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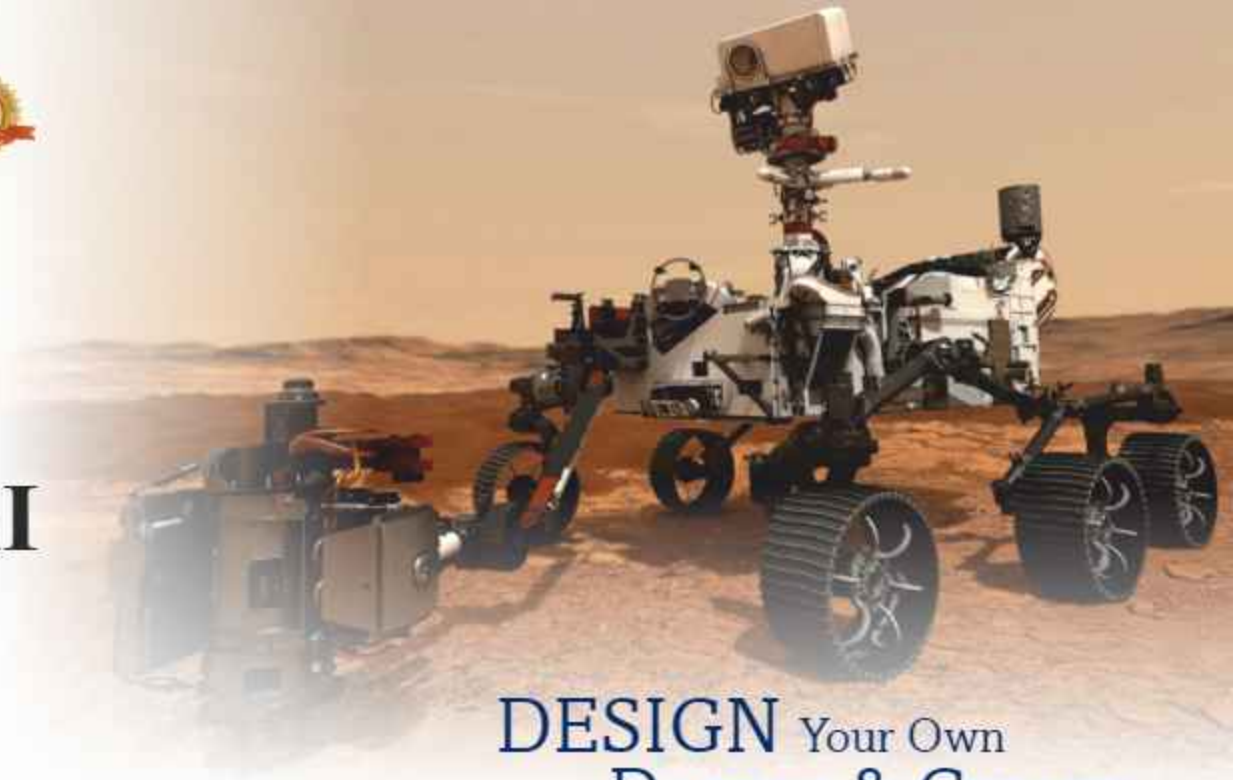
JAIPUR

