FRANCIS XAVIER 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

/fxengg /fxengg /fx_ec /fxengg
/francisxavierengineeringcollege

DEPARTMENT OF MECHANICAL ENGINEERING MONTHLY NEWS – MARCH 2024

ABOUT DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering was established in the year 2015. The department offers UG program in Mechanical 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.

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 November 2023. Amidst the COVID-19 pandemic situation, we strived hard to keep the students engaged and utilize the time not only for quality education but for self-development. 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.

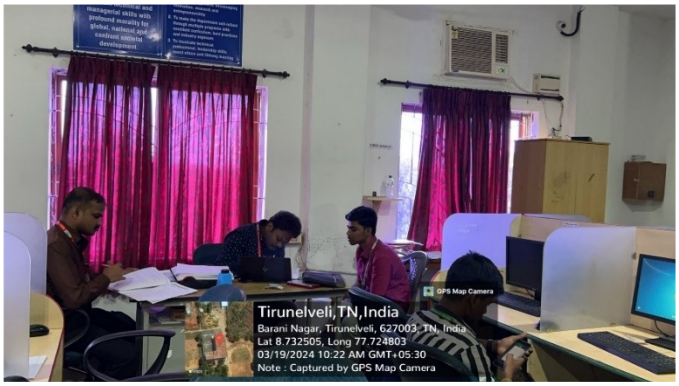
This newsletter is the reflection of department activities that showcase all the events held in the department, the contributions of faculty members, and students, and the best practices adopted. I would like to congratulate all the members of the editorial board for their sincere effort to realize this venture.

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

GUEST LECTURE / SEMINAR / SKILL TRAINING

SKILL TRAINING PROGRAM ON DRAFTING AND MODELING SIMPLE MACHINE ELEMENTS USING AUTOCAD

Department of Mechanical Engineering organized one week skill training program on Drafting and modeling simple machine elements using Autocad for first year students between March 13-19, 2024. 46 students from I Year Mechanical Engineering 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, 3D drawing, Assembly of mechanical components design and drafting using AutoCAD. At the end of the program, students were given task to assemble machine components which was evaluated by external expert.



Electric Scooter – Project Development

This Eco-friendly Electric Scooter developed from Innovation and Product Development team. It has built by a 10 inch 350 watts hub motor wheel arrangement and approximately carries a load of 150 kg. We can ride up to 50 kilometres with an average speed of 35 km/hour. A special customized Lithium Ferro Phosphate 48 Volts 18 Ah battery has used as power source, with high efficiency, durable and quick chargeable. We produce this vehicle design as simple, easy for maintenance and other accessories fittings with affordable budget (less than 60 thousands) compared to other readily available vehicles in the market.

Students Involved: NITHISH KUMAR J I, BALAKUMARAN M, BALASOORIA S, MOHAMMED ABDUL RAHIM J, VENKATESH A and KIRUBA SELVA KUMAR M- III Year Mechanical Engineering Students.

INTERNSHIP/ PLACEMENT/ FUNDING/ INDUSTRIAL VISIT

Industrial Visit: Kerala Automobiles Ltd

40 students of I year Mechanical Engineering accompanied by 2 faculty members visited Kerala Automobiles Ltd, Nettiyankara, Kerala on 01.03.2024. KAL product range comprises of Electric Three Wheelers suitable for passengers and goods traffic. The main deliverable products of the company are Swing Arm Suspension at the front and Leaf Spring Suspension at the rear, Electric tipper van, E Cart etc., Mr. Ajith Kumar, Manager (GAD) received us and gave brief explanation about the various manufacturing processes involved in the production of three-wheeler e vehicle. The factory is equipped with the most modern CNC machines to ensure dimensional accuracy of each component being manufactured. The visit provided valuable insights into automobile parts manufacturing and chassis fabrication processes. The experience also shed light on current trends in e-vehicles, offering a comprehensive overview of the industry's advancements. The students also gained knowledge of workplace norms and employee involvement in the industry. The visit was organized by Mr.J.Jeremy Jeba Samuel AP/Mech and Mr.S.David Blessley. AP/Mech

NPTEL / FDP / ONLINE COURSES

Congratulations to our esteemed faculty members!

