



ERODE SENGUNTHAR ENGINEERING COLLEGE

(An Autonomous Institution)

PERUNDURAI, ERODE - 638057



DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING

MAGAZINE



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ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering was started in the year of 2000. It offers UG Programme (B.E.) in Electronics and Communication Engineering and PG Programme (M.E.) in Applied Electronics. The Department has also been recognized as a centre for carrying out Ph.D. Programme under Anna University. It has good infrastructural facilities with well- experienced and dedicated team of faculty members. The Department has signed MoU with various companies and has collaboration in Research & Development / Student Projects Consultancy works. The Department organizes National level Students' Technical Symposia and Project Exhibition every year.

VISION

To impart professional excellence, leadership qualities and competence, embedded with character in students and serve the society through research.

MISSION

- Create Learning Environment to serve the societal needs.
- Promote innovative ideas and augment research to improve the quality of life through application of technology.
- Impart State of art Technical Education to groom engineers with high professional standards.
- Provide high quality ethical engineers for the Benefit of the Society.

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 sciences.

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 prediction and 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.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write 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.



Programme Educational Objectives (PEOs)

- Impart the learners, an ability to understand and analytical, academic use and communication skills effectively with special emphasis to fulfill societal needs.
- Inspire the beginners to enrich their skills throughout career by learning about emerging technologies, adapting and accepting the changes to achieve leadership position in industry or academia.
- Prepare graduates to innovate products/solutions through research to real life problems for boosting the economy of the region and the nation.
- Prepare graduates to work effectively as a team and practice ethics in the profession with a sense of social responsibility.

**Courses Offered: B.E.
Electronics and
Communication
Engineering (4 Years),
M.E. Applied
Electronics (2 YEARS)
& Ph.D.,(3 years)**

Program Specific Outcomes (PSO)

PSO1: Interpretation Skills: Acquire skills to design, verify and validate electronic functional elements for a variety of applications.

PSO2: Core Competences: Ability to use hardware and software tools to solve complex problems in VLSI, Communication, RF and Embedded Systems.

PSO 3: Attitude: Develop an attitude of lifelong learning for sustained career advancement and adapt to the changing multidisciplinary profession.

ASSOCIATION ACTIVITIES

An ANRF Sponsored Three-Day National-Level Seminar on "Revolutionary Roles and Impacts of AI, ML, and Semiconductor-Enabled Embedded Systems in Coastal Zone Management and Forecasting" was organized from 15–17 December 2025. The seminar provided participants with valuable insights into the applications of Artificial Intelligence, Machine Learning, and Semiconductor-enabled Embedded Systems in coastal monitoring, intelligent forecasting, and sustainable marine management. The programme enhanced participants' understanding of emerging technologies through expert sessions, promoting innovation and research in smart coastal management systems.



NBA Accreditation Achievement

Erode Sengunthar Engineering College achieved NBA Accreditation under Tier-I Category for a period of three years, marking a significant milestone in its pursuit of academic excellence and quality education. The institution was also recognized among the Top 10 institutions in Tamil Nadu with more than 10 NBA-accredited academic programmes, reflecting its commitment to outcome-based education and continuous improvement. The accredited programmes include Computer Science and Engineering (CSE), Electronics and Communication Engineering (ECE), Electrical and Electronics Engineering (EEE), Biomedical Engineering (BME), and Information Technology (IT). This prestigious recognition stands as a testament to the dedicated efforts of the Management, faculty, staff, students, and all stakeholders.



FACULTY ACHIEVEMENTS

Faculty Scopus Publication

Ms. K.R. Priyadharshini published a Scopus-indexed research paper titled "Performance Evaluation of Cost-Effective Two-Chamber Microbial Fuel Cell for Simultaneous Domestic Wastewater Treatment and Bioenergy" in the Indian Journal of Chemical Technology during November 2025. The publication highlights her contribution to sustainable wastewater treatment and bioenergy research through innovative microbial fuel cell technology.

Faculty Patent Achievement

Ms. Amsaveni G published a patent titled "Hybrid Image Processing and Deep Learning System for Early Detection and Classification of Kidney Stones with IoT-Based Patient Monitoring" (Patent No. 202531107273 A). The patent was applied on 05 November 2025 and published/granted on 28 November 2025, recognizing her contribution to healthcare innovation through the integration of image processing, deep learning, and IoT technologies.

Faculty Conference Presentation

The Head of the Department presented a Scopus-indexed research paper titled "Blockchain-IoT-AI Model for Secure Supply Chain Management and Real-Time Agricultural Recommendations" at the 2025 IEEE International Conference on Emerging Trends in Computing and Communication (ETCOM) held on 28–29 November 2025. The presentation highlighted innovative applications of Blockchain, IoT, and Artificial Intelligence in developing secure and intelligent solutions for modern supply chain management and smart agriculture.

Faculty Scopus Publication

Dr. V. Thamizharasan published a Scopus-indexed research paper titled "Comprehensive Evaluation of Performance of Full Adder Cells for Various Operational Conditions and Applications" in Springer Nature during December 2025. The publication highlights his contribution to advanced digital circuit design through the comprehensive evaluation of full adder cell performance under various operational conditions.

