



FACULTY OF  
ENGINEERING AND  
TECHNOLOGY



2024 - 25

# B.Tech. Electronics & Communication 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 Electrical and Electronics Engineering
<b>Programme Name</b>	B.Tech. Electronics & Communication Engineering

### Category-wise Credit Distribution

<b>Category</b>	<b>Credits</b>
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

### 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	Chemistry	3
I	Programme Foundation	Ideas and Innovations in Manufacturing	1
I	Programme Foundation	Physics	3
I	Programme Foundation	Engineering Graphics	3
I	Programme Major	Multisim Lab	1
		Total	21

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 Major	Multisim Lab	1
II	Programme Foundation	Engineering Mechanics	3

Semester	Course Type	Course Name / Course Title	Total Credits
II	Programme Foundation	Programming and Problem Solving	3
II	Programme Foundation	Integral Calculus	3
II	Programme Major	Basics of Electrical and Electronics Engineering	3
		Total	21

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 (Sensors and Actuators Lab)	1
III	Programme Major	Digital Electronics	4
III	Programme Foundation	Probability and Statistics	4
III	Programme Foundation	Signals and Systems	4
		Total	22

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 (Python Lab)	1
IV	University Core	Life Transformation Skills	1
IV	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Data Structures and Algorithms	2

Semester	Course Type	Course Name / Course Title	Total Credits
IV	Programme Major	Analog Circuits and Applications	4
IV	Programme Major	Communication Systems	4
IV	Programme Major	Control Systems	3
IV	Programme Major	Microcontroller and Applications	4
		Total	23

V	University Core	Managing Conflicts Peacefully: Tools and Techniques	2
V	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - III (Data Science Lab)	1
V	Programme Electives	Programme Elective	4
V	Programme Foundation	IKS-2	2
V	Programme Major	Digital Communication	4
V	Programme Major	Power Converters and Machines	4
V	Programme Major	Digital Signal Processing	4
V	Programme Major	Simulation Lab (OOP)	1
		Total	22

VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Project Based Learning - IV (Mini Project)	1
VI	University Core	National Academic Immersion	2
VI	Programme Electives	Programme Elective	4
VI	Programme Major	Artificial Intelligence and Machine Learning	4
VI	Programme Major	Computer Network and Security	4

Semester	Course Type	Course Name / Course Title	Total Credits
VI	Programme Major	VLSI Design	4
VI	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Seminar	1
		Total	20

VII	Programme Electives	Programme Elective	4
VII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Internship	12
		Total	16

VIII	Programme Electives	Programme Elective	4
VIII	Programme Capstone Project/Problem Based Learning/Seminar and Internships	Capstone Project	13
		Total	17

### Professional Programme Electives

Semester	Course Name / Course Title	Total Credits
V	Electromagnetics and Radiating Systems	4
V	Artificial Neural Networks	4
V	Embedded Systems and RTOS	4
V	Computer Vision	4
VI	Wireless Sensor Networks	4
VI	Natural Language Processing	4
VI	Battery Management Systems	4

Semester	Course Name / Course Title	Total Credits
VI	Digital CMOS Design	4
VI	Mechatronics	4
VII	Wireless Communication	4
VII	Optimization Techniques	4
VII	Automotive Software Engineering	4
VII	Testing and Testability	4
VII	Digital Control Systems	4
VIII	Broadband Communication Systems	4
VIII	Edge Intelligence	4
VIII	Automotive Electronics	4
VIII	Analog VLSI Design	4
VIII	Robotics and Automation	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.