ERODE SENGUNTHAR ENGINEERING COLLEGE

(AUTONOMOUS) Perunthurai, ERODE-638 057

NEWSLETTER

DEPARTMENT OF ROBOTICS AND AUTOMATION

About

The Fourth Industrial Revolution is driving sweeping transformation to the way we live and work. In this era increasingly powered by advanced technology like Robotics and Automation, all industries are set for new opportunities. Robots hold the promise of moving and transforming materials with the same ease as a computer program transforms data. Robots are equipped with sensors to perceive their environment and actuators to perform particular tasks and can take intelligent decisions with inbuilt controllers. From assembling to bringing machines to life, Automation and Robotics engineers have been making our lives stress-free through in more ways than we think. Not only do they build, but they also maintain, repair, and develop new models of the machines we use.

One of the most relevant degrees to study in preparation of this envisioned future is Robotics and Automation Engineering. Pursuing a career in Robotics and Automation engineering is no small deal as you will be responsible for several things that make the world a better place. Automation

and Robotics engineering is a field of engineering that deals with the design and creation of robots which are used in:

- Industries to speed up the manufacturing process.
- The field of nuclear science.
- Servicing and transmission of electric signals
- Designing of bio-medical equipment, sea-exploration, etc.

MISSION

- To establish a better learning environment to face the upcoming challenges.
- To provide state-of-the-art infrastructure to nurture the inspiration towards advancements in robotics and automation.
- To support the students to focus on research to solve the complex technical problems of current times with collaborative and inter-disciplinary approaches.
- To inculcate social, ethical and entrepreneurial skills among students for their career growth.

VISION

- To impart quality technical education in the field of Robotics and Automation with a focus on research to meet the growing needs of the future and challenging cultural changes in lifestyle of the involved personnel.

PROGRAM EDUCATIONAL OBJECTIVES

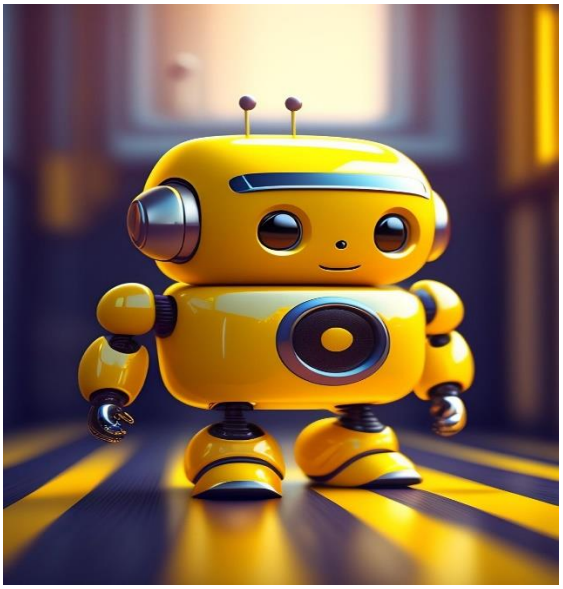
- To prepare the students with strong foundation in basic sciences, mathematics and computational platforms.
- To develop ability among the students for acquiring knowledge on the theory and practices in the field and service of Robotics Engineering and allied areas.
- To promote the students in life-long learning to keep themselves

PROGRAM OUTCOMES (PO)

- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. Problem

analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering science

- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health
- and safety, and the cultural, societal, and environmental considerations.
- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including predictionand modeling to complex engineering activities with an understanding of the limitations.
- The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.



Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. engineering community and with society at large, such as, being able to comprehend and write
- communication: Communicate effectively on complex engineering activities with the effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- Project management and finance: Demonstrate knowledge and understanding of the engineering and

management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

DEPARTMENT INAUGURATION PROGRAM

The Department of Robotics and Automation of Erode Sengunthar Engineering College (Autonomous) successfully organized the ROBOTRIX Association Inauguration (2025–2026) on Monday, 28th July 2025, at the ECE Seminar Hall. The event began with a warm welcome address, followed by the ceremonial lighting of the lamp in the presence of Thiru. G. Kamalamurugan (Correspondent, ESEC), Thiru. S. N. Thangaraju (Secretary, ESET), and Dr. V. Venkatachalam (Principal, ESEC).

