



FACULTY OF  
ENGINEERING AND  
TECHNOLOGY



2024 - 25

# Integrated B.Tech. Mechanical Engineering (Robotics)

Programme Structure

<b>Division</b>	Faculty of Engineering and Technology
<b>School Name</b>	School of Engineering and Technology
<b>Department Name</b>	Department of Polytechnic
<b>Programme Name</b>	Integrated B.Tech Mechanical Engineering (Robotics)

## Category-wise Credit Distribution

Category	Credits
Programme Foundation	44
Programme Major	59
Programme Electives	8
Programme Capstone Project/Problem Based Learning/Seminar and Internships	8
University Core	15
University Electives	0

## Course Basket

Course Type	Description
Programme Core	Courses dealing with foundations, depth and breadth of the major in which student is admitted at MIT-WPU
Programme Electives	Open electives under the programme allow students to specialise in a particular area connected to their major.
University Core	Courses that reflect the core MITWPU values and the mission of Life Transformation of students.
University Electives	Multidisciplinary courses across the faculties at MIT-WPU and outside the programme core.

## Semester 1

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Foundation of Engineering Mathematics	PF	4
2	Physics-I	PF	4
3	Chemistry-I	PF	3
4	Problem Solving & Programme Design Using C	PF	3
5	Graphics for Engineers	PF	2
6	English	PF	2
7	Yoga-I	UC	1
8	Environment and Sustainability	UC	1

## Semester 2

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Calculus and Basic Statistics	PF	4
2	Physics-II	PF	4
3	Chemistry-II	PF	3
4	Basics of Mechanics	PF	4
5	Fundamentals of Electrical & Electronics Engineering	PF	3
6	Mechanical Workshop	PF	2
7	Sports	UC	1

### Semester 3

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Linear Algebra and Differential Calculus	PF	3
2	Basic Thermodynamics	PM	4
3	Basics of Mechatronics	PM	3
4	Machine Drawing	PM	2
5	Mechanics of Materials	PM	4
6	Materials and Metallurgy	PM	3
7	Two Wheeler Repair & Maintenance	PM	2
8	Effective Communication	UC	1
9	Critical Thinking	UC	1

### Semester 4

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Integral Calculus	PF	3
2	Basics of Robotics	PM	4
3	Fluid Mechanics & Hydraulic Machines	PM	4
4	Kinematics of Robots	PM	4
5	Manufacturing Processes	PM	4
6	Computer Aided Drafting	PM	2
7	Advanced Excel	UC	1
8	Financial Literacy	UC	1
9	Yoga - II	UC	1

## Semester 5

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Engineering Metrology	PM	4
2	Industrial Hydraulics & Pneumatics	PM	4
3	Python Programming	PM	1
4	Robot programming	PM	3
5	Capstone Project Stage -1	PR	1
6	Industrial Internship	PR	4
7	Programme Elective-I	UC	4
8	Foundations of Peace	UC	2
9	SLDP	UC	1

## Semester 6

Sr. No.	Course Name /Course Title	Course Type	Total Credits
1	Automotive Engineering	PM	4
2	CNC Programming	PM	1
3	Machine Design	PM	4
4	Solid Modelling	PM	2
5	Capstone Project Stage – 2	PR	3
6	Programme Elective-II	PR	4
7	Co Creation	UC	1
8	Indian Constitution	UC	1
9	IKS(General)	UC	2

## Electives

Semester	Course Name /Course Title	Type
V	Computer Integrated Manufacturing	Programme Elective - I
V	Drone Technology	Programme Elective - I
V	Tool Engineering	Programme Elective - I
VI	Basics of Industrial Automation	Programme Elective - II
VI	Hybrid Vehicles	Programme Elective - II
VI	Renewable Energy Sources	Programme Elective - II

\*Modifications to the programmes and courses are contingent upon adherence to university guidelines and procedures. Any proposed changes must undergo a thorough review process, including consultation with relevant academic departments, approval from the appropriate administrative bodies, and compliance with accreditation standards.

Additionally, consideration will be given to feedback from students, faculty, and other stakeholders to ensure that modifications align with the overall educational objectives and mission of the university. The implementation of any approved changes will be communicated transparently to the university community, and appropriate measures will be taken to facilitate a smooth transition for all affected parties.