



FRANCIS XAVIER[™]
ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION

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DEPARTMENT OF MECHANICAL ENGINEERING MONTHLY NEWS – JANUARY 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 January 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



ALUMINI INTERACTION:

Programme: Carrer Path in Oil and Gas Industry

FX Alumni Association organized a guest lecture in association with Department of Mechanical Engineering for the Third year Mechanical students. **Er. Abdul Ajees., Planning Engineer., Shell Petrochemicals., & Founder- Delcon Company., Chennai.** delivered the guest lecture on **“Carrer Path in Oil and Gas Industry” On 20-01-2025** . 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 career paths in the oil and gas industry offered valuable insights into the unique opportunities and challenges in this dynamic sector. As an experienced professional in Planning Engineer shared their journey, discussing the key skills and qualifications necessary to thrive in the field. He emphasized the importance of a strong educational foundation in engineering, geosciences, or business management and highlighted additional certifications that can enhance employability, such as offshore safety training and certifications from institutions like the Society of Petroleum Engineers (SPE).

A significant part of the lecture focused on the various career paths available within the industry, including roles in exploration, drilling, production, and refining, as well as non-technical careers in finance, legal compliance, and environmental management. It specifies the careers in exploration and drilling tend to involve fieldwork in challenging environments, project management often require technical expertise in process optimization and project planning.

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nirf RANKINGS 2023
51-100 BAND

★★★★★
The Highest Star Status by the M.O.E. Govt. of India
for Innovation and Entrepreneurship Activities

ALUMNI INTERACTION SESSION

Topic **Carrer Path in Oil and Gas Industry**

Organised by
Francis Xavier Alumni Association

In association with
Department of Mechanical Engineering

Resource Person
Er. Abdul Ajees.,
Planning Engineer.,
Shell Petrochemicals., Chennai
Founder- Delcon Company., Chennai

20th JAN 2025
02:00 PM to 03:00 PM

Dr. S. Sheik Sulaiman
Assistant Professor / MECH

Dr. R. Samuel Hansen
HOD / MECH

Mr. J. Jeremy Jeba Samuel
Assistant Professor / MECH

Mr. S. Krishnakumar
Director, FXAA

Dr. V. Velmurugan
Principal




The lecture provided a comprehensive overview of the oil and gas industry's career landscape and inspired students to consider its diverse pathways. He encouraged students to stay adaptable and continue learning, emphasizing the value of resilience and problem-solving skills. The lecture concluded with a Q&A session, where students inquired about the future of the industry, internship opportunities, and tips for career advancement.

Programme: Carrer Path in Oil and Gas Industry

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Third year Mechanical students. **Mr.M.I.Mohamed Halith., M.E., CEG Campus., Anna University, Chennai** delivered the guest lecture on **“Carrer Path in Oil and Gas Industry”**. 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, "Crafting Your Path: How Higher Studies Shape Professional Success," was delivered by Mr. M.I. Mohamed Halith from the prestigious CEG Campus. The session provided invaluable insights into the role of advanced education in building a successful career. The Speaker began by emphasizing how higher studies serve as a gateway to acquiring in-depth knowledge, advanced technical skills, and a broader understanding of global trends. He highlighted that pursuing specialized education not only opens doors to niche opportunities but also enhances one's credibility in the professional world.

The Speaker shed light on the practical benefits of higher studies, such as improved problem-solving abilities, leadership qualities, and research acumen. He shared personal anecdotes from his academic and professional journey to demonstrate how higher education fosters critical thinking and innovation. He also spoke about the importance of networking during postgraduate studies, as it provides access to industry experts and collaborative opportunities that can significantly boost career growth.

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Alumni Event

21st JANUARY 2025 Topic
Crafting Your Path: How Higher Studies Shape Professional Success

11:00 AM to 12:00 PM

Organised by **FX Alumni Association**
in Association with **Department of Mechanical Engineering**

Mr. M.I. MOHAMED HALITH.,
M.E., CEG Campus.,
Chennai

Co-ordinator: **Mr. S.M. Sunder Rajan**
Assistant Professor
Dept. of Mechanical Engineering

Convener: **Dr. R. Samuel Hansen**
HOD
Dept. of Mechanical Engineering

Mr. S. Krishnakumar Director, FXAA | **Dr. K. Jeyakumar** General Manager (D) | **Dr. V. Velmurugan** Principal, FXEC

Washington Accord INTERNATIONAL ENGINEERING ALLIANCE | NBA NATIONAL BOARD OF ACCREDITATION | The Highest Star Status by the MOE, Govt. of India for Innovation and Entrepreneurship Activities

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Long 77.724707°
21/01/25 11:34 AM GMT +05:30

The lecture concluded with an engaging Q&A session, where participants sought guidance on topics like selecting the right specialization and balancing work and studies. He encouraged students to approach higher studies as an investment in their future and a means to contribute to societal advancement. The session was highly motivational, leaving attendees with a clear vision of how advanced education shapes a fulfilling and successful career path.

