



**FRANCIS XAVIER**<sup>™</sup>  
**ENGINEERING COLLEGE**  
**AN AUTONOMOUS INSTITUTION**

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DST-FIST Supported Institution | ISO 9001:2015 Certified  
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## DEPARTMENT OF MECHANICAL ENGINEERING MONTHLY NEWS – MARCH 2025

### 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 March 2025. 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, 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  
[samuelhansen@francisxavier.ac.in](mailto:samuelhansen@francisxavier.ac.in)

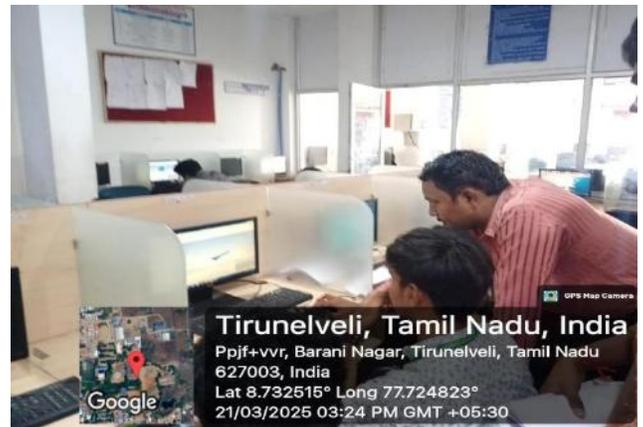
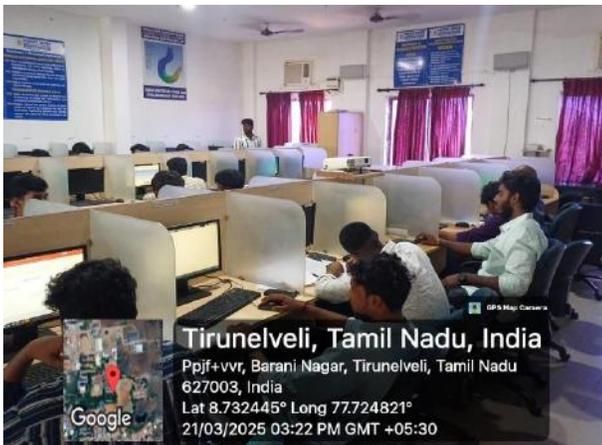


# Value Added Course

## ANSYS Work Bench in Engineering Design

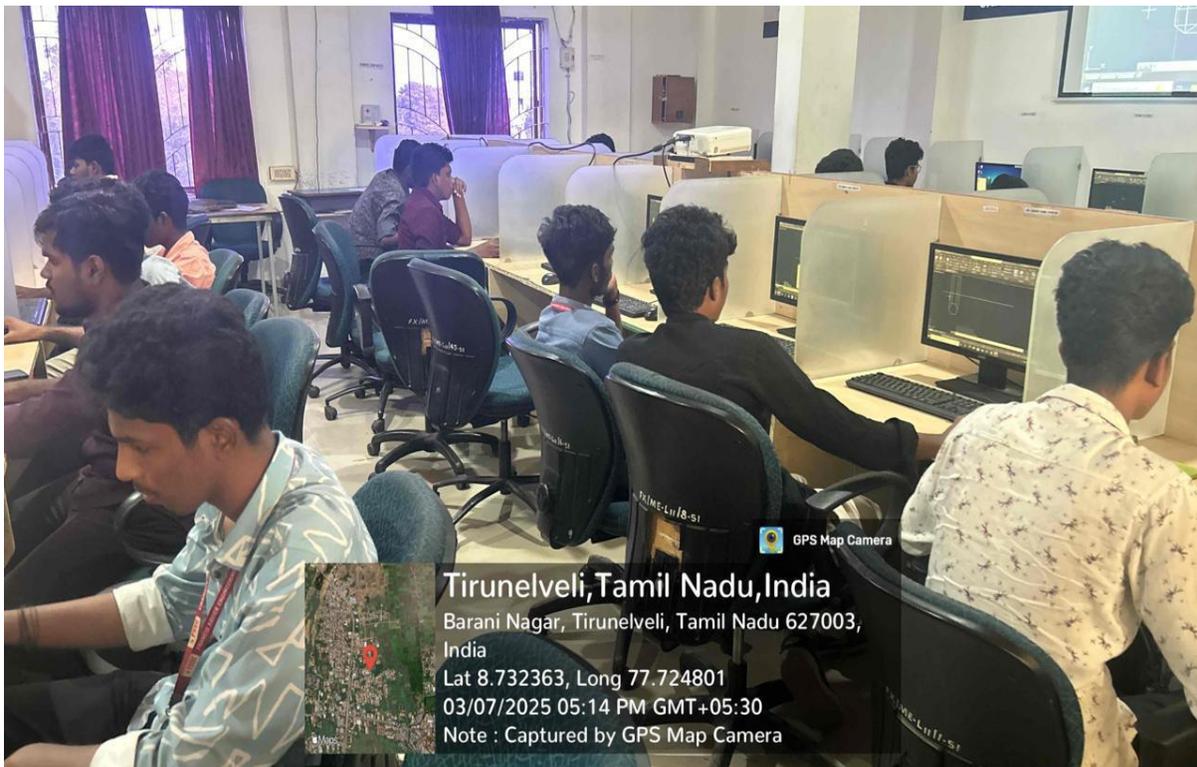
This Mandatory Skill Training for the Academic Year 2024-2025 was organized for II Mechanical Engineering students by Department of Mechanical Engineering and Training and Skill development On 17.03.2025 to 26.03.2025. Mr. S. M. Sunder Rajan, AP/MECH & Mr. S. Thanumalaya Perumal, AP/MECH was the in charge for this Skill. Dr. Shajilin Loreet J.B, Professor/TSD was the Convener for this Program.

