



FACULTY OF  
ENGINEERING AND  
TECHNOLOGY



2024 - 25

**B.Tech. Civil Engineering**

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 Civil Engineering
<b>Programme Name</b>	B.Tech. Civil Engineering

### Category-wise Credit Distribution

<b>Category</b>	<b>Credits</b>
University Core	24
Programme Electives	16
Programme Major	48
University Electives	9
Programme Foundation	34
Programme Capstone Project/Problem-Based Learning/Seminar and Internships	32

### Course Basket

<b>Course Type</b>	<b>Description</b>
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	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	Physics	3
I	Programme Foundation	Chemistry	3
I	Programme Foundation	Engineering Graphics	3
I	Programme Foundation	Ideas and Innovation in Manufacturing	1
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 Constituion	1
II	University Core	IKS(General)	2
II	University Core	Sports	1
II	Programme Foundation	Integral Calculus	3
II	Programme Foundation	Biology for Engineers	2
II	Programme Foundation	Programming and ProblemSolving (linux based).	3
II	Programme Foundation	Basic Electrical and Electronics Engineering	3
II	Programme Major	Engineering Mechanics	3
II	Programme Major	Surveying Field Practices	2

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	University Electives	UE-II	3
III	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - I	1
III	Programme Foundation	Differential Equations and Transform Techniques	4
III	Programme Major	Strength of Material	3
III	Programme Major	Fluid Mechanics	3
III	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Design Thinking	2
IV	University Electives	UE-III	3
IV	University Core	Rural Immersion	1
IV	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - II	1
IV	University Core	Life Transformation Skills	1
IV	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Building Planning and CAD	1
IV	Programme Foundation	Probability and Statistics	4
IV	Programme Major	Environmental Engineering 1	3
IV	Programme Major	Surveying	3
IV	Programme Major	Soil Mechanics	3
IV	Programme Major	Theory and Analysis of structures	3

Semester	Course Type	Course Name / Course Title	Total Credits
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 Major	Design of Steel Structures	3
V	Programme Major	Project Management	3
V	Programme Major	Environmental Engineering II	3
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Civil Engineering Software	1
V	Programme Major	Concrete Technology	2
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Foundation Engineering	3
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	Design of Reinforced Concrete Structure	3
VI	Programme Major	Transportaion Engineering	3
VI	Programme Major	Hydrology and Irrigation Engineering	2
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Mini Project	1

Semester	Course Type	Course Name / Course Title	Total Credits
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	BIM in Civil Engineering	3
VI	Programme Foundation	Indian Knowledge System for Civil Engineering(IKS II)	2
VII	Programme Electives	Programme Elective III	4
VII	Programme Major	Dams and Hydraulics Structures	3
VII	Programme Major	Quantity Surveying and Estimation	3
VII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Computer aided prestressed concrete design	3
VII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Capstone Project	6
VIII	Programme Electives	Programme Elective IV	4
VIII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Advanced software in Civil Engineering	2
VIII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Internship	6

## Electives List

Semester	Programme Electives	Course Name / Course Title	Total Credits
V	Programme Elective - I	Advanced Concrete Technology	4
V	Programme Elective - I	Solid Waste Management	4
V	Programme Elective - I	Building Control Procedures and Legislations	4
V	Programme Elective - I	GIS and Remote Sensing	4
V	Programme Elective - I	Structural Audit and Retrofitting	4
V	Programme Elective - I	Finite Element Methods	4
V	Programme Elective - I	Air Pollution and Control	4
V	Programme Elective - I	Construction Equipment	4
V	Programme Elective - I	Tenders and Contracts	4
VIII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Internship	6
V	Programme Elective - I	Advanced Surveying and setting out works	4
VI	Programme Elective - II	Matrix Methods	4
VI	Programme Elective - II	Formwork design and enabling structures	4
VI	Programme Elective - II	Public Health Engineering	4
VI	Programme Elective - II	Human Resource and Financial Management	4
VI	Programme Elective - II	TQM and MIS	4
VI	Programme Elective - II	Architecture and Town Planning	4
VI	Programme Elective - II	Earthquake Engineering	4
VI	Programme Elective - II	Fastening systems in concrete constructions	4
VII	Programme Elective - III	Environmental assessment methods and legislations	4

Semester	Programme Electives	Course Name / Course Title	Total Credits
VII	Programme Elective -III	Construction claims and dispute resolutions	4
VII	Programme Elective -III	Operational Research	4
VII	Programme Elective -III	Tunnel Engineering	4
VII	Programme Elective -III	Advanced Design of Structures	4
VII	Programme Elective -III	Ferrocement Design and Technology	4
VII	Programme Elective -III	Advanced Wastewater systems	4
VIII	Programme Elective -IV	Valuation	4
VIII	Programme Elective -IV	Advanced Geotechnical Engineering	4
VIII	Programme Elective -IV	Docks and Harbors	4
VIII	Programme Elective -IV	Advanced Foundation Engineering	4
VIII	Programme Elective -IV	Subsea Engineering	4
VIII	Programme Elective -IV	Sustainable field Practices	4
VIII	Programme Elective -IV	Construction Management	4
VIII	Programme Elective -IV	Smart Materials in Engineering	4

\*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.