We are delighted to announce that two of our Assistant Professors in the Mechanical Engineering department have achieved outstanding success in NPTEL courses.

- Dr. K. Vinukumar has excelled in "Engineering/Architectural Graphics - Part I - Orthographic Projection" with a remarkable score, earning a spot in the Elite category.
- Dr. J. Sangilimuthukumar has also demonstrated exceptional performance in "Nature and Properties of Materials", securing a top score and a place in the Elite category.

Their dedication to academic excellence and continuous learning is truly inspiring. We celebrate their achievements and wish them many more successes in their academic and professional pursuits!

- Thareen Ameer Shaji M, Anotony Snowin S & Sajidh Arshadh A C- I Year Mechanical Engineering won Ist prize on CREME OF THE CROP - PROJECT EXPO" at Francis Xavier Engineering College held on 21.03.2024.
- II Year Mechanical students PRAVEEN A, PATTU POORANA CHANDRU, BEEMAN, have received participation certificates on Tech wringer, Treasure Hunt & Action than words events - National Level Techno Symposium" at National Engineering College, Kovilpatti held on 22 & 23.03.2024.

- GURUNATHAN of Second year mechanical student have received participation certificates "Physcis Bet & get", Kalasalingam university dated 26 & 27.03.2024.

- III-Year Mechanical - Sanjay S has received participation certificates on Paper Presentation, SHARK TANK - THE ANGEL'S GATE, & Design chronicles: A tale through design a National Level Technical Symposium at Kumaraguru Institutions, Coimbatore 21.03.2024.

Kumaraguru Yugam 2024
MARCH 14 - 23

CERTIFICATE OF PARTICIPATION

This certifies that SANJAY.S
has actively participated in the event
Design chronicles: A tale through design
held on 23 March, 2024 during
YUGAM, A Mega Techno Cultural Sports Fest
at Kumaraguru Institutions, Coimbatore.

Dr. Ezhilarasi M
Principal, KCT

WORKSHOP / SYMPOSIUM

WORKSHOP ON PRODUCT DESIGN & DEVELOPMENT

A "Workshop on Product Design & Development" was organized by Entrepreneurship Development Cell & Institution's Innovation Council in association with the Department of Mechanical Engineering on 18th & 19th March, 2024 at 09:30 am to 04.30 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/MECH inaugurated the session with welcome address

Day 1

On Mar 18, 2024 (Forenoon Session) resource person discussed about the five major elements of product design & development such as introduction, understanding user needs, idea generation & concept development, design thinking, design tools & technologies. First of all resource person commenced with an overview of workshop objectives & agenda and also he discussed about the importance of product design & development in today's competitive market. Then he told about the techniques for emphasizing with users and identifying their needs. Next he conducted the brainstorming session to generate creative ideas and also he deliberated about prototyping techniques to visualize and iterate on concepts.

On Mar 18, 2024 (Afternoon Session) resource person began with the introduction to design thinking methodology and given the hands on exercises for students to apply design thinking principles for the purpose of solving real-world problems. Finally he concluded the DAY 1 with the overview of design software & tools as well as practical demonstrations & tutorials on CAD software and prototyping tools.