Every day Student's performance was calculated at the end of the class and marks entered in the Google sheet. Totally 61 students were attended. Periodical test –I and II conducted for 25 marks. At the end of the day a test project was conducted and evaluated by Dr M. KANNAN, Prof/MECH & Dr K. ROBINSTON JEYASINGH, Asso. Prof/ MECH. All the students were eagerly participated and demonstrate their test project with neat explanation.



## AutoCAD for Beginners

Department of Mechanical Engineering organized one week evening skill training program on AutoCAD for Beginners to first year students between March 03-08, 2025. 30 students from various branches have attended and successfully completed the program. The objective of this skill training is to teach users the basic commands and tools necessary for professional 2D drawing, plan of residential buildings, Assembly of mechanical components design and drafting using AutoCAD. Students were assigned daily tasks aligned with the instructions provided during lessons, and their performance was evaluated, with grades awarded accordingly.



# CLUB ACTIVITIES

## FIRST AID & CPR TRAINING

On 10th March 2025, we successfully organized and conducted a comprehensive First Aid and CPR (Cardiopulmonary Resuscitation) training program. The primary objective of the session was to educate participants on essential emergency response techniques that can help save lives during critical situations. The training covered a wide range of topics, including the basic principles of first aid, how to perform CPR on adults and children, managing bleeding, burns, fractures, and handling unconscious victims. This hands-on training enabled the participants to gain practical knowledge and confidence to respond promptly and effectively during medical emergencies, both in workplace and public environments. Overall, the session was highly informative and beneficial, contributing significantly to health and safety preparedness."



# Alumini Interaction

## Mastering GATE: Time Management and Study Techniques

Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Third year Mechanical students on **14-03-2025**. **Mr.K.Madhavan., GATE Aspirant & GATE Topper – ONGC** delivered the guest lecture on “**Mastering GATE: Time Management and Study Techniques**”. 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 on "Mastering GATE: Time Management and Study Techniques" focused on equipping students with the right approach to optimize their preparation. The session covered key aspects such as understanding the syllabus, prioritizing topics based on weightage, and setting realistic study goals to ensure comprehensive coverage. A major highlight of the lecture was effective time management strategies for GATE preparation.

The speaker emphasized the Pomodoro technique, time-blocking methods, and the importance of balancing conceptual learning with problem-solving practice. The session also provided insights on how to break down complex topics into smaller, manageable sections, maintain a proper revision schedule, and allocate dedicated time for mock tests. Additionally, students were guided on how to analyze their mock test results to identify weak areas and improve accuracy.



The lecture concluded with an interactive Q&A session, where students received expert advice on overcoming common challenges like procrastination, burnout, and exam stress. The importance of a disciplined routine, a positive mindset, and consistent practice was reiterated. Attendees left the session with a clearer roadmap to GATE success, along with valuable resources and strategies to enhance their preparation.

## **Role of Engineers in Sustainable Development Goals (SDGs)**

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Second year Mechanical students on **28-03-2025**. **Er.E.Krishna., Quality Analyst., Lakshmi Machine Works Limited., Coimbatore** delivered the guest lecture on **“Role of Engineers in Sustainable Development Goals (SDGs)”**. 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 Mechanical Engineering Department organized a guest lecture on "Role of Engineers in Sustainable Development Goals (SDGs)" to educate students on how engineering innovations contribute to global sustainability. speaker emphasized that engineers play a crucial role in addressing challenges related to clean energy, water management, sustainable infrastructure, and climate change through innovative solutions.

During the session, the speaker discussed various real-world engineering applications that align with SDGs, such as renewable energy systems, eco-friendly manufacturing processes, and smart infrastructure. Case studies of green buildings, energy-efficient transportation, and waste-to-energy technologies were presented, demonstrating how engineers can design and implement sustainable solutions.



