



FRANCIS XAVIERTM
ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION

Accredited BY NBA | AICTE Sponsored Margdarshan Mentor Institution

DST-FIST Supported Institution | ISO 9001:2015 Certified

Recognized under Section 2(f) & 12(B) of the UGC Act, 1950



DEPARTMENT OF MECHANICAL ENGINEERING MONTHLY NEWS – SEPTEMBER 2024

ABOUT DEPARTMENT OF MECHANICAL ENGINEERING

The department offers UG program in B.E Mechanical engineering from the year 2005. The department started a PG program M.E Industrial Safety Engineering from this academic year 2018- 2019. This course has wide range of job opportunity in the Industrial and Academic sector of India as well as abroad. The Department aims at providing the students with a perfect blend of intellectual and practical experiences with the support state-of-the-art laboratories and well-defined academic structure. The UG program is accredited by National Board of Accreditation (NBA). The special feature of the Department has established three applied laboratories, in addition to the regular labs to support students to master skills to make each one industry-ready, with a solid grounding in the principles and practice of Mechanical Engineering. We also have a strong academy for training students to appear for GATE exam.

VISION OF THE DEPARTMENT

To produce competent Mechanical Engineers of excellent technical and managerial skills with profound morality for global, national and confront societal development.

MISSION OF THE DEPARTMENT

1. To provide quality education in Mechanical Engineering with an interdisciplinary approach, encouraging innovation, research, and Entrepreneurship through world-class infrastructure and proficient teachers.
2. To make the department self-reliant through multiple programs with excellent curricula, best practices, and industry exposure.
3. To inculcate technical, professional, and leadership skills, moral ethics, and lifelong learning.

Programme Educational Outcomes

The Bachelor of Mechanical Engineering curriculum is designed to impart Knowledge, Skill, and Attitude to the graduates to

PEO 1: Have a successful professional career in Mechanical Engineering and allied industries, either by employment or through entrepreneurship.

PEO 2: Establish competency in Design, Thermal, Materials, and Manufacturing system with ethics and social responsibility.

PEO 3: Have a continual receptiveness for leadership and social challenges.

Message from the Head of the Department

**Dear Colleagues,
Greetings!**

I have great pleasure and pride in announcing that the Department of Mechanical Engineering is publishing the newsletter for the month of September 2024. We are steadfast in our progress as it involved various activities that enabled the hidden talents of the department students and faculty members to be brought to light. Besides the lockdown, our faculty members are continuously attending various training programs, publishing research papers, and book chapters, and are also working on getting patents. This newsletter is the reflection of department activities that showcase all the events held in the department, the contributions of faculty members, and students, and the best practices adopted. I would like to congratulate all the members of the editorial board for their sincere effort to realize this venture.

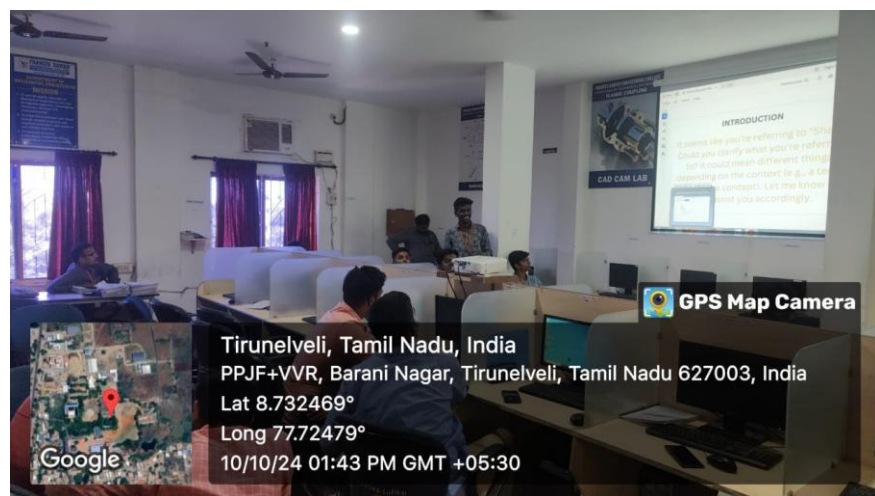
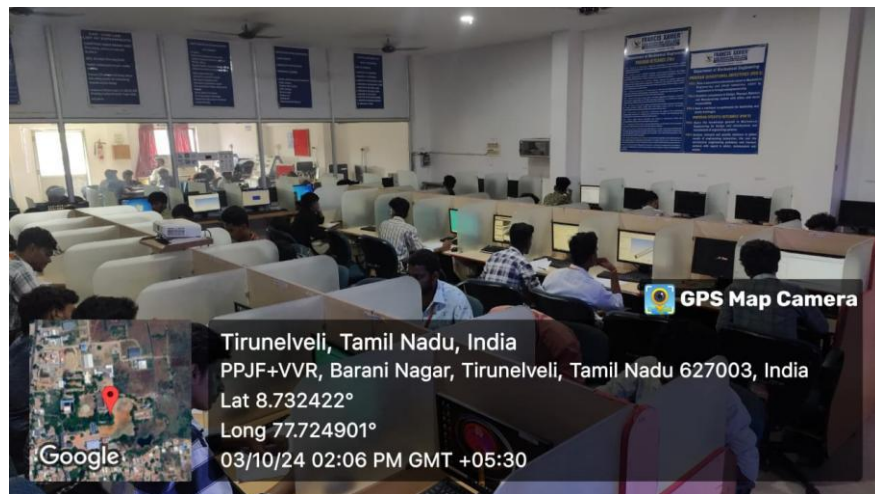
Dr. R. Samuel Hansen, M.E., Ph.D.
Professor & Head
samuel_hansen@rediffmail.com



