	0	4	MC 32XX	Program Elective-I	3	0	0	3
	MC 3104	Linear Control Theory	3	1	0	4	MC 32XX	Program Elective-II	3	0	0	3
	** 30**	Open Elective-II	3	0	0	3	** 30**	Open Elective-III	3	0	0	3
	MC 3130	Microcontroller Lab	0	0	2	1	MC 3230	Industrial Automation Lab	0	0	2	1
	MC 3131	CAD and Kinematics Lab	0	0	2	1	MC 3231	Robotics Lab	0	0	2	1
	MC 3132	Pneumatics and Hydraulics Lab	0	0	2	1	MC 3232	Drives, Control and Simulation Lab	0	0	2	1
	MC 3170	Project Based Learning-II	0	0	2	1	MC 3270	Project Based Learning-III	0	0	2	1
			18	3	8	25			18	3	8	25
	Total Contact Hours (L + T + P)+OE		29			Total Contact Hours (L + T + P)+OE			29			
IV	SEVENTH SEMESTER						EIGHTH SEMESTER					
	MC 41XX	Program Elective-III	3	0	0	3	MC 4270	Major Project	0	0	0	12
	MC 41XX	Program Elective-IV	3	0	0	3						
	MC 41XX	Program Elective-V	3	0	0	3						
	MC 41XX	Program Elective-VI	3	0	0	3						
	MC 41XX	Program Elective-VII	3	0	0	3						
	MC 4170	Minor Project	0	0	2	1						
	MC 4171	Industrial Training	0	0	1	1						
		15	0	3	17			0	0	0	12	
	Total Contact Hours (L + T + P)		18			Total Contact Hours (L + T + P)			12			

Total number of credits =169 (out of which 125 credits from higher semester i.e. 3rd sem. To 8th sem. and 44 credits from first year i.e. 1st Sem. To 2nd Sem.)

Minor Specializations

I. Robotics and Automation

1. MC 3250 : Autonomous Robots
2. MC 3251 : Robot Path Planning and Mobile Robots
3. MC 4162 : Machine Learning
4. MC 4163 : Industrial Automation

II. Industrial IoT System

1. MC 3252 : Wireless Sensor Network
2. MC 3253 : IoT System
3. MC 4163 : Industrial Automation
4. MC 4164 : Automated Manufacturing System

Other Programme Electives

1. MC 3240 : Big Data Analytics
2. MC 3241 : Computer Architecture and Real-time Systems
3. MC 3242 : Design of Mechanical Drives
4. MC 3243 : Digital Signal Processing
5. MC 3244 : Embedded Systems Design
6. MC 3245 : Engineering Materials
7. MC 3246 : Advance Robotics
8. MC 3247 : Hybrid Vehicle Technology
9. MC 3248 : Mechanical Vibrations
10. MC 3249 : Manufacturing Process
11. MC 4140 : Industrial Instrumentation

15. MC 4144 : Non-linear Control System
16. MC 4145 : Production Operations and Management
17. MC 4146 : Statistical Quality Control Methods
18. MC 4147 : Reliability Engineering
19. MC 4148 : System Modelling and Simulation
20. MC 4149 : Virtual Instrumentation
21. MC 4150 : Production Technology
22. MC 4151 : Industrial Ergonomics
23. MC 4152 : Project Management
24. MC 4153 : Information System in Manufacturing
25. MC 4154 : Artificial Intelligence
26. MC 4155 : Building Automation
27. MC 4156 : Energy Conservation, Audit and Management
28. MC 4157 : Machine Tool Technology
29. MC 4158 : Machine Vision and Image Processing
30. MC 4159 : Dynamics and Controls of Mechatronics Systems
31. MC 4160 : Electric Vehicle Machines and Drives
32. MC 4161 : Computer Networks and Communication Protocols

Open Electives

1. MC 2080 : Introduction to Robotics
2. MC 2081 : Mechatronics System
3. MC 2082 : Automation in Industrial System
4. MC 2083 : Arm Architecture Based System Design
5. MC 3080 : Hydraulic and Pneumatic Systems
6. MC 3081 : Quality Control and Management

- 12. MC 4141 : Micro Electro Mechanical Systems
- 13. MC 4142 : Micro-manufacturing Systems
- 14. MC 4143 : Nanotechnology

- 7. MC 3082 : Reliability and Maintenance Engineering
- 8. MC 3083 : Biomedical Instrumentation
- 9. MC 3084 : Sensors & Transducers

