

"Where Mechanics, Electronics and Computing Converge"

DEPARTMENT OF MECHATRONICS ENGINEERING

A.Y. 2024-25 (SEM-I) • December 2024



Welcome and best wishes to all the friends of the Department who receive this Newsletter.

This Newsletter is an attempt towards achieving Motivation. This is one of the first university affiliated departments in the Savitribai Phule Pune University to offer a Bachelor of Engineering degree program in Mechatronics Engineering.

Vision, Mission & PSO

Vision

To be a centre of excellence in mechatronics engineering producing competent professionals capable of developing innovative solutions for industry and society.

Mission

M1: Providing quality education in interdisciplinary domains through integration of hardware and software systems, while fostering professional ethics and lifelong learning for industry and societal needs.

M2: Equipping students with skills to design, develop, and implement efficient, reliable, and socially relevant engineering solutions through teamwork, innovation, and effective communication.

M3: Promoting innovation, practical learning, and strong industry interaction, enabling students to address real-world challenges and pursue research, entrepreneurship, and emerging technologies.

Program Specific Outcomes (PSO)

PSO1: To be able to apply fundamentals of mechanical, electrical, electronics and control engineering to design, analyze and maintain a mechatronics system.

PSO2: To be able to develop and implement solutions for industrial and societal problems applying multidisciplinary engineering principles.

MESSAGE FROM HEAD OF THE DEPARTMENT



Dr. Sonali S. Patil

Head of Department, Mechatronics

A mechatronic system is a multidisciplinary system embodying a synergistic combination of the disciplines of electrical/electronics, mechanical and computer science / information technology. In today's world mechatronic products and systems are all around us, such as the modern auto focus camera, washing machines with electronic controls, and printing and photocopy machines. Modern automobiles have several mechatronic systems such as electric power assisted steering, engine management system and cruise control.

The newsletter is one of the ways in which we can disseminate information on the life of the Department. This semester saw an expert session on the drone industry, a technical poster presentation, industrial visits and a parent-teacher meeting, while our go-kart team brought home several awards from the Indian Super Karting Championship. As you read through the pages you will realize that the Department had a particularly successful semester.

I would like to thank all my colleagues for their tireless efforts to help the department progress at a very steady pace.

- Dr. Sonali S. Patil (HoD Mtrx.)

EDITOR'S VIEW

This newsletter is a space for our students and staff to share how they tackle real-world problems by drawing on ideas from different disciplines. Through these pages, you'll see their creativity, fresh thinking, and practical solutions that could make a difference in almost any workplace. This newsletter grows with your involvement, so we'd love to hear what you think. Your feedback means a lot to us!

- Ms. Mayuri Mhaske (Faculty)

Events

Technical Poster Presentation

The department organised a Technical Poster Presentation on 18th October 2024, where students presented posters showcasing their innovative technical ideas.

Winning entries received institutional support for further development, including opportunities for patent filing.



Parent-Teacher Meeting (Term I)

A Parent-Teacher Meeting for Term I was held on 30th August 2024.

It provided a platform for meaningful interaction between parents and faculty to discuss students' academic progress and overall development.

Industry Expert Talk

Expert Session on Startups and Innovations in the Drone Industry

Mr. Mihir Kedar, Founder, CMO & CTO of Cerebrospark Innovations, addressed our students on 26th August 2024.

The session focused on technological advancements, business models and opportunities in the drone industry, giving students valuable insights into drone innovation and entrepreneurship.



Industrial Visits

Industrial Visit to Silson Boilers

On 25th October 2024, students visited Silson Boilers, where they explored industrial boiler systems.

They gained practical insights into the design, operation and safety mechanisms of boilers used in industry.





Industrial Visit to Mahavas Precision Controls Pvt. Ltd.

On the same day, students visited Mahavas Precision Controls Pvt. Ltd. and observed fluid power systems, including hydraulic and pneumatic valves.

They learnt how these valves are controlled and how they are applied in industry.

Faculty Achievements

Our faculty members continued to upgrade their knowledge by taking part in Faculty Development Programmes, conclaves and teacher training in emerging areas.

Mr. Vishal Vishwas Kulkarni participated in the ISTE-approved one-week National Level Faculty Development Programme on “Exploring Perspectives of AI and ML in Robotics and Automation,” organised by the Department of Automation and Robotics, Dr. D. Y. Patil Institute of Technology, Pimpri, Pune, from 24th to 28th June 2024.

Ms. Mayuri Sanjay Mhaske successfully completed Module 6: Student Assessment and Evaluation under the AICTE National Initiative for Technical Teachers Training (NITTT) in September 2024.

Dr. Sonali Shrikant Patil participated in a Faculty Development Programme on “Advanced Artificial Intelligence (AI) Techniques & MATLAB Integration,” organised by the Department of Mechanical Engineering, Sanjivani College of Engineering, Kopergaon, from 21st to 26th October 2024.

Prof. Nilesh Chandrakant Dhobale successfully completed the Lean Manufacturing Practices (LMP) Conclave organised by the Mizuho India Japan Study Centre, Indian Institute of Management Bangalore, from 15th to 17th November 2024.

Certificate Gallery



AI & ML in Robotics FDP



NITTT Module 6



AI & MATLAB FDP



LMP Conclave, IIM Bangalore

Student Achievements

Competition Achievements

Our students made the department proud at the National Level Go-Kart Competition 'Indian Super Karting Championship-2024 Season 3', organised by Hindustan Motorsports at Mahakal Group of Institutes, Ujjain, Madhya Pradesh. Sameer Salve won the Best Racer award at the championship on 2nd July 2024, a fine reward for his skill and hard work on the track.

Achievements of Team Invader in ISKC 2024

Team Invader competed in both the IC and EV categories and won prizes in almost every event.

IC Category:

- Autocross and Skid Pad – Winner
- Acceleration – 2nd Runner-up
- Endurance and Traction – 3rd Runner-up
- Fastest Lap Prize

EV Category:

- Autocross – Winner
- Endurance – 1st Runner-up
- Skid Pad and Acceleration – 2nd Runner-up



"It always seems impossible, until it's done." – Nelson Mandela

Editorial Board & About Us

Editorial Board

FACULTY EDITOR

Ms. Mayuri Mhaske

Department of Mechatronics Engineering

STUDENT EDITOR

Ashutosh Agarwal

HEAD OF DEPARTMENT

Dr. Sonali Patil

About the Institute

Marathwada Mitra Mandal's Institute of Technology, Lohgaon Pune was established in 2008 and conducts the following courses leading to a Bachelor's Degree in Engineering:

- Computer Engineering
- Mechatronics Engineering
- Mechanical Engineering
- Civil Engineering
- Artificial Intelligence & Data Science

All these courses are approved by All India Council for Technical Education (AICTE), New Delhi, sanctioned by Govt. of Maharashtra and affiliated to Savitribai Phule Pune University. The Marathwada Mitra Mandal Society, Pune was established in 1963.

CONTACT US

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