

MECHAZINE

Bi Annual Bulletin of
Department of Mechanical Engineering



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Hope Foundation's
Finolex Academy of Management and Technology, Ratnagiri
(Approved by AICTE, Recognized by DTE, Affiliated to University of Mumbai)


Team Mechanical

Faculty Members

- Dr. Kaushal K. Prasad (Principal)
- Dr. Milind S. Kirkire (Dean, Academics and HoD)
- Dr. Shashikant S. Goilkar (Dean, R & D)
- Dr. Milind S. Yadav (Associate Professor)
- Mr. V. MuraliMohan (Associate Professor)
- Mr. Vikram S. Chougule (Associate Professor)
- Mr. Sachin S. Mestry (Assistant Professor)
- Mr. Vidyasheel S. Bagade (Assistant Professor)
- Mrs. Gayatri M. Kirkire (Assistant Professor)
- Mrs. Abhilasha S. Jadhav (Assistant Professor)
- Mr. Sumit S. Malusare (Assistant Professor)
- Mr. Harshal R. Salvi (Assistant Professor)
- Mr. Hemant V. Chavan (Assistant Professor)
- Mr. Amar S. Yekane (Assistant Professor)
- Mr. Jayesh S. Anavkar (Assistant Professor)
- Mr. Mahadev L. Naik (Assistant Professor)
- Mr. Shodhan U. Mayekar (Assistant Professor)
- Mr. Vikram V. Nagale (Assistant Professor)
- Mr. Sachin S. Gurav (Assistant Professor)
- Mr. Prabodh B. Horambe (Assistant Professor)
- Mr. Tushar V. Kavatkar (Assistant Professor)
- Mr. Sagar N. Sakharkar (Assistant Professor)
- Mr. Rushikesh M. Rasal (Assistant Professor)
- Mr. Abhijit M. Date (Assistant Professor)
- Mr. Pratik R. Kamble (Assistant Professor)
- Mr. Mandar S. Padhye (Assistant Professor)
- Mrs. Priyanka A. Date (Assistant Professor)
- Dr. Kedar G. Bhide (Assistant Professor)

Staff Members

- Mr. R. V. Utekar
- Mr. A. V. Nhivekar
- Mr. A. A. Lingayat
- Mr. V. V. Lohar
- Mr. D. Y. Mestry
- Mr. M. V. Shetye



*One child, one
teacher, one
book, one pen
can change the
world.*

Malala Yousafzai

Contents

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- Department Mission
- Program Specific Outcomes (PSOs)
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VISION

- To become a center of quality education by developing competent engineers who can address challenges in the field of mechanical engineering.



MISSION

- To establish state of the art facilities in department enabling effective training of students and creating research environment
- Evolve competent technical professionals through effective delivery of curriculum and contents beyond, which fulfil the needs of industry and society.
- To inculcate sense of social responsibility and human values amongst the students.



PROGRAM SPECIFIC OUTCOMES

- Students will be able to investigate problems in the fields of design, thermal and manufacturing processes through application of statistical techniques.
- Students will be able to provide computer-based solutions to mechanical and allied industries.



PROGRAM EDUCATIONAL OBJECTIVES

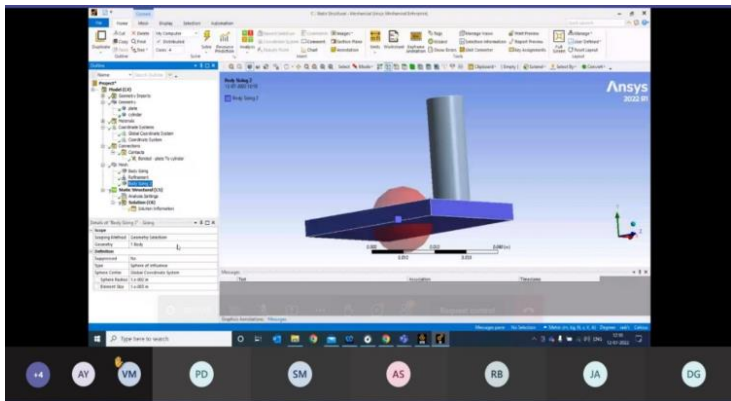
- To prepare the stakeholder to exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.
- To make ready the stake holder to pursue higher education for professional development
- To help the stakeholder to acquire the analytical and technical skills, knowledge, analytical ability attitude and behavior through the program
- To prepare the stakeholders with a sound foundation in the mathematical, scientific and engineering fundamentals
- To motivate the learner in the art of self-learning and to use modern tools for solving real life problems and also inculcate a professional and ethical attitude and good leadership qualities
- To prepare the stakeholder to be able to design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

Programs Organized by Department

FDP on Ansys Training

The Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri organized a faculty development programme on “Ansys Training” from 12th July to 13th July 2022 on Microsoft Team Platform for the faculty members of the Mechanical Engineering Department. The programme was attended by 19 faculty members of the Mechanical Engineering Department.

