

Two-Day Workshop on Introduction to Robotics

The department of Electrical Engineering is going to organize two-days consecutive workshops cum competition on "Introduction to Robotics" under the initiative of SSIP 2.0. The workshop aims to create the next generation of embedded systems engineers with a practical outlook to provide practical solutions to some of the real-world problems. The workshop will involve theory and hands-on-training sessions based on fundamentals of Robotics, advancements in Robotics research and educational platforms. Interdisciplinary learning: Robotics involves the integration of various disciplines such as computer science, electronics, and communication technology. Industry Relevance: Robotics is a rapidly growing field with wide-ranging application across industries such as healthcare, agriculture, smart cities, manufacturing, etc. Overall, Robotics workshops play a crucial role in enhancing the educational experience of students by providing practical skills, fostering interdisciplinary learning, and preparing them for future leaders. In addition, this workshop helps students to think differently and implement the knowledge gained during this workshop for solving the various issues of society and providing them an opportunity to start their journey of entrepreneurship.

The workshop modalities are appended as:

1. Registration: Prior registration must participate in the workshop
2. Registered teams will participate in the Task Based Training (TBT) to be performed on Robo-kits, where teams will solve assigned tasks designed to include hands-on experiments using the robot over a period of 2–3-months.
3. No substitution of team members will be allowed during TBT.
4. Laptop: All participants are requested to come with their laptop
5. Participation fees: There is no registration fee.
6. Participants number: A total of 24 participants in a team of 4 students (max 6-teams) will be trained.
7. No changes will be allowed after the registration of the team.
8. All students having 100% attendance will be given a participation certificate (there is no provision for relaxation)
9. Awards: Attractive prize will be given to a top team after successful completion of the workshop

Program Schedule (24th -25th January 2025)		
Day 1: 24/01/2025 (Friday)		Students Trainer
08.30 am to 09.00 am	Reporting	
09.00 am to 09.30 am	Introduction to Fire Bird V Robot	Priyanshi Naghera
09.30 am to 09.45 am	Conversion (Binary to Decimal to Hexadecimal)	Het Jethva
09.45 am to 10.15 am	Masking	Aditya Jani
10.15 am to 10.30 am	Break	
10.30 am to 12.30 pm	Introduction to AVR Micro-controller and Programming Environment and Buzzer	Het Hirani
12.30 pm to 01.15 pm	Lunch Break	
01.15 pm to 03.30 pm	Simple Motion Control using I/O Ports	Ashish Shrivastva

Day 2: 25/01/2025 (Saturday)		
8.30 am to 11.00 am	Robot Velocity Control using Pulse Width Modulation	Dharm
11.00 am to 12.45 pm	Introduction to LCD Interfacing	Saurabh Singh
12.45 pm to 01.30 pm	Lunch Break	
01.00 pm to 02.00 pm	Analog Sensor Interfacing using Analog to Digital Conversion	Shivam Markanday
02.00 pm to 2.20 pm	Tea Break	
02.20 pm to 04.30 pm	Robot Programming for White Line Following	
04.30 pm to 05.00 pm	Feedback & Valedictory	

Coordinator:

Dr Alok Kumar Singh is the coordinator of the 2-days workshop, supported by the current ICT students Ashish and Priyanshi, and CSE students Het Hirani, Het Jethva, Shivam, Dharm, Aditya, and Saurabh.

Contact for registration and queries:

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