



**A.T.O.M Robotics**  
**Maharaja Agrasen Institute of technology**  
**ECE Department**  
**EVENT REPORT**

**EVENT 1: Linux and ROS Session**



**Date and Venue: 10th September 2025, Room 446, 4th Block**

**Organised By: A.T.O.M Robotics Lab**

**Objective of the Event:** The aim of the session was to introduce freshers to the basics of Linux and the Robot Operating System (ROS). The session was designed to give students a foundation in open source robotics software, guide them through practical installations, and prepare them for upcoming society selection tasks.

## **Description of the Event:**

The session began with an overview of Linux fundamentals, including command-line operations and file system navigation. Society members highlighted why Linux is the preferred environment for robotics development and how it integrates seamlessly with ROS.

Students were introduced to ROS basics, covering its architecture, nodes, topics, and packages. The practical aspect of these sessions focused on helping students install Ubuntu on their systems, followed by setting up the ROS environment step by step. Society mentors personally guided students through resolving installation issues, ensuring every one left the session with a working ROS setup.

The session concluded with a discussion on how ROS is applied in real-world robotics, particularly in navigation, perception, and automation.

## **Conclusion:**

The introductory session on Linux and ROS proved highly valuable in equipping newcomers with essential technical skills. By combining theoretical knowledge with practical installations, the event ensured that freshers are ready to take their first steps into robotics development with A.T.O.M Robotics Society.

## **Event: Electronics Session**

**Date and Venue:** 12th September 2025, Room 446, 4th Block

**Organised By:** A.T.O.M Robotics Lab



## **Objective of the Session:**

The Electronics Session was conducted to provide new members with a foundational understanding of electronics and its applications in robotics. The aim was to equip participants with knowledge of essential concepts, components, and tools that will be useful in upcoming projects and selection tasks.

## **Key Highlights of the Session:**

Electronics & Electrical Basics: Are fresher on core concepts such as voltage, current, resistance, power, and circuit fundamentals.

- Introduction to Microprocessors: An overview of general microprocessors, their working principles, and their role in embedded systems and robotics.
- PCB Designing Basics: Introduction to PCB design flow, common design tools, and best practices for creating efficient circuit boards.
- Sensors Overview: Explanation of commonly used sensors in robotics, their working principles, and practical applications.
- Hands-on Project Building: Participants engaged in practical exercises such as simple circuit building, sensor interfacing, and basic hardware assembly to gain real-time experience.
- Interactive Learning: Open Q&A and discussions allowed participants to clarify doubts and apply concepts.

## **Conclusion:**

The session successfully built a strong foundation in electronics for the new members. By combining theory with hands-on project building, the participants not only understood the concepts of microprocessors, sensors, and PCB designing but also gained practical skills, boosting their confidence to contribute to upcoming robotics projects.

## **Event: CAD Session**



**Date and Venue: 12th September, 2025, Room No. 401**

**Organised By: A.T.O.M Robotics Lab**

### **Objective of the Session:**

The CAD Session was conducted to introduce new members to the basics of Computer-Aided Design (CAD) and familiarize them with Fusion 360 software. The aim was to build a strong foundation in design thinking and enable participants to create 3D models that are crucial in robotics and hardware development.

### **Key Highlights of the Session:**

- Introduction to CAD: Overview of CAD designing concepts, its importance in robotics, and real-world applications.
- Fusion 360 Training: A hands-on demonstration of Fusion 360, covering essential tools, features, and workflows.
- On-Spot Learning: Live CAD model creation was demonstrated, followed by guiding participants to design similar models on their own systems.

- **Doubt Clearing:** Selection task-related queries were addressed, along with general questions about CAD design.
- **Interactive Engagement:** The session emphasized practical learning, encouraging students to explore and apply CAD concepts directly.

**Conclusion:**

The CAD Session successfully equipped the participants with a working knowledge of CAD design and Fusion 360. By combining live demonstrations, hands-on practice, and doubt resolution, the session ensured that students gained confidence in using CAD tools, preparing them for both the selection process and future robotics projects.



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