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 Artificial Intelligence

B. Tech. Information Technology (Artificial Intelligence and Robotics) Admitted Batch: 2025

COURSE STRUCTURE

I SEMESTER	II SEMESTER	III SEMESTER	IV SEMESTER	V SEMESTER	VI SEMESTER	VII SEMESTER	VIII SEMESTER
Foundations of Artificial Intelligence & Robotics	Modern Computer Architectures	Probability & Random process	Calculus & Optimization techniques	Theory of Computation	AI for Robotics	Departmental Elective (DE-3)	Departmental Elective (DE-5)
Electronic Systems	Object Oriented Programming	Design and Analysis of Algorithms	Robot Kinematics	Cloud Computing & Virtualization	Image Processing & Computer Vision	Departmental Elective (DE-4)	Open Category Course (OC-3)
Digital Logic Design	Discrete Structures	Computer Networks	Network & Web Security	Robot Operating System	Departmental Elective (DE-2)	Open Category Course (OC-2)	Industry Internship/ Research Internship/ Innovation & Start-up
Problem Solving & Programming	Data Structures	Control System	Database Management System	Departmental Elective (DE-1)	Open Category Course (OC-1)	Skill Enhancement Program/Research Internship	Professional Development
Linear Algebra	Sensors & Actuators	Operating System	Software Engineering	Data Science	Machine Learning & Optimization	Creative Problem Solving	Honours or Minor Degree (Optional)
Problem Solving & Programming Lab	Data Structures Lab	Design Analysis and Algorithm Lab	Competitive Programming Lab	Robot Operating System Lab	AI for Robotics Lab	Honours or Minor Degree (Optional)	
Electronics Systems Lab	Object Oriented Programming Lab	Problem Solving through Python Programming	Robot Kinematics Lab	Cloud Computing & Virtualization Lab	Image Processing & Computer Vision Lab		
Novel Engaging Course	Sensors & Actuators Lab	Novel Engaging Course	Database Management System lab	Cornerstone Project	Capstone Project		
Language Lab	Novel Engaging Course	Macro Project-I	Novel Engaging Course	Supply Chain Management	Disaster Management		
Semester Proficiency	Semester Proficiency	Semester Proficiency	Semester Proficiency	Semester Proficiency	Semester Proficiency		
Micro Project-I	Micro Project-II	Cyber Security	Macro Project-II	Honours or Minor Degree (Optional)	Honours or Minor Degree (Optional)		
Universal Human Values & Professional Ethics (UHVPE)	Sustainability & Environmental Science	Self Learning/Presentation	Project Management, Economics & Financing	Professional Skills & Competencies - I	Professional Certification & Professional Skills & Competencies - II		
			Honours or Minor Degree (Optional)		Skill Enhancement Program/Research Internship		
Mandatory Workshop on Report Writing & ICCV	Mandatory Workshop on IKS & Career Planning	Mandatory Workshop on Mastering Competitive Success	Mandatory Workshop on Research & IPR	Mandatory Workshop on Internships & Excel	Mandatory Workshop on Placements & Interview		

	Departmental Core Courses
	Basic Science Courses
	Engineering Science Courses
	Mandatory Audit Courses/Workshops

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Departmental Elective Courses	
B. Tech. Information Technology (Artificial Intelligence and Robotics)	
Microprocessor & Microcontrollers	*Software Conceptual Design*
Linear Systems Theory	*Electronic System Design Hands on Circuits and PCB Design*
Foundation of Cognitive Robotics	*Modern Control Engineering*
Ethics in Engineering Practice	*Mechanics and Control of Robotic Manipulators*
Introduction to Quantum Computing	*Information Theory & Coding*
Cryptography and Network Security	*Sensor Technology: Physics, Fabrication and Circuits*
Biology for Engineers	*Multi-Core Computer Architecture*
Distributed Optimization and Machine Learning	*Industrial Robotics: Theories for Implementation*
Data Mining & Pattern Warehousing	*Computational Complexity*
Embedded Systems	*Mechatronics and Manufacturing Automation*
Deep Learning for Computer Vision	*Ethics in Engineering Practice*
Natural Language Processing	*Big Data Computing*
Reinforcement Learning	*Introduction to Internet of Things*
Open Category Courses	
AI in Economics and Finance	*Renewable Energy Systems*
Cognitive Science	*Materials Science*
Software Testing	*Entrepreneurship and Innovation*
Biomechanics	*Environmental Sustainability*
Computational Neuroscience	*Bioinformatics*