



**FACULTY OF
ENGINEERING AND
TECHNOLOGY**



2024 - 25

M. Tech. Mechanical - Design Engineering

Programme Structure

Division	Faculty of Engineering and Technology
School Name	School of Engineering & Technology
Department Name	Department of Chemical Engineering
Programme Name	Mechanical - Design 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 specialize 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	Course Type	Course Name / Course Title	Total Credits
I	PM	Advanced Mathematics	4
I	PM	Advanced Mechanical Vibrations	4
I	PM	Advanced Stress Analysis	4
I	PM	Finite Element Analysis	4
I	PM	Research Methodology for Mechanical Engineers	1
I	PM	Software Lab	2
I	UC	Scientific Studies of Mind, Matter, Spirit and Consciousness	1
I	UC	Yoga	1
		Total	23

Semester	Course Type	Course Name / Course Title	Total Credits
II	PM	Analysis and Synthesis of Mechanisms	4
II	PM	Mechanics of Fracture and Fatigue	3
II	PM	System Modelling & Vehicle Dynamics	4
II	PE	Program Elective-I	4
II	PE	Program Elective-II	4
II	PR	Seminar	2
II	UC	Peacebuilding: Global Initiatives	2
II	UC	Indian Knowledge System	2
		Total:	25

Semester	Course Type	Course Name / Course Title	Total Credits
III	PM	Industrial Tribology	4
III	PE	Program Elective-III	4
III	PE	Program Elective-IV	4
III	PR	Research Project - I	8
		Total:	20

Semester	Course Type	Course Name / Course Title	Total Credits
IV	PR	Internship	4
IV	PR	Research Project-II	12
		Total:	16

List of Programme Electives

Semester	Course Type	Course Name / Course Title
II	Programme Elective - I	Optimization Techniques
II	Programme Elective - I	Technology Management
II	Programme Elective - I	Design of Mechatronics & MEMS System
II	Programme Elective - I	Design of Material Handling Systems
II	Programme Elective - II	Theory of Plasticity
II	Programme Elective - II	Additive Manufacturing Technology
II	Programme Elective - II	Product Design and PLM
II	Programme Elective - II	Artificial Intelligence & Machine Learning
III	Programme Elective - III	Acoustics & Condition Monitoring
III	Programme Elective - III	Mechanics of Composite Materials
III	Programme Elective - III	Reliability Engineering
III	Programme Elective - III	Industrial Instrumentation and Controls
III	Programme Elective - IV	Experimental Stress Analysis
III	Programme Elective - IV	Design of Experiments
III	Programme Elective - IV	Advances in Materials
III	Programme Elective - IV	Design of Biomedical Devices

*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.