



FRANCIS XAVIER[™]
ENGINEERING COLLEGE
AN AUTONOMOUS INSTITUTION

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DEPARTMENT OF MECHANICAL ENGINEERING

MONTHLY NEWS – AUGUST 2022

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 to announce that the Department of Mechanical Engineering is publishing the newsletter for the month of August 2022. Amidst the Covid Pandemic situation, we strived hard to keep the students engaged, and utilize the time not only for quality education and 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 into light. Besides the lockdown, our faculty members are continuously attending various training programs, publishing research papers, book chapters and are also working on getting patents.

This newsletter is the reflection of department activities which showcases all the events held in the department, contribution of faculty members, 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

EDITORIAL BOARD

Dr. Dr. R. Samuel Hansen, Professor & Head of Department, Editor – in – Chief.

Dr. S. Balakrishnan, Assistant Professor, Mechanical Department, Faculty In charge.

SKILL TRAINING – III YEAR

The department of Mechanical Engineering organized a Mandatory Skill Training on "FINITE ELEMENT ANALYSIS USING ANSYS" on behalf of FXEC's Training and Skill Development (TSD) program for the benefit of third-year mechanical engineering students from 01.08.2022 to 20.08.2022. The skill trainers were Mr. S.MAGESH, Dr. S. BALAKRISHNAN, and Dr. R.K.A BHALAJI. A total of 20 students benefited from this program with the venue at Design and Analysis Lab. Day 1 to 13, The hands-on training begins with an overview of simulation software and ANSYS applications in the industry. Skill trainers evaluated students' performance based on the completion of the exercise. The final test projects are done by the students and evaluated by the external examiner appointed by TSD Team.



SKILL TRAINING – IV YEAR

The department of Mechanical Engineering organized a Mandatory Skill Training on "PLACEMENT FIT TRAINING" on behalf of FXEC's Training and Skill Development (TSD) program for the benefit of Final-year mechanical engineering students from 01.08.2022 to 20.08.2022. The skill trainers were Mr.S.THANUMALAYA PERUMAL, Mr.S.M.SUNDER RAJAN,

Mr.K.ROBINSTON JEYA SINGH, and Mr.S.RAKESH. A total of 109 students benefited from this program with the venue at Final Year Classroom ME103 and ME104. Day 1 to 13, The hands-on training begins with an overview of Aptitude, Verbal Reasoning, Critical Reasoning, Coding, and Decoding using Talently Application and Skill trainers evaluated students' performance based on the completion of the Assessments. The final test projects are done by the students and evaluated by the external examiner appointed by TSD Team.



SKILL TRAINING – II YEAR

The department of Mechanical Engineering organized a Mandatory Skill Training on "Robotics Control System Using Thinkercad" on behalf of FXEC's Training and Skill Development (TSD) program for the benefit of Second Year Mechanical Engineering students from 01.08.2022 to 18.08.2022. The skill trainers were Dr. S. M. Raj Kumar, Prof., Prof. V. T. Vimalanananth, and Prof. M Saravanakumar. A total of 20 students benefited from this program with the venue at Robotics and Automation Applied Laboratory. Day 1, The Basics of Thinkercad with an overview of its

applications in the industry. From Day 2 the hands-on projects are carried out using Tinkercad. Skill trainers evaluated students' performance based on the completion of the exercise daily. The final test projects are done by the students and evaluated by the external examiner appointed by TSD Team.



SEMINAR

A Seminar on “Innovative Technologies for Industry 4.0” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 26th August 2022 from 11:00 am to 12.00 pm. The program was held via offline mode. Dr.S.Balakrishnan, AP/Mech inaugurated the session with a welcome address.

Dr.R.K.A.Bhalaji, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person shared a lot of ideas about industrial revolutions from 1.0 to 4.0 and what are the technologies developed from the following four phases. In this regard, he explained clearly who made the term I4.0 and its purposes. Additionally, he told about today's and tomorrow’s factory with suitable examples based on industrial revolutions I4.0 & I5.0. Regarding the fourth revolution of industry, he mentioned how the major MNC company implemented I4.0 and its benefits. As well as resource person defined the I4.0 principles, building blocks, major aspects, implications, and impacts. Finally, he stated about the technologies

used in Industry 4.0 such as the Internet of Things (IoT), Cyber-Physical Systems (CPS), etc. for effective communication, computation, and control.

