



FACULTY OF
ENGINEERING AND
TECHNOLOGY



2024 - 25

B.Tech Mechanical Engineering (Robotics & Automation)

Programme Structure

Division	Faculty of Engineering and Technology
School Name	School of Engineering and Technology
Department Name	Department of Mechanical Engineering
Program Name	B.Tech. Mechanical Robotics & Automation Engineering

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 MIT-WPU values and the mission of Life Transformation of students.
University Electives	Multidisciplinary courses across the faculties at MIT-WPU and outside the programme core.

Summary for Four Years Together

Course Type	Description
Programme Foundation	34
Programme Major	48
Programme Electives	16
Programme Capstone Project/Problem-Based Learning/Seminar and Internships	32
University Core	24
University Electives	9
TOTAL	163

Semester	Course Type	Course Name / Course Title	Total Credits
I	University Core	Effective Communication	1
I	University Core	Critical Thinking	1
I	University Core	Environment and Sustainability	1
I	University Core	Foundations of Peace	2
I	University Core	Yoga - I	1
I	University Core	SLDP	1
I	Programme Foundation	Linear Algebra and Differential Calculus	3
I	Programme Foundation	Chemistry	3
I	Programme Major	Ideas and Innovations in Manufacturing	1
I	Programme Foundation	Physics	3
I	Programme Major	Engineering Graphics	3
I	Programme Foundation	Biology For Engineers	2
II	University Core	Advanced Excel	1
II	University Core	Financial Literacy	1
II	University Core	Yoga - II	1
II	University Core	Co-creation	1
II	University Core	Indian Constitution	1
II	University Core	IKS(General)	2
II	University Core	Sports	1
II	Programme Foundation	Basics of Electrical and Electronics Engineering	3
II	Programme Foundation	Integral Calculus	3
II	Programme Major	Computer Aided Modelling	2
II	Programme Foundation	Programming and Problem Solving	3
II	Programme Foundation	Engineering Mechanics	3

Semester	Course Type	Course Name / Course Title	Total Credits
III	University Core	Research Innovation Design Entrepreneurship (RIDE)	1
III	University Core	Spiritual & Cultural Heritage; Indian Experience	2
III	University Electives	UE - I	3
III	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Project Based Learning - I	1
III	University Core	Rural Immersion	1
III	Programme Foundation	Mathematics for Robotics	4
III	Programme Major	Introduction to Robotics	4
III	Programme Major	Mechanics of Materials	4
III	Programme Major	Basic IoT Lab	1
IV	University Electives	UE-II	3
IV	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Project Based Learning - II	1
IV	University Core	Life Transformation Skills	1
IV	Programme Foundation	Materials and Manufacturing Science	3
IV	Programme Foundation	Indian Knowledge System -2	2
IV	Programme Major	Robot Kinematics & Dynamics	4
IV	Programme Major	Microcontroller and Applications	3
IV	Programme Major	Design of Machine Elements	4
IV	Programme Major	Robotics Engineering Software Lab	1

Semester	Course Type	Course Name / Course Title	Total Credits
V	University Electives	UE-III	3
V	University Core	Managing Conflicts Peacefully: Tools and Techniques	2
V	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Project Based Learning - III	1
V	Programme Electives	Programme Elective-I	4
V	Programme Foundation	Data Science for Engineers	2
V	Programme Major	Mechatronics Systems	4
V	Programme Major	Hydraulics and Pneumatics Systems	4
V	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Seminar	1
VI	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Project Based Learning - IV	1
VI	University Core	National Academic Immersion	2
VI	Programme Electives	Programme Elective-II	4
VI	Programme Major	Industrial Automation	4
VI	Programme Major	Artificial Intellingence and Machine Learning	3
VI	Programme Major	Robot Drive Systems and Programming	4
VI	Programme Capstone Project/ Problem Based Learning/Seminar and Internships	Mini Project	1

Semester	Course Type	Course Name / Course Title	Total Credits
VII	Programme Electives	Programme Elective-III	4
VII	Programme Electives	Programme Elective-IV	4
VII	Programme Major	Robot Vision and Perception	2
VII	Programme Capstone Project/ Problem Based Learning/ Seminar and Internships	Capstone Project	12
VIII	Programme Capstone Project/ Problem Based Learning/ Seminar and Internships	Internship	14

*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.