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# MECHAZINE

## DEPARTMENT OF MECHANICAL ENGINEERING

Proudly presented by

**FLAMES**

Fulfilling Aspirations of Mechanical Engineering Students

# MECHAZINE |

Official Newsletter of Department of Mechanical Engineering

**VOL 1 | ISSUE 2022**

## This issue:

## Introduction



## Events

# Editor's Note

Dear Students,
I wholeheartedly welcome you to the Department of Mechanical Engineering at Sahyadri College of Engineering and Management. Our department comprises focused, research-oriented, ambitious, creative, and vibrant students, faculty members, and non-teaching staff who constantly challenge themselves by setting goals and ambitions of high standards.

The Department of Mechanical Engineering hosts UG and Ph.D. programs in two main fields - MECHANICAL ENGINEERING and ROBOTICS & AUTOMATION. Our students and faculty are incredibly ambitious to do research and design projects focusing on these two domains and their allied interdisciplinary areas such as Cyber-physical systems, Artificial Intelligence in mechanical systems, adaptive control systems, soft-robotics, robotic welding, metal-polymer composites, and electric vehicles. Our students and staff continuously strive to work on emerging technologies through "no-borders" collaborations with neighboring universities abroad. We also have partnerships with medical hospitals in the areas such as prosthetics and medical device design.

## Vision:

- To be the centre of excellence in education ,innovation and incubataion in the field of Mechanical Engineering to cater contemporary technological changes for sustainable development.

## Mission:

- Create an ambience for holistic learning by imparting quality education through practicing professional ethics to cater social needs.
- Inculcate industrial practices through industry-institute interaction by providing skill and leadership qualities.
- Foster creative and innovative thinking skills among the faculty and the students by establishing state-of-the-art facilities to encourage life long learning and promote Entrepreneurship.

## Values:

- Excellence, Research, Innovation, Incubation, Integrity, Leadership, Diversity, Commitment and Empowerment

## Goals:

- Creating 50 leaders every year in the field of Technology, Social enterprise.
- 25 Interdisciplinary Projects related to Sustainable Development Goals(SDGs)
- 5 Community Industry Partnership per individual programs.
- 25 Research Publications, 2 Entrepreneurs, 10 Innovations on SGDs for individual programs.
- Obtaining Academic Autonomy from Regulatory bodies.
- Digitalization of Campus.
- NIRF Ranking better than 180.

# About Department of Mechanical Engineering

## Department

The Department of Mechanical Engineering was started in the year 2007, since then it has been produced graduates who are excelling in the industries, entrepreneurship and higher studies. Department has been implementing Outcome Based Education (OBE) with Continuous Quality Improvement (CQI) for holistic development of the students, which is an essential model for any institute which aspires to be leader in the field of education. Batchelor of Engineering program in the Department of Mechanical Engineering has been accredited by National Board of Accreditation (NBA) and also from Institute of Engineers (India).

## Programme Educational Outcomes

- To design, develop and manage the industrial and social projects by applying modern tools in multidisciplinary environment
- To practice lifelong learning, professional ethics and apply engineering principles to achieve sustainable development.
- To demonstrate the leadership qualities and team building to take up innovation and Entrepreneurship.

## Programme Specific Outcomes

- Solve complex engineering problems through innovative techniques in competitive environment to design mechanical systems.
- Apply the knowledge and competence in the field of manufacturing engineering.
- Apply the knowledge and skills to formulate sustainable solutions in the field of thermofluid and energy engineering.