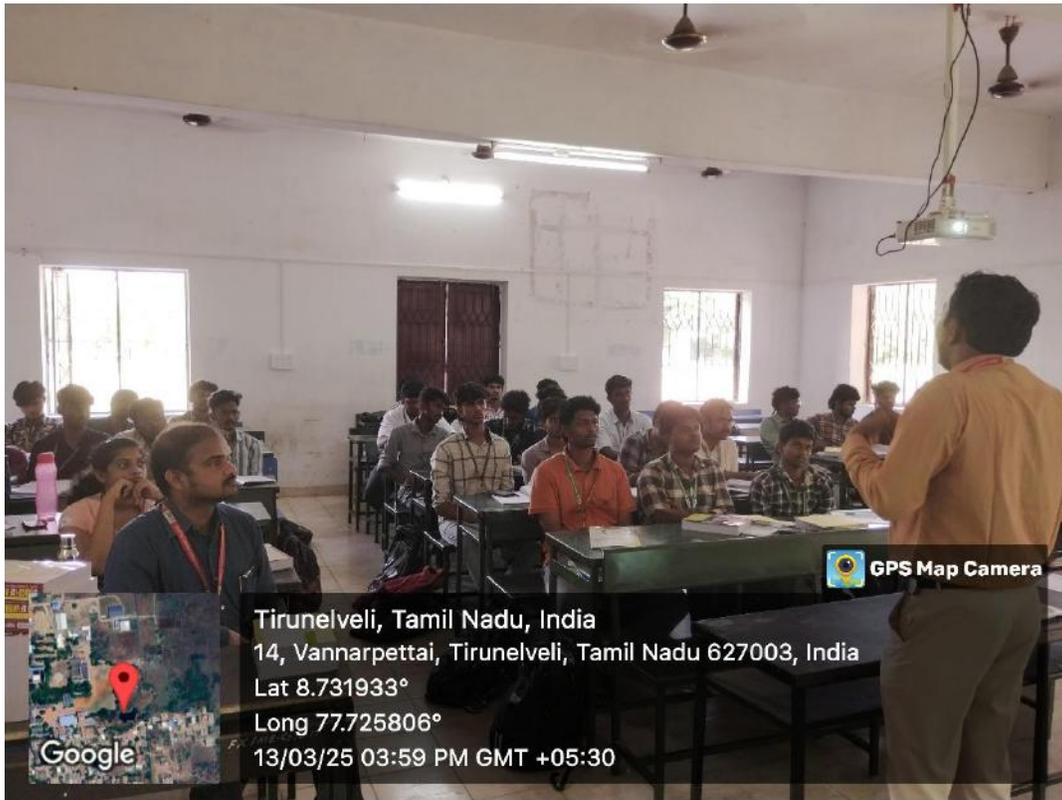
The lecture concluded with an engaging Q&A session, where students inquired about career opportunities in sustainability-focused engineering roles and the skills required to contribute effectively. The speaker encouraged students to integrate sustainability principles into their academic projects and future professional endeavors. The session provided valuable insights into how engineers can actively contribute to achieving the SDGs, inspiring students to align their skills with global sustainability efforts.

# Entrepreneurship & Startup

## Importance of Intellectual Property Rights for the Protection of Innovation Rights

On 13.03.2025 a session was organized on the title “**Importance of Intellectual Property Rights for the Protection of Innovation**” by the EDII TN in association with Entrepreneurship Development Cell and Mechanical Engineering department. The session was handled by **Mr. S.M. Sunder Rajan, Assistant professor, Francis Xavier Engineering College. 54 second year Mechanical Engineering students and 2 faculties** participated in the program. This event was coordinated by Dr.K.Vinukumar, Assistant Professor, Department of Mechanical Engineering, Francis Xavier Engineering College.

In order to promote innovation, guarantee fair competition, and propel economic advancement, intellectual property rights are essential. IPR promotes ongoing developments in science, technology, and the arts by providing innovators and inventors with legal protection. A more inventive future and sustainable growth will result from the global strengthening of IPR frameworks.



**CERTIFICATE OF PARTICIPATION**

This is to certify that **ANGELIN JEMIMA E** of II year **Mechanical Engineering** has actively participated in the Discussion on **“Importance of Intellectual Property Rights for the Protection of Innovation Rights ”** presented by **Mr. S.M. Sunder Rajan, AP/Mech.** The Session was Organized by EDC cell of Mechanical Engineering Department in association with Institution’s Innovation Council of **Francis Xavier Engineering College,** Tirunelveli, Tamilnadu on 13.03.2025.

