FRANCIS XAVIER ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION

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DEPARTMENT OF MECHANICAL ENGINEERING MONTHLY NEWS – JULY 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

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 July 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

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

GUEST LECTURE / SEMINAR / SKILL TRAINING

Innovative Design Techniques with SolidWorks

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Fourth year Mechanical students. **Er.M.Alagar Manikandan.,Design Engineer., Eurotech Global Solution India Pvt. Ltd., Coimbatore.,** delivered the guest lecture on **"Innovative Design Techniques with SolidWorks"**. 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.

Chat Your Path – Carrer Guidance, Tailored for Success

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Fourth year Mechanical students. **Er.Varatharajan Narasimhan., Senior Research Executive., Nielsen IQ., Chennai** delivered the guest lecture on **"Chat Your Path – Carrer Guidance, Tailored for Success"**. 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 titled "Chat Your Path – Career Guidance, Tailored for Success" aimed to provide insights into effective career planning and the role of personalized guidance in achieving professional success. The session was attended by students, young professionals, and educators seeking to enhance their understanding of career development strategies.

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Accelerating engineering startup growth

This event, focusing on **accelerating engineering startup growth** through **UDYAM Registration**, provided valuable insights for aspiring entrepreneurs. Mr. Beeman A, a student entrepreneur from the Department of Mechanical Engineering, shared his experience and knowledge about the UDYAM Registration process, which is crucial for small and medium-sized enterprises (SMEs) in India to access government benefits, funding, and other resources. The session was organized to empower students with the knowledge and tools necessary to navigate the challenges of starting and growing their own engineering ventures.

Harnessing the Power of CFD for Modern Engineering Challenges

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Second year Mechanical students. **Ms.A.Abiha.,Graduate Engineer Trainee., Renault Nissan Technology and Business Center India Pvt. Ltd., Chennai.,** delivered the guest lecture on **"Harnessing the Power of CFD for Modern Engineering Challenges"**. 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 commenced the lecture with an introduction to CFD, emphasizing its importance in modern engineering.

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Product Innovation and Startup Funding Opportunities

FDP Brochure - Poster

This **Faculty Development Program Webinar** focused on **growth**, **product innovation**, and **startup funding opportunities** for entrepreneurs and faculty members. Dr. M. Kannan, a prominent professor in the Department of Mechanical Engineering at Francis Xavier Engineering College, was the chief guest, offering expert insights into how faculty and aspiring entrepreneurs can innovate in product development and access startup funding to fuel growth.The webinar aimed to equip participants with the knowledge and resources needed to foster innovation and successfully navigate the startup ecosystem, ensuring that they are well-prepared to take on new challenges and opportunities.

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PLACEMENT

Mr. M. Alagar Manikandan, a 2024 passed-out Mechanical Engineering student, has been selected by **Hirotec India Pvt Ltd**, Coimbatore, for the role of **Cost Estimation Engineer**. He will receive a salary package of **₹24,000** per month, including employee benefits. Congratulations to Er. M. Alagar Manikandan on this achievement.

Mohamed Halith, a distinguished alumnus of the Mechanical Engineering department from the 2020-2024 batch, has successfully secured admission to the **M.E. Engineering Design** program at the prestigious **College of Engineering, Guindy**, Anna University, Chennai. This achievement comes through his outstanding performance in the **TANCET 2024** exam. This is a significant milestone in his academic career, and it reflects his dedication and commitment to furthering his knowledge in the field of engineering design. Congratulations to Engineer Mohamed Halith on this remarkable achievement.

INDUSTRIAL TRAINING VISIT

Industrial Training on Drone Fabrication, Instrumentation and Simulation

Dr. Robinston, ASP/Dept of Mechanical engineering (UAV Applied lab Incharge) has attended 4 Days Industrial training from 02.06.2024 to 05.06.2024 in Entudio Private limited, Tirunelveli on "Drone Instrumentation, Assembly and simulation". He learnt the following in day wise. Entudio is a futuristic company developing robots, drones, embedded materials, 3D printing, product development. They provide long term classes in different robotic fields and hands on training in areas such as Drones design and development,3D Printing, IOT, Augmented Reality, Virtual Reality , Image Processing, Artificial Intelligence and Embedded system.

