



St. JOSEPH'S COLLEGE OF ENGINEERING

You Choose, We Do It

(AN AUTONOMOUS INSTITUTION)

OMR, CHENNAI - 119



DEPARTMENT OF MECHANICAL ENGINEERING



NEWSLETTER

DECEMBER 2024



St. JOSEPH'S
GROUP OF INSTITUTIONS
OMR, CHENNAI - 119



The Choice of
Disciplined Toppers



St. JOSEPH'S COLLEGE OF ENGINEERING

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VISION

To become a world class Educational center of the Nation for Engineering, Technology, Computer Applications and Management with moral and professional standards to serve the community at large.

MISSION

To achieve academic excellence in Engineering, Technology, Computer Application and Management Education.

To inculcate high moral and professional standards among our students.

To develop the overall personality of our students.

To promote Industry Institute Interaction through more number of collaborative programs with Industries, Research and Development centers.

To venture for sustained placement for our students through campus interviews.





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DEPARTMENT OF MECHANICAL ENGINEERING

VISION

To become a center of excellence in Mechanical Engineering, producing competent engineers, who are innovative, entrepreneurial and skilled to meet the global challenges.

MISSION

Excellence: To offer state-of-art education in Mechanical Engineering, by providing opportunity to students to enhance their knowledge base and develop core specific skills.

Research: Build a research capability that is recognized nationally and internationally as a leading source of technological innovation and explore core research.

Professional Integrity: To create opportunities and train students to build leadership qualities blended with entrepreneurial mindset and lead an ethical and environmentally responsible career.

PROGRAMME EDUCATIONAL OBJECTIVES

Engineering graduates will be able to:

PEO1: Profession - Practice manufacturing engineering in a broad range of industries both core engineering and non-engineering fields such as medicine, space, law or business.

PEO2: Continuing Education - Pursue advanced education, research and development, and other creative and innovative efforts in science, engineering, and technology, as well as other professional careers.

PEO3: Technophile - Conduct them in a responsible, professional, and ethical manner and attain professional maturity with deep understanding of the impact of the technological solutions in a societal and global context and a need for sustainable development.

PEO4: Service - Participate as leaders in their fields of expertise and in activities that support service and economic development nationally and throughout the world.

PROGRAMME OUTCOMES

Engineering graduates will be able to:

Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

Design/development of solutions: Design solution for complex engineering problems and design systems components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.



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Conduct investigations of complex problems: Use research- based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environmental and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

Life-Long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME SPECIFIC OUTCOMES

PSO 1: The students graduating in Manufacturing Engineering will have profound foundation in mathematical, scientific and engineering domains necessary to achieve professional and productive excellence in technical and non-technical problem solving and analyzing engineering problems.

PSO 2: The students graduating in Manufacturing Engineering will have the ability to synthesize the engineering data and apply scientific principles for applications involving manufacturing engineering using high end CAD/CAM/CAE computational packages such as CATIA, ANSYS and MATLAB.

PSO 3: The students graduating in Manufacturing Engineering will have the ability to pursue advanced careers and discharge his/her duties entrusted with high degree of commitment to address professional and ethical responsibilities, including a respect for diversity and provide cost effective engineering solutions.

EVENTS & ACHIEVEMENTS

December 2024



CONTENTS

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Student Chapter Activities

Department of Mechanical Engineering jointly with Institute of Engineers student chapter organizes a one day Hands on training for IEI student chapter members entitled. **“From Concept to Reality- 3D Functional Modeling in Fusion 360”** on *18th December 2024*. 21 students from third year mechanical participated and created their own animated model using Fusion 360 Software.



S.No	Event winners	Position	Membership Number
1	SUBASRIRAM R	First	600119/SJCE/MC/00049
2	VISHWA P	Second	600119/SJCE/MC/00054
3	PALANI BHARATHI V	Third	600119/SJCE/MC/00043



India Design Week 2024 – Design now Workshop

Department of Mechanical Engineering at St. Joseph's College of Engineering, in Partner with Autodesk and ICT Academy hosted **“AUTODESK India Design Week 2024 Design Now workshop”** on 2nd December, 2024.