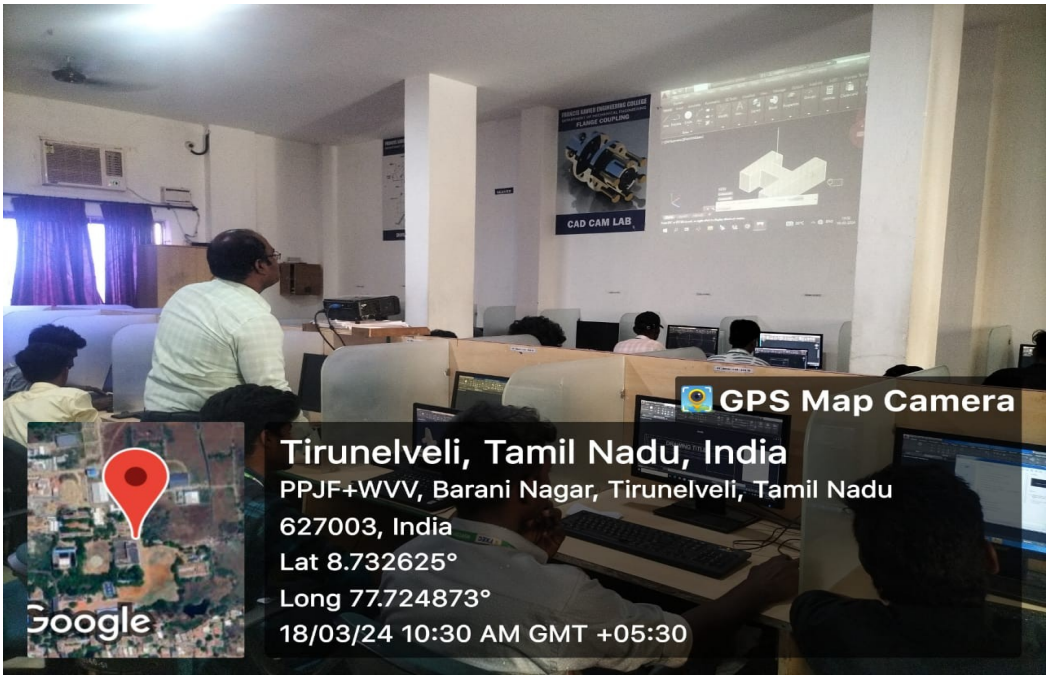
Day 2

On Mar 19, 2024 (Forenoon Session) resource person told about the importance of user testing & feedback in the design process and iterative approaches to refine & improve product prototypes. Then he gave the overview of intellectual property rights in product design and legal aspects of product development including patents & trademarks.

On Mar 19, 2024 (Afternoon Session) resource person concluded with the analysis of successful product design & extracting lessons and best practices from industry examples.

Highlights of the Workshop

- Students gained practical skills and insights into every stage of the product design and development process.
- Hands-on exercises and workshops facilitated active learning and knowledge retention.
- Students learned how to effectively leverage design thinking principles to solve complex problems.