# EDITORIAL BOARD

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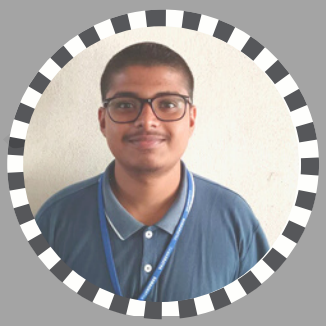

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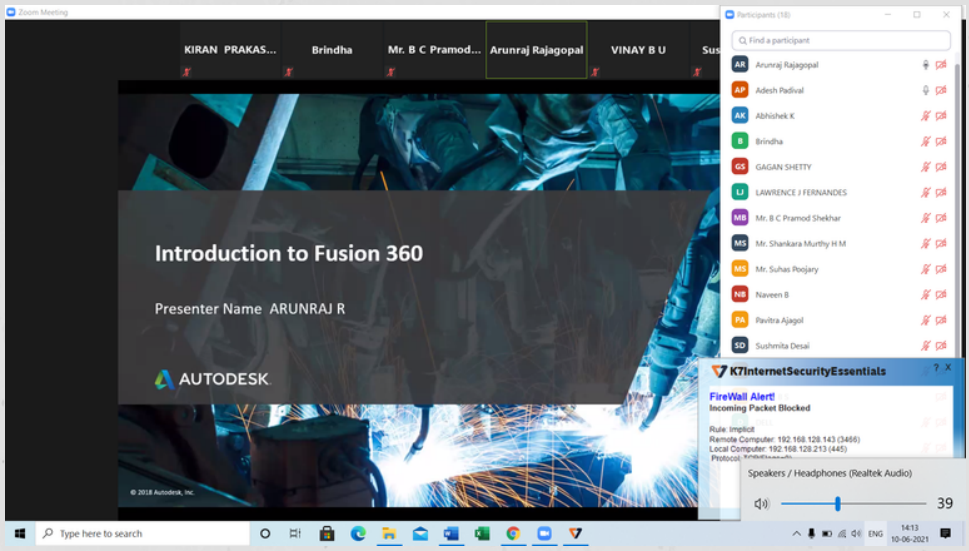
# EVENTS:

## Autodesk Fusion 360 - Leading with generative design




- Two-day workshop with Hands on session for product design using Autodesk Fusion 360.
- Dept. of Mechanical Engineering, Sahyadri and USAM Technology Solutions Pvt Ltd, in association with Indian Society of Mechanical Engineers (ISME), Sahyadri Institute Innovation Council (IIC) and FLAMES-Mechanical Engineering Students Association organised Two-day workshop for faculty on “Autodesk Fusion 360 – Leading with Generative Design” held on 10th to 11th June 2021 from 2.00pm to 4.30pm which was a Hands-On session through Zoom platform by using Autodesk Fusion 360 software. It was a hands-on session for faculty to the Autodesk Fusion 360 software started with the basics to design and develop the industry related models/products. It was an certified program from AUTODESK.
- The workshop included topics related to:
- Introduction to Autodesk Fusion 360 and how it supports collaboration and distance learning.
- Design Tools
- Generative Design
- Animation, Rendering
- Building a curriculum that helps today’s students land those engineering jobs.
- Latest trends and shifts in the design & manufacturing industry, including the Future of Work.
- Distinguishing between traditional task-based mindsets and holistic engineering.

# Attractive career options in Merchant Navy

Department of Mechanical Engineering in association with Sahyadri Institution's Innovation Council (IIC), FLAMES, ISTE, IEI, ISME organized an awareness program on "Attractive career options in Merchant Navy" for the mechanical engineering students on 20th May 2022, Friday at 10.00am.

Prof.Raj Mohan M., Dean Marine Engineer from R.L. Institute of Nautical Science, Madurai, Tamil Nadu was the resource person.

The key topics were discussed,

- Merchant Navy as an attractive career option
- Career prospectus at sea
- Travel the world with a career
- Various Courses offered

Prof. Raj Mohan Briefly explained about the Graduate marine Engineering (GME) Course, duration of the course, academic activities, placement opportunities and road map towards the course completion. He encouraged the students for opting the mechanical engineering course and also highlighted on the importance of academics along with the extracurricular activities to be adopted. He also mentioned about the assistance offered by RLINS in Registration of INDOS, Seafarers Profile Registration, Continuous Discharge Certificate (CDC), Technical training in our ship-in-Campus etc., Total 150 students from sixth semester mechanical engineering were took the benefit of the session.