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AUTODESK **INDIA** **ICTACADEMY**
DESIGN WEEK 2024
CHALLENGING, INSPIRING & FUTURISTIC

Day 1:
02/12/2024

F Fusion **44** Mechanical Engineering Students
from our institutions participate

Design Now Workshop

Hosted by:
Department of Mechanical Engineering
St. Joseph's College of Engineering

St. JOSEPH'S **St. JOSEPH'S**
COLLEGE OF ENGINEERING INSTITUTE OF TECHNOLOGY
AUTONOMOUS INSTITUTIONS, AFFILIATED TO ANNA UNIVERSITY



Faculty Achievements

Publication / Patent

- **Dr. K. Arun**, Associate Professor, Department of Mechanical Engineering, attended “**AICTE sponsored ATAL Academy Faculty Development Programme on Green Technology**” at Periyar University, Salem from *4th November 2024 to 9th November 2024*.
- **Dr. K. Arun**, Associate Professor, Department of Mechanical Engineering, published a journal titled “**Tribological behaviour of thermally sprayed nano zirconia coating on AA7075**” in International Journal of Surface Science and Engineering. Vol. 18, No. 4, pp. 333-348, SCIE Journal, Impact Factor 1.0 (Clarivate Analytics)
- **Mr. T. Balasubramanian**, Assistant Professor, Department of Mechanical Engineering, Published a Patent Titled “**Electric Power Generation from Biomass Gasification: A Study of System Efficiency and Optimization**” Application no: 202421062188
- **Mr. G. Ashwin Prabhu**, Assistant Professor from the Department of Mechanical Engineering has Successfully Published a Patent titled “**Synthesis, Fabrication and Mechanical Characterisation of Glass Fiber Reinforced Epoxy Composites with Silicon Carbide Fillers**” on 29/11/2024. Application No: 202441091474.



Faculty Achievements

Publication / Patent

- **Dr. G M Lionus Leo** and **Dr. K. Arun**, Associate Professors, Department of Mechanical Engineering, published a journal titled "Performance and emissions optimization of a dual-fuel diesel engine powered by cashew nut shell oil biodiesel/hydrogen gas using response surface methodology" in Fuel, Elsevier. Vol. 384, SCIE Journal, Impact Factor 6.7 (Clarivate Analytics, 2024)
- **Dr. G M Lionus Leo**, Associate Professor, Department of Mechanical Engineering, published a journal titled "Assessing the Engine Performance of Rubber Seed Oil Biodiesel Blends in Compression Ignition" in SAE International.
- **Mr. Subramanian M** from Department of Mechanical Engineering has published a paper titled "Enhancing low-illumination imagery using a Deep Convolutional Generative Adversarial Network with weight regularization (DCGAN-WR) and Zero-Reference Deep Curve Estimation (DCE)" in Discover Computing(formerly Information Retrieval Journal) - Q1 Journal. <https://doi.org/10.1007/s10791-024-09488-9>



Faculty Achievements

Publication / Patent

- **Mr. M. Subramanian**, Assistant Professor from Department of Mechanical Engineering has published a paper titled "**An optimized Phishing Detection Model Using Hybrid Feature Selection and a Fine-Tuned Narrow Neural Network with Dynamic Jaya Optimization to Overcome Cyberthreats**" in Engineering Research Express Journal - WoS indexed - DOI 10.1088/2631-8695/ada1a4
- **Mr. M. Siva** and **Mr. N. Sathish Kumar**, Assistant Professors from Department of Mechanical Engineering completed a six Months **QIP program on 3D Printing** in IIT, Palakkad *July 2024 to Dec 2024*.
- **Dr. K. M. Kumar**, Associate Professor from the Department of Mechanical Engineering Published a Text Book titled "**Dynamics of Machinery**" in Quill Tech Publication, ISBN 978-93-6786-844-7



Institute Industry Interactions

As part of the Institute Industry Interaction Initiative, **Dr. N. Arunkumar**, (Dean of Industrial Collaborations & IQAC), and two of our faculty members **Dr. T. Gavaskar** and **Mr. J. Vijayanand** visited **Thaai Casting Ltd** Company, regarding to initiate startup in our college. Our alumni **Mr. Ramakrishnan - Managing Director** of Thaai casting accepted for the initiative and also to give paid internship for our Mechanical engineering students.