A+
NAAC

B.Tech
in
Robotics & AI

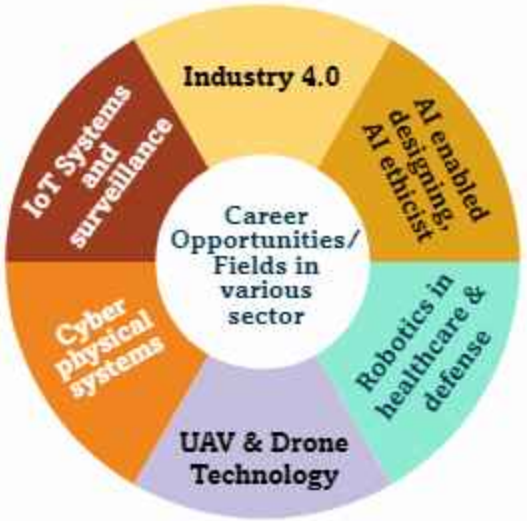


DESIGN Your Own Degree & Career

Admission 2024-25

About the Department

- Mechatronics Department at MUJ is a synergy of expertise in mechanical, electrical, computer, and mechatronics to prepare industry-ready graduates.
- B. Tech in Robotics & AI is an interdisciplinary program that involves integrated understanding and learning of engineering domains viz. Mechanical, Electrical, Electronics & Computing.
- The courses of Robotics & AI at MUJ are designed to adapt the futuristics trends and industry demands.
- Robotics & AI domain finds applications in Robotics Systems, Industrial Automation, Cybernetics, UAV, Smart Systems, Medical Robotics, Autonomous Vehicle, Space Research and many more.



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Focused Area

B.Tech.
Robotics & Artificial Inteligence

Focused Areas

- Autonomous System
- Human Robot Interaction
- Machine Learning & Perception

Salient Feature of the Department

14 Teaching Staff	**110+** Abroad Higher Studies	**230+** Research Publications
500+ Alumni	**6** International & National MoU	**3** Student Club /Chapter
10+ Start-ups		

Key Highlights of the Program

- Implementation of NEP (National Education Policy)
- Government funded research projects
- Interdisciplinary curriculum according to industry requirements and continuos updating as per industry feedback.
- Focus on imparting project-based education
- Robotics, IoT, Domain and Simulation and Industrial Automation Lab
- Students Clubs and Chapters to enhance soft & technical skills
- Research opportunities for Innovation and Start-ups
- Industry and International Universities Collaborations
- Continuous Mentoring and Monitoring of the Students
- Excellent Placement record in multi-sectors
- Ethical & Social Implication.

Current Research Scenario in Robotics Lab

Equipments available for advanced research in Robotics Lab

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Possible Recruiters

Cipla, BOSCH, SECUREYE, OMAX, accenture, AVL, JSW Steel, IntelliPaat, Deloitte.

Research Facilities for B. Tech in R&AI

- UR 6 axis manipulator arm (centralized research facility)
- Bosch Rexroth-based Electro-Hydraulic System
- Bosch Rexroth based industrial sensor kit
- SIEMENS PLCs and VFD
- PIC Microcontroller and ARM Development Board
- National Instruments DAQ system (my RIO, ELVIS II+ etc.)
- Quanser based systems such as Qube-Servo and Myoelectric Board etc.
- MATLAB based 3-axis robotic trainer kit
- Interbotix Turtlebot 2i Mobile ROS Platform
- Khepera mobile robot
- Hexacopter Robot (Drones)
- Intel Real sense camera, OCULUS RIFT, QUEST, HCT VIVE, HOLOLENS

National and International Collaborations

- University of Malta
- Rajiv Gandhi Center for Advanced Technology, Jaipur (SDC)
- Infosuccess 3D, Greece (Industry)
- Swayyatt Robots, Indore (Industry)
- Vision Automation, Agra (Industry)
- Smarden Automation, Haryana (Industry)

National and International Collaboration for Collaborative Research

L-Università ta' Malta, IS3D, R-CAT Rajasthan Centre of Advanced Technology, VAS Deciphering Unfeasibility, SmarDen

Students Club & Chapter

International Society of Automation Manipal University Jaipur Student Section, AUTONOMOUS INITIATIVE THE ROBOTICS CLUB

Sports & Extra Curriculum Activity

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Career Opportunities/Fields in various sector

- Industry 4.0
- AI enabled designing
- IoT Systems
- Human Robot Interaction Specialist.
- AI Ethicist/Policy Analyst.
- Entrepreneur/Startup Founder
- Academic/Research
- Robotics Engineer
- AI Engineer/ R&D
- Autonomous System Developers

The MUJ EDGE (Why MUJ)

- NAAC A+, AICTE, and UGC Accredited Institution
- Enhances Interdisciplinary Research
- Highly Qualified Faculties
- State-of-Art Laboratories
- Individual Attention to Students
- PRAISE incentive policy for research publication
- Excellent Infrastructure
- Scholarship for Students
- Student Travel Grant for International Internships
- Industry and International Collaborations