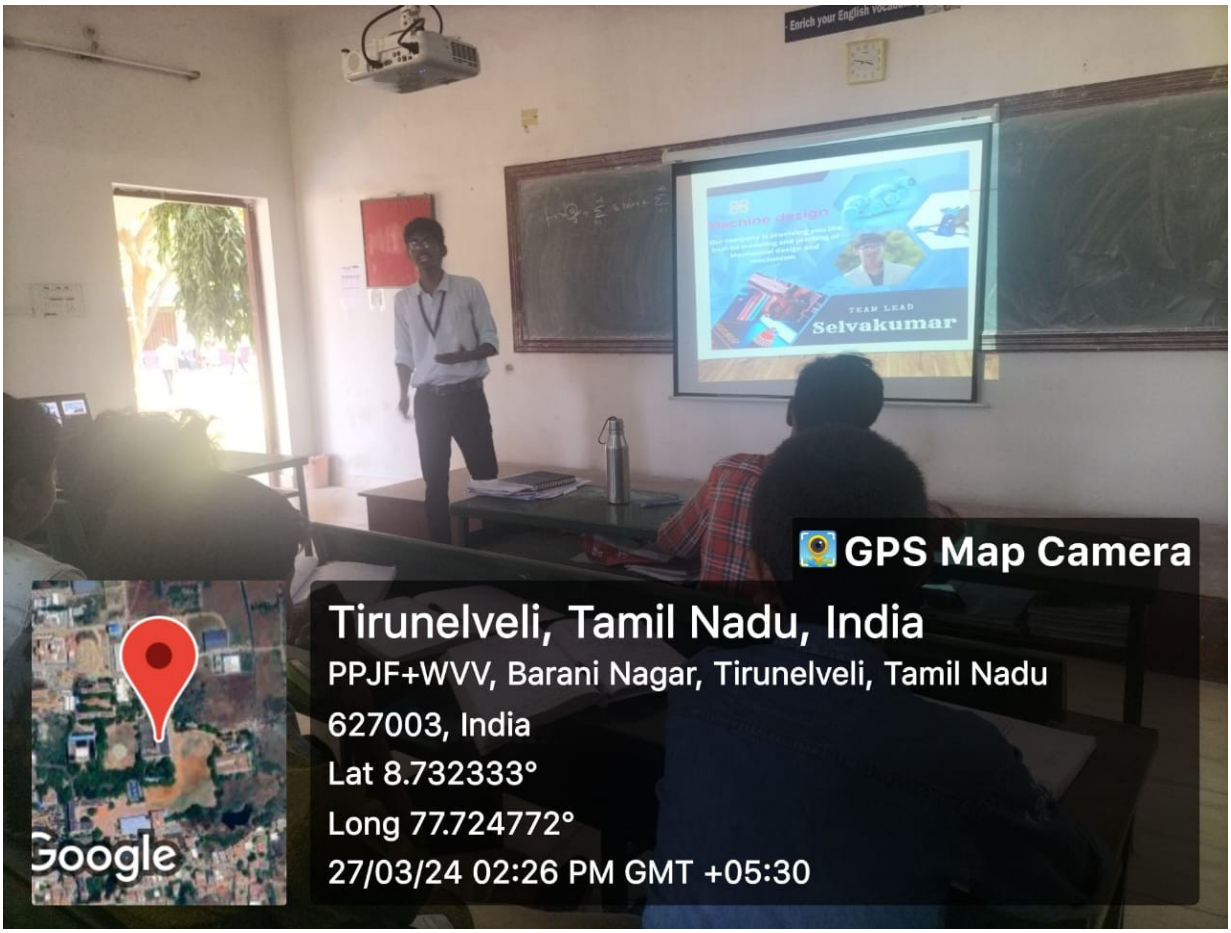


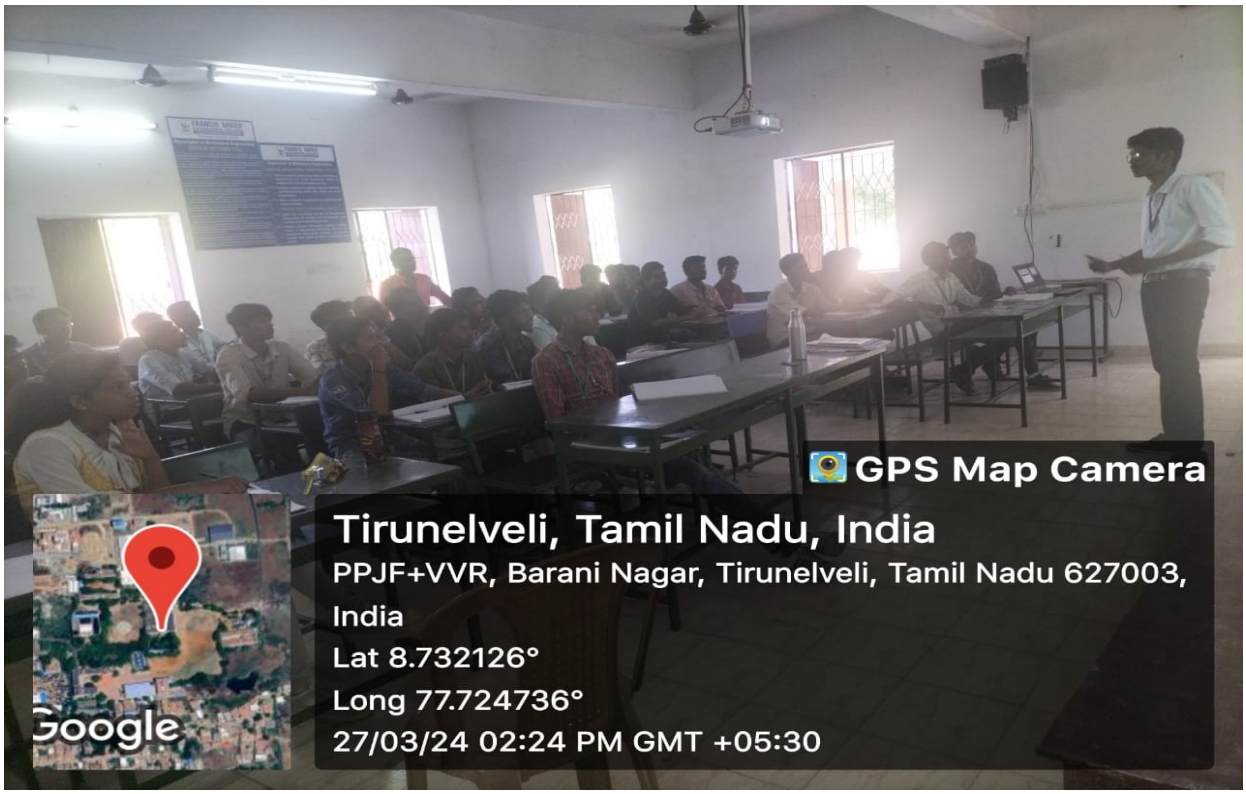

GPS Map Camera
Tirunelveli, Tamil Nadu, India
PPJF+WVV, Barani Nagar, Tirunelveli, Tamil Nadu
627003, India
Lat 8.732511°
Long 77.724827°
18/03/24 10:30 AM GMT +05:30
Google

WORKSHOP ON HOW TO SCALEUP A START-UP

A “A Discussion on How to Scaleup a Start-up” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 27th March, 2024 at 01:30 pm to 04.30 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/MECH inaugurated the session with welcome address.

First of all resource person starts with the introduction to scaling up a start-up it requires careful planning and strategic decision-making to ensure sustainable growth. Then he said understanding the various stages and challenges of scaling can help you prepare and navigate the journey effectively. Market analysis, Competitor evaluation & Consumer behavior insights are the key elements for understanding the market and target audience told by resource person. Regarding developing a scalable business model, resource person revealed innovation, flexibility & scalability planning are the key drivers. A significant portion of the discussion was dedicated to the role of talent acquisition and team building in the scaling process. The resource person emphasized the importance of hiring individuals who align with the company's vision, values, and