Alumni Interaction

As a part of Alumni Interaction and Placement Awareness program, Department of Mechanical Engineering organized an online session for final year students on the topic “ **Strategic Guidance for a competitive edge in the recruitment process in Core Company**” **Mr. Vignesh N**, Assistant Manager, JSW steel Ltd & **Mr. Akash Shankar**, Assistant Manager, JSW steels Ltd - **SCM Logistics**, Proud Alumnus of batch (2018-22) gave a clear explanation and insight on how to crack core interview and prerequisites for getting placed.

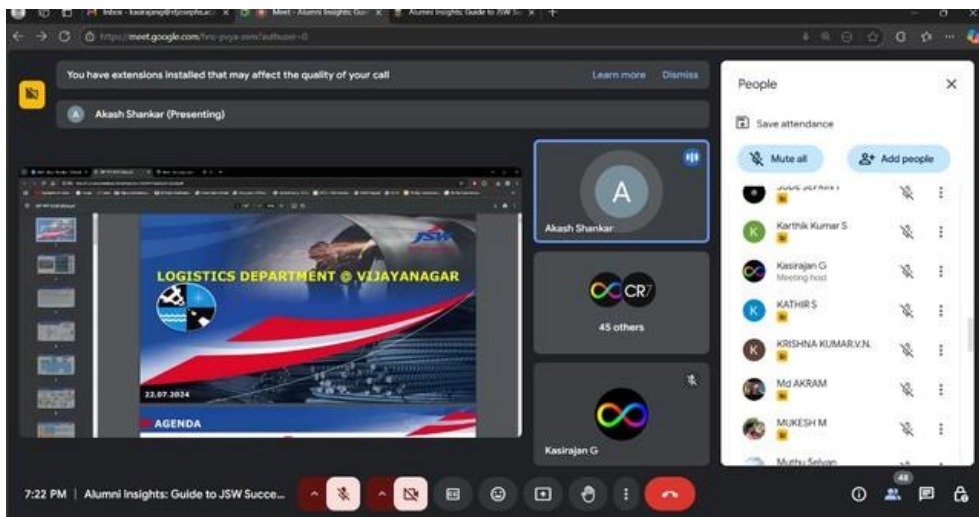
Department of Mechanical Engineering
“Alumni Insights: Guide to JSW Success” 
 Strategic guidance for a competitive edge in the recruitment process

IV Year Mechanical Students
 14/12/2024
 SATURDAY 7P.M.

Google Meet
<https://meet.google.com/hns-pvya-zem>

Mr. Vignesh N
 Assistant Manager
 JSW Steel Ltd - JVML Projects

Mr. Akash Shankar
 Assistant Manager
 JSW Steel Ltd - SCM - Logistics





Students' Achievements

Pleased to inform that 5 **students** from our Mechanical Department have been selected in **SPIC** by **campus recruitment** process at our campus placement drive. This role, offer a total Cost to Company (CTC) will be revised to **Rs. 5.5 lakhs per annum.**

DEPARTMENT OF MECHANICAL ENGINEERING
Congratulations
2021 -2025
Placed in SPIC **CTC 5.5 Lakhs**
Nourishing growth

Balaji S **Gurumoorthi M S** **Hariharan B**
Kavikumar K **Sriram Karthick**

Placement



Students' Achievements

Pleased to inform that 3 **students** from our Mechanical Department have been selected in **DAIJO Technologies** by **campus recruitment** process at our campus placement drive for Design Engineer role. During the training period the monthly remuneration of **Rs.15000**.