Fee structure

Program	Program Fee (For 4 Years)	
	Indian (Rs)	International (USD)
BTech-Mechatronics		

Eligibility

The candidate must have passed 10+2 or A Level or IB or American 12th grade or equivalent examination with Physics, Mathematics and English as Compulsory subjects, along with any one of Chemistry or Computer Science or Biotechnology or Biology or Statistics or Engineering Drawing as optional subject for admission to B Tech, with minimum of 50% marks in Physics, Mathematics, and the optional subject, put together.

Scholarships

- TMA Pai Engineering Scholarships
- Scholarships for Lateral Entry (B. Tech.)
- TMA Pai Merit Scholarships
- Rajasthan Merit Scholarships
- Financial Assistance for Sibling(s)
- Scholarship for "Differently- abled" Students
- Scholarships for wards of Martyrs of Defence Personnel / Para Military Forces
- Scholarships for the wards of Single Mother & Orphan Child

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Research Contribution

- Science & Engineering research board funded project, (SERB) Govt. of India
- Research papers in reputed international journal (SCI, SCOPUS) and International/ National Conferences
- Regular Patent filing grant
- Consultancy projects
- Research projects funded by govt. organization
- Books/Book Chapter- published in WoS/Scopus/Springer

Development of Soccer Bot & Drone Race

Hands in Robotics Lab

Available equipments for advanced research in Pneumatic Lab

Higher Studies Opportunity Abroad

Major Universities associated with Alumni

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Proposed Courses (2024-25)

Proposed Department Core Courses

1. Digital Systems and Integrated Circuits
2. Robot Kinematics and Dynamics
3. Sensors and Actuators for Robots
4. Robotics control system
5. Basics of AI and ML
6. AI in Robotics
7. Drives in Robotics
8. Deep Neural Network

Proposed Flexi- Courses

1. FC1: Object Oriented bProgramming using Python
2. FC1: Strength of Materials
3. FC2: Data Structures and Algorithms
4. FC2: Mobile robotics
5. FC3: Relational Database Management System
6. FC3: Robot Path Planning and Control

Proposed Department Program Electives

1. Design of Machine Elements
2. Signal and System
3. Digital Signal Processing
4. Finite Element Methods
5. Machine Vision
6. Vision Intelligence
7. Smart Materials
8. Cyber Physical System
9. Computer Networks and Protocols
10. Biomedical Robots
11. Collaborative Robots
12. Micro Aerial Robots
13. Advanced Robot programming and simulation
14. Robot Gripper Design
15. Agricultural Robotics
16. Design and Analysis of Algorithms
17. Drone and its Components
18. Drone Modelling and Simulation
19. Wireless Sensor Networks
20. Automated Manufacturing Systems
21. Industrial IoT System

Proposed Department Open Electives

1. Fundamentals of Robotics
2. Automation in Industry
3. Fundamentals of Cyber-Physical Systems
4. Project Planning and Control
5. Building Automation
6. Smart Farming
7. Optimization and decision techniques
8. Sensor Technologies
9. Predictive maintenance
10. Drone Technology
11. Inventory and Quality Control
12. Biomedical Instrumentation
13. Emotional Intelligence
14. System Analysis and Management

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Admission Process

Application form initiated through our website
admissions.jaipur.manipal.edu

Applicants must submit a completed application form with relevant documents within the due date.

Our counsellors will guide candidates through the admission process, which is as per regulatory requirements.

FAQ

Please visit the FAQ section on our website to know more about the admission process.

Hostel Details

goodhostspaces.com 08069122800
info.jaipur@goodhostspaces.com

Counsellor Contact Details

Ms Meenakshi
8690987137

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(University Under Section 2(f) of the UGC Act)

Dehmi Kalan, Jaipur-Ajmer Expressway, Jaipur, Rajasthan - 303007
admissions@jaipur.manipal.edu | Follow us on :
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