GUEST LECTURE / SEMINAR / SKILL TRAINING

Mandatory Skill Training for III Mechanical Engineering

This Mandatory Skill Training for the Academic Year 2024-2025 was organized for III Mechanical Engineering students by Department of Mechanical Engineering and Training and Skill development. Mr.S.M.Sunder Rajan,AP/MECH & Mr.S.Thanumalaya Perumal,AP/MECH was the in charge for this Skill. Dr. Shajilin Loreto J.B, Professor/TSD was the Convener for this Program.



OUTREACH

The Outreach Programme Team of Francis Xavier Engineering College organized a village visit with a motto "House visit and Skill for School Students", on 02. 09.2024 among the public and school students of Venkalapottal village from 9.00 am to 1.00 pm. The Chief Guest Mrs. Lilly, Head Mistress of Primary school, Venkalapottal Village, Tirunelveli presided over the inaugural session and shared his welcoming words of positive gestures done by the students. The visit was arranged under the guidance of M. Team Professors and SCAD Nirman Project Team, SCAD Group. Nearly 54 students from Third year MECH participated in the visit under the encouragement of our Principal Dr. V. Velmurugan. The visit was coordinated by Dr. R. Suman (ASP/ Chemistry), Outreach and NSS Program Officer, and Mr. J. Zaharia Gabriel, Professor/ Campus Manager along with the support of the faculty members Mr. K. Vinukumar AP/MECH and SCAD Nirman project team encourage the students and staff members.



EVENING SKILL TRAINING

An Mechanical Engineering course on " Advance Simulation in Vehicle Dynamics using CARSIM " as a skill training course from 23.09.2024 to 30.09.2024. Totally, 26 students from various year students enrolled in this course.

Introduction on Vehicle Dynamics using CARSIM Platform was explained Dr. J. Sangilimuthukumar, AP/Mech theoretically then the students were downloaded the CARSIM software and practised in the CAD lab.

The resource person was explained the basic essential components in CARSIM and asking the students to perform some basic CAR SYSTEM and end of the day students were asked the assessment test. SIMULATION AND PLOT REPORT together offer a powerful solution for testing CAR DYNAMICS projects. Embrace this innovative approach and enhance students learning, teaching, and project development processes.