Department of Mechanical Engineering
Batch: 2021 - 2025
Congratulations for being placed at  **DAIJO**
Embracing Technology for a Better Living



Jude Jefrin T **Krishna Kumar V N** **Winnarasan W**

Trainee - Design Engineer
Rs.15,000 Monthly Remuneration During Training Period

Placement



Students' Achievements

Mr. Anbarasan M, Mr. Parasuram, S and Mr. Nandhakumar, Final Year Students from Mechanical Engineering has been selected for the intern with stipend of Rs. 13,000/- for three months from *Jan 2025 to March 2025* in **Thirumal Roofings & structural.**

DEPARTMENT OF MECHANICAL ENGINEERING

Congratulations



PARASURAM S
2021-2025



ANBARASAN M
2021-2025



NANDHAKUMAR S
2021-2025

STIPEND
RS.13,000/-
MONTH

FOR BEING SELECTED AS "PRODUCTION FABRICATION
ERECTION ENGINEER TRAINEE"

THIRUMALA ROOFINGS & STRUCTURALS, PORUR CHENNAI

Internship



Students' Achievements



Mr. S. Ravishankar, Third Year Mechanical Student has been selected as Intern with stipend of in **Rs. 8000/-** in **Josh Automation India Private Limited, Bengaluru.**



Mr. S. Tanveer Ahmed, Third Year Mechanical Student has been selected as Intern in **BRAKES INDIA LIMITED, PADI** from 16/12/2024 to 27/12/2024.



Mr. V. Palani Bharathi, Third Year Mechanical Student has been selected as Intern in **ASHOK LEYLAND, HOSUR** from 22/12/2024 to 21/01/2025.

Internship



SEERA

On 4th December, 2024, for third year students of Batch 2022-2026 during the SEERA class, our department conducts “Aptitude solving, Mock interview, Gate exam preparation, Group discussion, Skill rack practice” enhancement program.

DEPARTMENT OF MECHANICAL ENGINEERING

STUDENT EMPLOYABILITY & ENHANCEMENT RESEARCH ACTIVITY

III YEAR



DATE : 4.12.24
TIME : 1.40 to 3.00

ACTIVITIES DONE

- APTITUDE SOLVING
- (BLOOD RELATIONS)
- MOCK INTERVIEW
- GATE EXAM PREPARATION
- GROUP DISCUSSION
- SKILL RACK PRACTICE

SEERA



SEERA

On 11th December, 2024, for third year students of Batch 2022-2026 during the SEERA class, our department conducts “Java programming languages, Aptitude solving , Gate exam preparation, Skill rack practice” enhancement program.

DEPARTMENT OF MECHANICAL ENGINEERING

STUDENT EMPLOYABILITY & ENHANCEMENT RESEARCH ACTIVITY

III YEAR



DATE : 11.12.24

TIME : 1.40 to 3.00

ACTIVITIES DONE

- APTITUDE SOLVING
- (BLOOD RELATIONS)
- JAVA PROGRAMMING
- GATE EXAM PREPARATION
- CYBER SECURITY
- SKILL RACK PRACTICE

SEERA



SEERA

On 18th December, 2024, for third year students of Batch 2022-2025 during the SEERA class, our department conducts “Java programming, Aptitude solving, cyber security, Gate exam preparation, Skill rack practice” enhancement program.

DEPARTMENT OF MECHANICAL ENGINEERING

STUDENT EMPLOYABILITY & ENHANCEMENT RESEARCH ACTIVITY

III YEAR



DATE : 18.12.24

TIME : 1.40 to 3.00

ACTIVITIES DONE

- APTITUDE SOLVING
- JAVA PROGRAMMING
- GATE EXAM PREPARATION
- CYBER SECURITY
- SKILL RACK PRACTICE

SEERA



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