# Application of EDGECAM in Mechanical Industries


Department of Mechanical Engineering with ISTE, ISME, Sahyadri Institution's Innovation Council (IIC), FLAMES in association with Kriatec Services Pvt. Ltd. organized a webinar on "Application of EDGECAM in Mechanical Industries & use of Learning EDGECAM" for the mechanical engineering students on 25.01.2022, Tuesday at 3.30pm.

Major topics covered in the webinar,

- 1. Why Industries are preferred to go for CAM (Comparison between tradtional way of programme and CAM Programme)
- 2. Benefits for students by learning EDGECAM
- 3. A thought of CAM programming for students.
- 4. What are the new features in the latest version.

Students were informed to grab the opportunity to get an insight on learning a technique on computer applications in manufacturing process, so it will be the one of the ways the mechanical engineers can mold their career and get maximum benefit out of it.

Mr. Vijikumar, Application Manager, Kriatec Services Pvt. Ltd. was the resource person.120 students were registered for session. Prof. Vinay B.U. coordinated the session.

# Design innovation for successful career in the field of Aeronautics,Space and Defence

Department of Mechanical Engineering organized webinar a on "Design Innovation for Successful Career in the Field of Aeronautics, Space and Defence for Mechanical Engineers"

Dept. of Mechanical Engineering in association with Sahyadri Institution's Innovation Council (IIC), FLAMES, ISTE, IEI, ISME organized a webinar on "Design Innovation for Successful Career in the Field of Aeronautics, Space and Defence for Mechanical Engineers" facilitated by Mr. Dhanish Abdul Khader, Space System Engineer (Analytics), SS Technologies, Bengaluru on 20th April, 2022 in Seminar Hall, Mechanical Block. The Webinar was about the software tool used in space research, aeronautics and defence. The resource person also discussed the challenges faced by Mechanical Engineers in procuring a job and he guided them towards the selection of the right direction in upgrading their skills and making them industry ready. The webinar was carried out in the view to create an awareness among the graduating students and shaping their career.

# Field visit to problem identification

Industry visit to Caliper Engineering & Lab Pvt. Ltd.

Dept. of Mechanical Engineering, SCEM in association with Indian Society of Mechanical Engineers (ISME), Sahyadri Institute Innovation Council (IIC) and FLAMES-Mechanical Engineering Students Association organised an Industry visit to Caliper Engineering & Lab Pvt. Ltd. for the mechanical engineering students under the IIC calendar activity of “Exposure and Field visit for problem identification” for the academic year 2021-22 on 01.02.2022 at 11.30am.

During the visit students were given exposure for the various industrial activities such as material procurement process, transportation, loading and unloading, sequence of machining operation, database management system, storage, assemblies, inspection, packing, software, tools and techniques followed etc, Students were given with the activities based on the effective disposal of chips formed after the machining process. They identified this as the major problem which need to be rectified in most of the machining industries. More than 100 students were the part of this program.

# Scientific Data Visualization using Origin lab

Hands-on Workshop organised by Department of Mechanical Engineering

The Department of Mechanical Engineering in association with FLAMES, Sahyadri IIC, ISTE conducted "Scientific Data Visualization using OriginLab" a hands-on workshop for faculty and students of department on 18th Dec 2021, 8:30a.m. at CIM lab.

The objective of this workshop was to make faculty and students to gain knowledge about scientific data visualization using OriginLab. In this workshop, OriginLab-Graphing Solution tool was used for interpretation of data in different engineering applications. OriginLab is used to import, export, analyse and interpret the scientific or research data with a point click interface and tools for batch operations. It helps to optimise the way of interpreting the scientific data.

Prof.Vinay B U, Department of Mechanical Engineering trained the students on using Origin Lab- Graphing Solution. Students got the opportunity to learn new tool through hands-on session which may be especially used for the academic projects as well as research career in the future.