**Coordinators**

  
**Dr.K.Vinukumar**  
 Asst. Professor/ Mech

  
**Dr.R.Samuel Hansen**  
 HOD / Mech

  
**Dr. Lourdes Poobala Rayen**  
 Director, EDC  
 President, IIC

  
**Dr. V. Velmurugan**  
 Principal

## Opportunities for mobilising Capital for Early Stage of Startup

On 24.03.2025 a session was organized on the title “Opportunities for mobilising Capital for Early Stage of Startup” by the EDII TN in association with Entrepreneurship Development Cell and Mechanical Engineering department. The session was handled by Mr.R.Rahesh, Assistant professor, Francis Xavier Engineering College. 52 First year Mechanical Engineering students and 2 faculties participated in the program. This event was coordinated by Dr.K.Vinukumar, Assistant Professor, Department of Mechanical Engineering, Francis Xavier Engineering College.

A startup's ability to raise money is essential to its success. Early-stage business owners can obtain the resources they need to successfully develop their operations by utilizing a variety of funding sources and sound financial planning.





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Vannarpettai, Tirunelveli



### CERTIFICATE OF PARTICIPATION

This is to certify that **JARWIN R** of I year **Mechanical Engineering** has actively participated in the Discussion on “**Opportunities for mobilising Capital for Early Stage of Startup**” presented by **Mr.R.Rahesh, AP/Mech.** The Session was Organized by EDC cell of Mechanical Engineering Department in association with Institution’s Innovation Council of **Francis Xavier Engineering College**, Tirunelveli, Tamilnadu on 24.03.2025.

### Coordinators

**Dr.K.Vinukumar**  
Asst. Professor/ Mech

**Dr.R.Samuel Hansen**  
HOD / Mech

**Dr. Lourdes Poobala Rayen**  
Director, EDC  
President, IIC

**Dr. V. Velmurugan**  
Principal

# GUEST LECTURE

## Learning Strategies for Engineering Mechanics

The Department of Mechanical Engineering organized a guest lecture on "Learning Strategies for Engineering Mechanics – GATE Syllabus" for first-year students On 20.03.2025. The session aimed to provide insights into effective learning techniques, exam-oriented preparation, and key topics in Engineering Mechanics as per the GATE syllabus. The lecture was delivered by **Er.K.Madhavan**, GATE scorer who has extensive experience in teaching Engineering Mechanics for GATE aspirants. The speaker shared valuable tips and strategies to help students build a strong foundation in the subject.

The speaker explained the significance of Engineering Mechanics in Mechanical Engineering and its applications in real-world problems. The guest lecture was highly informative and beneficial for first-year mechanical engineering students. It provided them with a structured approach to learning Engineering Mechanics and preparing for GATE. The session was well-received, and students expressed their gratitude to the speaker for valuable insights and guidance.



## Scope for Mechanical Engineers in DRDO

The Department of Mechanical Engineering organized a guest lecture on "Scope for Mechanical Engineers in DRDO" for first-year students. The session aimed to provide domains where mechanical engineers contribute, such as aerospace, naval systems, combat vehicles, and missile technology and to outline the skill sets and qualifications required for mechanical engineers to excel in DRDO's projects. The lecture was delivered by Scientist Mrs. B. Vanathy, Project Director, ADE, DRDO, Bengaluru who has extensive experience in the country's proudest projects. The speaker shared valuable tips and strategies to help students build a strong foundation in the programme to get into the country's topmost defence research and development organization. It provided them with a structured approach to learning Mechanical Engineering courses and to prepare for GATE. The session was well-received, and students expressed their gratitude to the speaker for her valuable insights and guidance. The speaker was brought to the institution by Mr. M.Viswanathan of I year Mechanical Engineering student.



# CAREER GUIDANCE PROGRAM

## Orientation Program on GATE Opportunities in the Engineering Field

The Department of Mechanical Engineering conducted an Orientation Program on GATE Opportunities in the Engineering Field for third-year Mechanical and Civil Engineering students on 20.03.25, from 1:20 PM to 2:20 PM. The session was delivered by Mr. K. Madhavan, a GATE Aspirant & GATE Scorer at ONGC, and an alumnus of the 2018 batch of Mechanical Engineering. He provided valuable insights into the importance of preparing for competitive exams such as GATE, IES, and PSU recruitment exams. Additionally, he shared his personal experiences and strategies for successfully clearing these exams. This session was highly beneficial for third-year students aspiring for careers in public and government sector companies.

The resource person also spoke to the students about the importance of GATE as syllabus, question pattern and getting priority in employment. He explained the different strategies to crack GATE exam. He also outlined in details about the curriculum of each departments. GATE orientation program was very helpful for getting job easily in public sector companies. Students felt that GATE exam is also helpful for students for working in various multinational organizations.



