



माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA

Deemed University

(Declared under Distinct Category by Ministry of Education, Government of India)

NAAC ACCREDITED WITH A++ GRADE

Centre for IoT

Innovate | Connect | Automate

Curriculum Matrix

Admitted Batch : 2026

B.Tech Electrical and Computer Engineering

Centre for IoT, MITS-DU



Tentative Scheme of B.Tech: Electrical and Computer Engineering (ECE)

S.No.	SEMESTER I	SEMESTER II	SEMESTER III	SEMESTER IV	SEMESTER V	SEMESTER VI	SEMESTER VII	SEMESTER VIII	
	I Year		II Year		III Year		IV Year		
1.	Introduction to Electrical and Computer Engineering	Sensors and Measurement	Probability and Statistics	Computer Networks and Protocols	Power Electronics & Drives	Data Base Management System	Departmental Elective* (DE-3)	Departmental Elective* (DE-5)	
2.	Computer Programming	Object Oriented Programming	Electronic Devices and Circuits	Design and Analysis of Algorithms	Elements of Power System	Power System Analysis and Control	Departmental Elective* (DE-4)	Open Category Course* (OC-3)	
3.	Basics of Embedded Programming	Computer Organization & Architecture	Data Structures	Embedded System and IoT	Artificial Intelligence and Machine Learning	Industrial IoT& Smart Systems	Open Category Course* (OC-2)	Industry Internship/ Research Internship/ Innovation & Start-up	
4.	Digital Electronics and Logic Design	Operating Systems	Signals and Systems	Power Electronics and Drives	Control Systems	Departmental Elective* (DE-2)	Skill Enhancement Program/Research Internship/ On Job Training	Professional Development	
5.	Linear Algebra and Calculus	Basic Electrical & Electronics Engineering	Electromechanical Energy Conversion	Data Science	Departmental Elective* (DE-1)	Open Category Course (OC-1)	Creative Problem Solving		
6.	Computer Programming Lab	Object-Oriented Programming Lab	Problem Solving through Python Programming	Data Science Lab	Power Electronics & Drives Lab	DBMS Lab	<ul style="list-style-type: none"> • Self Learning from NPTEL/SWAYAM/MITS-MOOCs Platform 		
7.	Smart Electrical and Computing Systems Lab	Sensors & Measurement Lab	Data Structures Lab	Power Electronics and Drives Lab	Artificial Intelligence and Machine Learning Lab	PSAC Lab			
8.	Semester Proficiency [§]	Basic Electrical & Electronics Engineering Lab	Electromechanical Energy Conversion Lab	Competitive Programming	Power System Lab	Semester Proficiency [§]			
9.	Micro Project-I [#]	Semester Proficiency [§]	Semester Proficiency	Indian Knowledge System	Semester Proficiency [§]	Professional Certification			
10.	Language Lab	Micro Project-II [#]	Macro Project-I	Semester Proficiency [§]	Cornerstone Project	Professional Skills & Competencies			
11.	MAC: Universal Human Values & Professional Ethics	NEC: (Activity Based Learning)	MAC: Cyber Security	Macro Project-II [#]	Supply Chain Management	Capstone Project			
12.	Mandatory Workshop: Virtual Labs	MAC: Sustainability & Environmental Science	Self-learning (SWAYAM/NPTEL/MOOC)	Novel Engaging Course (Activity Based Learning)	Mandatory Workshop as per Annexure at Department Level	Disaster Management and Preparedness			
13.		Skill Internship Program(Soft Skill)	NEC (Activity Based Learning)	Skill Internship Program		Mandatory Workshop as per Annexure at Department Level			
14.		Mandatory Workshop: Autocad Electrical	Mandatory Workshop: Mastering Competitive Success	Project Management, Economics & Financing					
15.		Universal Human Values		Mandatory Workshop as per Annexure at Department Level					
Tools Covered	AutoCAD Electrical	LTSpice, Test & Measurement Equipment	ANSYS Maxwell/Embedded Systems,	MATLAB/Simulink, PSIM/VFD Control	ETAP/ PVsyst/Simulink	SCADA, PLC Programming		PSCAD/ETAP	
Credits	20	22	22	23	22	23		11	17