Creative Product Solutions Strategies for Entrepreneurial Innovation

A “Creative Product Solutions Strategies for Entrepreneurial Innovation” program was organized by the Entrepreneurship Development Cell and the Institution’s Innovation Council in association with the Department of Mechanical Engineering on September 11, 2024, from 9:30 AM to 12:30 PM. The event was held in offline mode. Dr. K. Vinukumar, AP/MECH, inaugurated the session with a welcome address. The session was conducted by Er. Dharshini M. from Infosmite Edutech LLP, Tirunelveli, and Mr. Sethuram Kumar S. from the 2nd year of the Department of Mechanical Engineering at Francis Xavier Engineering College, Tirunelveli. A total of 52 students participated in the program, which was coordinated by Dr. K. Vinukumar, AP/MECH. The event was conducted under the guidance of Dr. Lourdes Poobala Rayen, EDC Director. The resource persons discussed Infosmite Edutech LLP, which offers complete end-to-end guidance to help individuals reach their professional

goals. Infosmite provides expert mentorship sessions at flexible times and offers real-time exposure to assist in achieving career success. They delivered an inspiring and motivational talk covering topics such as career guidance, motivation, entrepreneurship development, and the importance of technology for placements



Cultivating Campus Startups: The Role of Institutional Support in Student Entrepreneurship

A “Cultivating Campus Startups: The Role of Institutional Support in Student Entrepreneurship” program was organized by the Entrepreneurship Development Cell and the Institution’s Innovation Council in association with the Department of Mechanical Engineering on September 25, 2024, from 12:30 PM to 4:30 PM. The event was held in offline mode. Dr. K. Vinukumar, AP/MECH, inaugurated the session with a welcome address. The session was conducted by Mr. S.David Blessley, Assistant Professor, Department of Mechanical Engineering at Francis Xavier Engineering College, Tirunelveli. A total of 31 students participated in the program, which was coordinated by Dr. K. Vinukumar, AP/MECH. The event was conducted under the guidance of Dr. Lourdes Poobala Rayen, EDC Director. The resource persons discussed the vital role of institutional support in fostering student entrepreneurship. It emphasizes the importance of mentorship and guidance, access to resources like funding and office space, and networking opportunities to connect students with investors and peers. Additionally, integrating entrepreneurship into the curriculum and establishing incubators and accelerators can significantly enhance support for startups



Design for Manufacturability: Bridging the Gap Between Design and Production

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Fourth year Mechanical students. Er. S.Mohamed Ameenudeen., Design Enginee., Hirtec India Pvt. Ltd., Coimbatore. delivered the guest 11ecture on "Design for Manufacturability: Bridging the Gap Between Design and Production". A heartfelt greeting to the resource person is extended by Dr. R. Samuel Hansen, HOD-MECH. The expert resource thanked the management for offering him this opportunity. The speaker emphasized the importance of integrating design and manufacturing processes to eliminate inefficiencies, reduce errors, and lower production costs. DFM as a methodology that involves designing products in such a way that they are easier, cheaper, and more efficient to manufacture. It highlights the benefits of DEM, including reduced production costs, shorter time-to-market, improved product quality, and enhanced collaboration between design and manufacturing teams.

Edited & Designed by Dr. K. Vinukumar, AP/Mech, FXEC SOCIAL MEDIA  /FXEC Mechanical

Sustainability and Ethical Considerations in Product Development

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Third year Mechanical students. Er.Aslam., Supervisor., Asstra Logistics Company., UAE., delivered the guest lecture on "Sustainability and Ethical Considerations in Product Development". A heartfelt greeting to the resource person is extended by Dr. R. Samuel Hansen, HOD-MECH. The expert resource thanked the management for offering him this opportunity.

The guest lecture emphasized how environmental concerns, such as reducing carbon footprints and minimizing waste through the use of eco-friendly materials and circular economy models, are becoming critical for businesses. Life Cycle Assessments (LCA) were introduced as a tool for evaluating a product's environmental impact, from sourcing raw materials to disposal. These practices not only reduce environmental damage but also align with increasing consumer demands

Freshmen Induction Programme

A two day Freshmen Induction Programme for the batch 2024-2028 was conducted on 5th and 6th of September, 2024. This program was planned to introduce the Institution, department, give inputs with regard to the Institutional and departmental practices, scope of the programme they have registered for, the guidelines of the institution and the department, enhance communication skills and give an array of knowledge on the industrial practices and placement opportunities. The sessions incorporated with activities and videos to listen to enlightened the students and revoked their learning spree. The two day session was coordinated by the mentors *Mr. A.SANTIAGO STEPHEN, ASP/MATHS*, *Mr.S. THANUMALAYAPERUMAL, AP/MECH* under the guidance of the SOP Coordinator Mrs. Shala F John, AP/English.