culture. Strategies for attracting top talent and fostering a culture of innovation were also explored. Managing resources efficiently was identified as a key determinant of success during the scaling phase. The talk addressed strategies for prioritizing investments, optimizing cash flow, and leveraging external funding sources such as venture capital, angel investors, and strategic partnerships. Technology was highlighted as a powerful enabler of scalability, allowing start-ups to streamline operations, enhance productivity, and deliver a superior customer experience. The resource person discussed the strategic adoption of technology solutions, including cloud computing, data analytics, and automation tools. The talk concluded with a discussion on the common challenges and risks associated with scaling a start-up, such as market saturation, competition, regulatory hurdles, and organizational complexity. Strategies for mitigating these risks and maintaining agility were explored.


Enrich your English
Machine design
TEAM LEAD
Selvakumar
GPS Map Camera
Tirunelveli, Tamil Nadu, India
PPJF+WVV, Barani Nagar, Tirunelveli, Tamil Nadu 627003, India
Lat 8.732333°
Long 77.724772°
27/03/24 02:26 PM GMT +05:30
Google


GPS Map Camera
Tirunelveli, Tamil Nadu, India
PPJF+VVR, Barani Nagar, Tirunelveli, Tamil Nadu 627003, India
Lat 8.732126°
Long 77.724736°
27/03/24 02:24 PM GMT +05:30
Google