Programme: Meta Development Practices shaping the digital landscape

FX Alumni Association organized a guest lecture in association with department of Mechanical Engineering for the Third year Mechanical students. **Er.M.Suhail., Meta Developer., Hackwit Technologies Pvt. Ltd., Chennai** delivered the guest lecture on “**Meta Development Practices: Shaping the Digital Landscape**”. 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 "Meta Development Practices: Shaping the Digital Landscape" provided valuable insights into advanced software development methodologies adopted by Meta. The speaker emphasized the importance of agile frameworks, continuous integration, and code quality assurance to ensure high-performance applications. The session highlighted Meta's commitment to fostering a culture of collaboration and innovation, which plays a critical role in delivering reliable and scalable digital solutions.

A key focus was the integration of artificial intelligence and machine learning into development pipelines. The speaker explained how these technologies optimize testing processes, enhance user experiences, and predict system failures, contributing to Meta's competitive edge. Real-world case studies illustrated the successful implementation of AI-driven automation in Meta's applications, demonstrating the importance of staying at the forefront of technological advancements.

FRANCIS XAVIER ENGINEERING COLLEGE
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Alumni Event

30th JANUARY 2025
11:30 AM to 12:00 PM

Topic
Meta Development Practices: Shaping the Digital Landscape

Organised by **FX Alumni Association**
in Association with **Department of Mechanical Engineering**

Er. M. SUHAIL
Meta Developer,
Hackwit Technologies Pvt. Ltd., Chennai

Co-ordinator
Mr. S.M. Sunder Rajan
Assistant Professor
Dept. of Mechanical Engineering

Convener
Dr. R. Samuel Hansen
HOD
Dept. of Mechanical Engineering

Mr. S. Krishnakumar
Director, FXAA

Dr. K. Jeyakumar
General Manager (D)

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The lecture concluded with a discussion on sustainability and ethical development practices. The speaker underscored Meta's efforts to minimize energy consumption and prioritize privacy and data security in software architecture. The emphasis on creating socially responsible digital solutions resonated with the audience, inspiring future developers to adopt best practices that balance innovation with ethical responsibility.

Entrepreneurship / EDI activities

An “Innovations in Drone Technology in the Agricultural Sector” program was organized by the Entrepreneurship Development Cell and the Institution’s Innovation Council in association with the Department of Mechanical Engineering on January 21, 2025, from 1:30 PM to 4:30 PM. The event was held in offline mode. Dr. K. Vinukumar, Assistant Professor (Mechanical Engineering), inaugurated the session with a welcome address.

The session was conducted by Dr. S. M. Rajkumar, Associate Professor, Department of Mechanical Engineering at Francis Xavier Engineering College, Tirunelveli. A total of 42 students participated in the program, which was coordinated by Dr. K. Vinukumar. The event was conducted under the guidance of Dr. Lourdes Poobala Rayen, Director of the EDC.

The resource person explained that hydroponics, a soil-free farming method, offers significant environmental benefits, including water conservation (using up to 90% less water), reduced land use through vertical farming, a lower carbon footprint due to localized production, fewer chemicals and pesticides, minimized soil erosion, energy efficiency with renewable sources, reduced food waste through year-round production, and the preservation of biodiversity by minimizing land conversion.

Hydroponics offers opportunities in urban farming, sustainable food production, growing high-value crops, year-round harvests, tech integration, improving food security, designing efficient hydroponic systems, applying automation, IoT, and energy management and advancing research in agricultural methods.

Students found the session extremely valuable and encouraging, providing positive feedback on how it motivated them to pursue their goals with renewed enthusiasm. The session concluded with a Q&A segment, where clear and helpful answers were provided to address the participants' questions.



“Innovation and Entrepreneurship: The Role of Mechanical Engineering Students in Shaping the Future”

An “Innovation and Entrepreneurship: The Role of Mechanical Engineering Students in Shaping the Future” program was organized by the Entrepreneurship Development Cell and the Institution’s Innovation Council in association with the Department of Mechanical Engineering on January 22, 2025, from 1:30 PM to 4:30 PM. The event was held in offline mode. Dr. K. Vinukumar, Assistant Professor (Mechanical Engineering), inaugurated the session with a welcome address.

The session was conducted by Mr. S. Thanumalaya Perumal, Assistant Professor 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. The event was conducted under the guidance of Dr. Lourdes Poobala Rayen, Director of the EDC.

The session successfully underscored the immense potential of mechanical engineering students to drive innovation and entrepreneurship. Through the development of cutting-edge technologies and sustainable solutions, these students are not only shaping industries but are also contributing to the overall advancement of society. The resource person concluded by encouraging students to adopt an entrepreneurial mindset and seize opportunities to transform their innovative ideas into real-world solutions. Students found the session extremely valuable and encouraging, providing positive feedback on how it motivated them to pursue their goals with renewed enthusiasm. The session concluded with a Q&A segment, where clear and helpful answers were provided to address the participants' questions.



Placement Arranged Through Company visit

On 03.01.2025, the company Youngshin Automotive India visited the campus. Out of a total of 33 students, all 33 students got placed, achieving a 100% placement rate. The salary package offered was 2.5 LPA (Lakhs Per Annum).

This placement drive was highly successful, ensuring opportunities for all participating student