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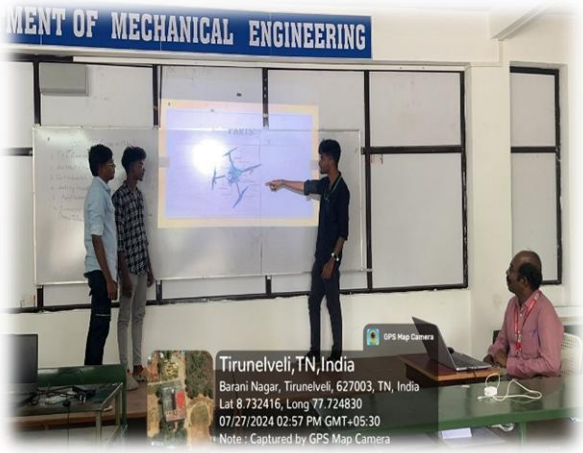
APPLIED LAB

UNMANNED AERIAL VEHICLES APPLIED LAB

Drone Instrumentation , Assembly & Simulation

The Drone Instrumentation, Assembly & Simulation training program from 24.07.2024 to 27.04.2024 for a total duration of 4 days under the guidance of K. Robinston Jeyasingh, the Applied Lab Mentor. This program aimed to provide students with both theoretical knowledge and practical skills related to drones, covering topics like drone assembly, simulation, project development, and event registration for relevant contests.The first day focused on hands-on training in assembling Quadcopters and Hexacopters, where students learned about the components and principles of drone and aircraft systems, along with practical skills in fabrication and instrumentation. On the second day, students engaged in drone simulation using Mission Planner software, gaining experience in flying drones virtually through Software in the Loop (SITL), allowing them to simulate various flight missions and scenarios.The third day was dedicated to preparing project presentations, with students split into teams and tasked with selecting innovative project ideas. These ideas were developed into PowerPoint presentations, which they would present on the final day. Additionally, students registered for various contests related to their projects.On the fourth and final day, students presented their project

ideas, showcasing innovations such as a handwritten input printer, fire extinguisher drone, drone delivery system, and more. Following the presentations, teams registered for events such as the NASA Space App Challenge, IBM Hack Challenge, and Grand Challenge Contest 2024, offering students a platform to apply their skills in real-world competitions.This training provided a comprehensive introduction to drone technology, from the basic principles to advanced simulation and project development, preparing students for future innovation in the field of drones and UAV technology.



Hackathon Applied Lab

Solar powered e-vehicle

The **Solar Powered E-Vehicle** was designed and fabricated by the students of the **Hackathon Applied Lab**, under the mentorship of **Prof. Sam Jeremy**. This innovative project combines cutting-edge technology with sustainability, as the vehicle operates using solar power, making it an eco-friendly alternative to traditional electric vehicles. The students involved in this project demonstrated exceptional skills in design, engineering, and problem-solving, contributing to the development of a sustainable transportation solution. Prof. Sam Jeremy's mentorship played a key role in guiding the students through the technical aspects of the project, ensuring its successful creation and integration of solar energy for efficient mobility

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Innovation and Product Development Applied Lab

Cleaning Multi-Purpose Trolley

The **Cleaning Multi-Purpose Trolley** is an innovative project developed by the students of the **Innovation and Product Development Applied Lab**, mentored by **Dr. Sheik Sulaiman**. This multi-functional trolley is designed to streamline the cleaning process, making it more efficient and versatile for various tasks. The students, under Dr. Sulaiman's expert guidance, combined creativity with practical engineering to design a solution that addresses multiple cleaning needs in a single, easy-to-use trolley. The project showcases their ability to innovate by integrating features that can cater to different environments, promoting convenience and improved productivity. Dr. Sheik Sulaiman's mentorship was instrumental in guiding the team through the design and development phases, ensuring the successful creation of a functional and practical product.

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