INTERNSHIP/ PLACEMENT/ FUNDING/ INDUSTRIAL VISIT

Industrial Visit: Dalmia Wind Farm



On September 23, 2024, 30 Mechanical Engineering students from Francis Xavier Engineering College in Tirunelveli were taken on an industrial visit to Dalmia Wind Farm located in Kavalkinaru, Kanyakumari District. Two teaching members went along with the visit, giving the students a great chance to see how a wind mill power.

The purpose of the tour was to familiarize students with the real-world industrial applications of engineering ideas and to improve their understanding of industrial processes, especially those pertaining to the mechanical and maintenance activities of wind mills.

About Dalmia Wind Farm

Dalmia Cement (Bharat) Limited (DCBL) and Dalmia Bharat Sugar (DBSIL) have several wind mill projects, including:

- Acquisition of O2 Renewable Energy V.

On April 5, 2024, DCBL signed an agreement to acquire 18.13% of O2 Renewable Energy V's equity share capital. The acquisition aims to increase DCBL's renewable power supply and source wind power for captive use in Karnataka.

- Wind farms in Kanyakumari and Tirunelveli.

DBSIL built two wind farms in Muppandal, Kanyakumari District and T. Karungulam, Tirunelveli District. The 53 wind mills in these farms generate 16.525 MW of power, which is sold to the Tamil Nadu electricity grid.

- Commissioning of a 16.5 MW wind farm in 1993

The Dalmia Bharat Group was one of the first in India to commission a wind farm.

- Commitment to 100% renewable energy.

Dalmia Cement is committed to achieving 100% renewable energy (RE 100) by 2030 and becoming carbon-negative by 2040.

Industrial Visit: Jacobi Group | Nova Carbons India Private Limited



About Jacobi Group | Nova Carbons India Private Limited

Edited & Designed by Dr. K. Vinukumar, AP/Mech, FXEC SOCIAL MEDIA  /FXEC Mechanical

Jacobi Group is a global leader in the production of activated carbon, providing solutions to various industries such as water treatment, air purification, food and beverage production, and chemical processing. Nova Carbons India Private Limited, a subsidiary of Jacobi Group, operates a state-of-the-art facility in Tirunelveli, specializing in the activation and processing of carbon using cutting-edge technology.

Industrial Visit Experience

The visit began with a warm welcome by **Mr. Dhanabalan P**, Executive - Human Resource Department, who provided a brief overview of the company, its history, and its global presence. Following this, the students were taken on a detailed **plant tour**.

PLACEMENT

In a remarkable achievement, 22 students from the Mechanical Engineering Department have secured placements at **Motherson Automotive Technologies** and Engineering, Chennai. This accomplishment highlights the college's commitment to equipping students with the skills and knowledge necessary for success in the competitive automotive industry. The institution continues to foster strong ties with leading companies, paving the way for more placement opportunities and career growth for its students.

In a remarkable achievement, 29 students from the Mechanical Engineering Department have secured placements at **DELPHI TVS**, Chennai. This accomplishment highlights the college's commitment to equipping students with the skills and knowledge necessary for success in the competitive automotive industry. The institution continues to foster strong ties with leading companies, paving the way for more placement opportunities and career growth for its students.

ACHIEVEMENT

🏆 RAVIN- II Year Mechanical Engineering won 1st prize on Legacy 2024-Symposium at MEPCO SCHLENK ENGINEERING COLLEGE, Sivakasi held on 21.09.2024.

- ✚ III Year 28 Mechanical students have received participation certificates on Technical Quiz, CAD Modelling Paper Presentation- National Level Techno Symposium” at Government College Engineering , Tirunelveli held on 18.09.2024.
- ✚ III Year Mechanical students GOPALAKRISHNAN N WON 1st Prize on Technical Quiz- National Level Techno Symposium” at Government College Engineering , Tirunelveli held on 18.09.2024.
- ✚ III Year Mechanical students BASEERUDEEN WON 2st Prize on Technical Quiz- National Level Techno Symposium” at Government College Engineering , Tirunelveli held on 18.09.2024.
- ✚ II Year Mechanical students Sathish Kumar E, Muthu Puthiyavan RUNNER UP IN Kabaddi zonal competition
- ✚ II Year 6 Mechanical students have received participation certificates on Garuda India Hackathon
- ✚ II Year Mechanical students Angelin Jemima E have received participation certificates on Basket Ball CM Trophy
- ✚ II Year 18 Mechanical students have received participation certificates on Hackathon