EMPOWERING EDUCATION; GLOBAL LEADERSHIP.



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Vannarpettai, Tirunelveli - 627 003.

INSTITUTION'S INNOVATION COUNCIL
(Ministry of Education Initiative)

TOPIC
Innovative Technologies for Industry 4.0

26th
AUGUST, 2022
11.00 AM

RESOURCE PERSON
Dr. R.K.A. Bhalaji
Assistant Professor,
Mechanical Engineering,
Francis Xavier Engineering College.

Organised by
Entrepreneurship Development Cell

In association with
Department of **Mechanical Engineering**

Co-ordinator
Dr. S. Balakrishnan
AP / MECH

Convener
Dr. R. Samuel Hansen
HoD / MECH

Dr. Lourdes Poobala Rayen
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal

Tirunelveli, Tamil Nadu, India
PPIF+VVR, Barani Nagar, Tirunelveli, Tamil Nadu 627003, India
Lat N 8° 43' 55.7436"
Long E 77° 43' 28.8912"
26/08/22 11:17 AM

SEMINAR

A Seminar on “Build a Minimum Viable Product (MVP)” was organized by the Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering on 30th August 2022 from 02:00 pm to 03.00 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the session with a welcome address.

Mr.S.Magesh, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. The resource person shared the six principles of Minimum Viable Product (MVP) such as less is more in MVP development, the most boring feature is the important one, the path of least resistance, think scarcity, focus on closing the loop for the user and iterate & refine with user feedback and shown with real-time examples such as iPhone, Microsoft office, etc. He explained why we need an MVP, how we decide what features constitute an MVP, what can we do with the MVP to validate our business hypothesis, and where we go from here. Additionally, he mentioned the clear meaning of MVP said by Eric Ries.



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Vengalpet, Tirunelveli - 627 003

INSTITUTION'S INNOVATION COUNCIL
(Primary of Education Institute)

RESOURCE PERSON: **Mr. S. Mageesh**
Assistant Professor / Mech.
Francis Xavier Engineering College

TOPIC: **Build a Minimum Viable Product (MVP)**

Organised by: **Entrepreneurship Development Cell & Institution's Innovation Council**
In association with: **Department of Mechanical Engineering**

30th AUGUST, 2022
2.00 PM

Co-ordinator: **Dr. R.K.A. Bhalaji**
AP / MECH

Convener: **Dr. R. Samuel Hansen**
HoD / MECH

Dr. Lourdes Poobala Rayan
Director EDC and IIC President

Dr. K. Jeyakumar
General Manager - Development

Dr. V. Velmurugan
Principal



SEMINAR

A Seminar on “The Role of Angel Investors in Start-up Development” was organized by Entrepreneurship Development Cell & Institution’s Innovation Council in association with the Department of Mechanical Engineering from 26th August 2022 from 02:00 pm to 03.00 pm. The program was held via offline mode. Dr.R.K.A.Bhalaji, AP/Mech inaugurated the session with a welcome address.

Mr.S.M.Sunder Rajan, Assistant Professor, Department of Mechanical Engineering, FXEC was the resource person. Firstly, the resource person showed the top ten angel investors in India for instance, Rajan Anandhan, Managing Director, Sequoia Capital, and Anupam Mittal, Founder & CEO, People group as well as he talked about the development of angel investors in India nowadays. In this regard, he explained where angels should invest (Finding great companies is the basis of angel investing) and what it takes (To be a successful investor). Resource person recently shared angel investors will aim for the big things such as education, health, mobile, etc. In addition to this, he indicated the role of angel investors in start-up development with real-time examples and the impact of such initiatives in India.

EMPOWERING EDUCATION; GLOBAL LEADERSHIP.



RESOURCE
PERSON

TOPIC

The Role of Angel Investors in the Start-up Development

26th
AUGUST, 2022

2.00 PM

Organised by
Entrepreneurship Development Cell

In association with
Department of **Mechanical Engineering**



Mr. S.M. Sunder Rajan
Assistant Professor
Mechanical Engineering
Francis Xavier Engineering College.

Co-ordinator
Dr. R.K.A. Bhalaji
AP / MECH

Convener
Dr. R. Samuel Hansen
HoD / MECH

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