The highlight of the event was an engaging guest lecture by Mr. Pravinraj Design Engineer at Mercedes-Benz Research and Development India, Bengaluru, on the topic "From Sketch to Street: How Cars are Designed Today." He shared valuable insights into the design process of modern automobiles, the integration of robotics in automotive engineering, and the future of intelligent vehicle design

The session inspired students with real-world industry knowledge, bridging the gap between academic learning and industrial innovation. The event concluded with a vote of thanks by Mrs. R. Nithya (Convenor) and Mrs. V. Vimala (Co-Convenor), marking the beginning of a new and

Innovative year for the ROBOTRIX Association

ASSOCIATION ACTIVITIES

ThinkFusion – Intra Department Mini Hackathon

The Department of Robotics and Automation of Erode Sengunthar Engineering College (Autonomous) successfully conducted the Intra Department Mini Hackathon – ThinkFusion: Igniting Intelligent Solutions under ROBOTRIX'25 on Tuesday, 26th August 2025, at the CNC Seminar Hall, ESEC.

The event commenced with an inaugural address highlighting the importance of innovation and teamwork in shaping the future of robotics. The hackathon, coordinated by Mrs. R. Nithya (AP/R&A) under the guidance of Dr. S. Deepankumar (HoD/R&A), provided a dynamic platform for students to explore their creativity through a structured Fusion Pathway consisting of Team Formation, Theme Selection, Problem Identification, and Solution Development.

Participants actively collaborated to identify real-world challenges and propose intelligent solutions, showcasing their technical and analytical skills. The event encouraged innovation, logical thinking, and teamwork among budding engineers.

In the presence of Thiru. G. Kamalamurugan (Correspondent, ESEC), Thiru.S. N. Thangaraju (Secretary, ESET), and Dr. V. Venkatachalam (Principal, ESEC), the event concluded successfully with positive feedback and enthusiasm from participants. ThinkFusion truly embodied its spirit — Think Bold, Fuse Bright, and ignited a spark of innovation across the department

DEPARTMENT 24 HOURS HACKATHON PROGRAM

Department of Robotics and Automation in association with the ROBOTRIX Association of Erode Sengunthar Engineering College (Autonomous) successfully organized TRIXATHON'25 – A National Level 24- Hour Hackathon on 14th and 15th October 2025 at the college campus. The event aimed to ignite innovation, inspire collaboration, and create impactful technological solutions through continuous problem-solving and creative design

The hackathon was graced by the presence of Mr. N. Nandha Kumar, Director of Dolphin Robotics and Automation, Hosur, Tamil Nadu, who served as the Chief Guest. In his address, he emphasized the importance of innovation-driven learning, industrial exposure, and the role of automation in shaping future technologies.

The event was coordinated by Mrs. R. Nithya (AP/R&A) and Mr. M. Rishab (Student Coordinator) under the guidance of Dr. S. Deepankumar institutions participated enthusiastically, developing creative and impactful solutions within the 24-hour challenge.

Special recognitions were presented for Best Innovation, Best Design, Social Impact, and Women in Tech, along with exciting cash prizes and an Overall Participation Trophy. The event concluded successfully, inspiring participants to continue the spirit of “Ignite. Innovate. Impact.” and marking a proud milestone for the ROBOTRIX Association.

STUDENT ACHIEVEMENTS

The students of the Department of Robotics and Automation (R&A) have shown exceptional enthusiasm and skills by participating in various technical events, including national and international level competitions. Their engagement in technical quiz contests and paper presentations has been outstanding, highlighting their expertise and dedication in the field. Notable achievements include:

National Level Project Presentation at Kongu College of Engineering and Technology (National Level) August 6, 2025:

Sanjeev M, a student in the III Year R&A, Won Second Price in the National Level Project presentation event held at Kongu College of Engineering and Technology on August 6, 2025. The event spanned a day and showcased his knowledge and abilities in the field.Another participant; Moulikannan V, also from the III Year R&A,took part in the same National Level Project Presentation event at Kongu College of Engineering and Technology on August 6, 2025. His engagement exhibited his technical prowess and dedication to the subject matter

Project Showcase at Nehru group of institutes (National Level) - September 18, 2025:

Sanjeev M, Moulikannan V, Arunachalam K,a student in the III Year R&A, presented at Project Showcase event hosted by Nehru group of institutes on September 18, 2025. His participation highlighted his dedication to advancing his technical skills.

Students from the Department of Robotics and Automation, Erode Sengunthar Engineering College (Autonomous), actively participated in the SAE 2025 Aircraft Design Training Program held at Palakkad, Kerala. The program offered comprehensive exposure to the principles of aircraft design, aerodynamics, propulsion systems, and control mechanisms, providing participants with valuable practical and theoretical knowledge in aerospace engineering.

The training team comprised Balaji M. S. (I Year R&A), Suganthan A. G. (III Year R&A), Moulikannan V. (III Year R&A), Bala A. (II Year R&A), Rishi Kannan L. (IV Year R&A), Akilan V. (III Year R&A), Rishab M. (IV Year R&A), Sanjeev M. (III Year R&A), and Arunachalam K.(III Year R&A

"In three words I can sum up everything I've learned about life: it goes on." —Robert Frost