FACULTY ACHIEVEMENTS

Faculty Patent Achievement

Ms. K.R. Priyadharshini published a patent titled "AI-Driven Smart Waste Segregation and Recycling System for Sustainable Urban Waste Management" (Patent No. 202511102508 A). The patent was applied on 24 October 2025 and published/granted on 12 December 2025, recognizing her contribution to sustainable waste management through the integration of Artificial Intelligence and smart recycling technologies.

Faculty Conference Presentation

Ms. K.R. Priyadharshini presented a Scopus-indexed research paper titled "Smart Nutrient-Infused Drip Irrigation System for Tray-Based Brinjal Cultivation Using Random Forest Modeling" at the IEEE-SPKR Engineering College conference held from 11-13 December 2025. The presentation highlighted the application of Artificial Intelligence and machine learning in precision agriculture for improving nutrient management and crop productivity.

SPORTS

Sports Achievement

Ms. M. Kanishka and Ms. N. Mankayarkarasi of II ECE have been selected to represent the Anna University Women's Hockey Team in the All India South Zone Inter-University Women's Hockey Tournament to be held at SRM University, Chennai. Their selection reflects their outstanding sporting talent, dedication, and commitment to excellence, bringing pride and recognition to the institution. We congratulate them on this remarkable achievement and wish them continued success in the tournament.



STUDENTS PARTICIPATION

WORKSHOP

Ashwin J.K, Shanmuga Priya K, and Kumaran R participated in the National-Level Workshop on Artificial Intelligence and Machine Learning organized by Sree Sakthi Engineering College on 16 November 2024. The workshop enhanced their understanding of AI and ML concepts, emerging technologies, and real-world applications.

Lingeshwaran P and Deepak A participated in the National-Level Workshop on PCB Design organized by Bannari Amman Engineering College on 09 November 2024. The programme provided valuable practical knowledge on PCB design principles, layout techniques, and electronic circuit development.

Ashwin J.K participated in the National-Level Workshop on 3D Printing organized by Sastra TBI on 29 November 2018. The workshop provided valuable exposure to 3D printing technology, rapid prototyping, and additive manufacturing, enhancing his practical knowledge of emerging manufacturing techniques and their engineering applications.

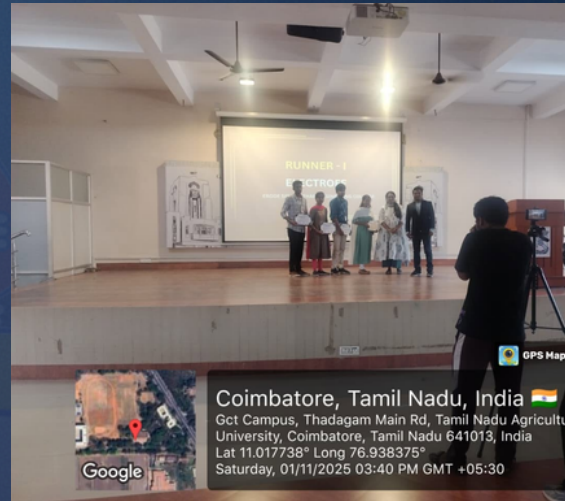
Ashwin J.K participated in the National-Level Workshop on Machine Learning Using Python organized by SRM Institute, Ramapuram, commencing on 16 December 2021. The three-month programme provided in-depth knowledge of Machine Learning concepts using Python, enhancing his programming skills, analytical thinking, and practical understanding of intelligent data-driven applications.

TECHNICAL EVENTS

Deepak A participated in the National-Level Technical Quiz organized by Sasurie College on 16 November 2024, demonstrating his technical knowledge and problem-solving abilities through active participation in the event.

PROJECT PRESENTATION

Esakiganeshan R, Jayashree M, Bharanidharan R, and Deepitha M participated in the National-Level Project Presentation Competition organized by Government College of Technology, Coimbatore on 01 November 2025 and secured the Second Prize for their innovative project and outstanding presentation.



Students of the Department of Electronics and Communication Engineering received the Innovative Smart Idea Pitch Award during a National-Level Hackathon organized by the Xavier Institute for Research and Development (Online Mode). The award was presented for their innovative project titled "Smart Breakage Detection with Auto-Powercut System for Local Transmission Lines," recognizing their creativity and technical excellence in developing a smart solution for power transmission safety and automation.

INTERNSHIP



Seventeen students from the Department of Electronics and Communication Engineering successfully completed a five-day internship at the Airport Authority of India (AAI), Coimbatore, from 17–21 November 2025. During the internship, the students gained valuable hands-on experience in airport communication systems, navigation technologies, surveillance systems, and real-time airport operations. The programme enhanced their technical knowledge, practical skills, and understanding of aviation electronics, providing valuable industry exposure and strengthening their professional competencies.

EDITORIAL TEAM



**Ms.V. SAVIEETHA, AP/ECE
Coordinator**

Grateful to have been part of the Magazine creation. My appreciation goes out to the incredible team whose dedication made it possible.



**DR.S.BHARATHIDASAN
HOD/ECE**

Proud to have been part of the magazine's creation. My heartfelt appreciation to the dedicated team whose hard work and creativity made this achievement possible.



**ESAKIGANESHAN R
- CONTENT WRITER**



**BHARANIDHARAN R
- EDITOR**

THANK YOU