On day one, Mr Abhishek Singh, Application Engineer, ARK Infosolutions Pvt. Ltd delivered the session on how to use various modules of Ansys workbench like SCDM and Meshing. He also demonstrated the problems in the field of mechanical engineering using Ansys Workbench software. On day two, Mr Ravindra Bucherla, Application Engineer, ARK Infosolutions Pvt. Ltd focused on how to use the CFD module of Ansys workbench. He also demonstrated the problems in the field of fluid mechanics using Ansys Workbench software. This FDP was organized under the guidance of Dr M. S. Kirkire, HoD Mechanical. Prof. M. L. Naik coordinated this faculty development programme successfully.



Mr. Abhishek Singh conducting a session on the A Webinar on Non-contact Metrology

Indian Machine Tool Manufacture's Association (IMTMA) organized a Webinar on Non-contact Metrology on Wednesday, 20th July 2022 in online mode for the students of Third Year Mechanical Engineering. Mr Ravi Kumar (Industry Consultant) was the speaker for the Webinar.

The students learnt the non-contact measurements which are gaining importance in Metrology as they offer high speeds of measurements with increased accuracy associated with flexibility. Mr. Ravi Kumar demonstrated how the size of manufactured components is getting reduced and accuracy demand enlarged in industries like Precision engineering, the Smartphone industry, and the Optical industry with tight tolerances. The session ended with a question-answer session

The webinar was attended by 131 students. The program was organized under the guidance of Dr M. S. Kirkire, HoD Mechanical. Prof. Harshal Salvi and Prof. Priyanka Date coordinated the webinar successfully.



Mr. Ravi Kumar delivering the talk

A Seminar on Career Opportunities in the Indian Coast Guard

The Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri organized a career guidance seminar on “Career Opportunities in Indian Coast Guard” on 25th July 2022 for the students of Mechanical Engineering.

Mr. Naitik Tamang, Assistant Commandant, Indian Coast Guard from Ratnagiri Base delivered the seminar. Mr. Naitik Tamang shared general information about the Indian Coast Guard. He explained the importance, organisational structure and responsibilities of the Indian Coast Guard. He talked about career opportunities for Engineers in the Indian Coast Guard and inspired the students to enter in Indian Coast Guard to serve the nation. The seminar concluded with a question and answer session. About 42 students from Mechanical Engineering Department attended the seminar. The seminar was organized under the guidance of Dr Kaushal Prasad, Principle FAMT, Dr. M. S. Kirkire, HoD Mechanical. Prof. M. L. Naik and Prof. P. B. Horambe coordinated the seminar successfully.



Mr. Naitik Tamang addressing the students

Programs Organized by Department

K-12 Activity for Primary School Students

FAMT ASHRAE Chapter conducted a K-12 STEM activity at Zilha Parishad Purna Prathamik Shala Karvanchiwadi No.1, Ratnagiri on 18th August 2022. The activity was conducted to advance the awareness, understanding, and appreciation of science, technology, engineering, and math (STEM) in the K-12 student population. It consisted of multiple activities related to Science, Technology Mathematics and Engineering as follows:

1. Vedic Mathematics
2. Introduction to Computer
3. General Science Quiz
4. Drawing Marathon

In total, 348 students from Nana Surve High school, Shree Bhageshwar Vidyamandir, Peth-Killa, Zilha Parishad Purna Prathamik Shala Karvanchiwadi No.1 and Zilha Parishad Purna Prathamik Shala Utkarshnagar participated in this activity. The program was coordinated by FAMT ASHRAE student members under the guidance of Faculty Advisor Prof. Hemant Chavan and Dr M. S. Kirkire, Dean Academics and HoD Mechanical Department.



FAMT ASHRAE students conducting activity

Industrial Visit to Georg Fischer Piping Systems Pvt. Ltd., Ratnagiri

The Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri organized an Industrial Visit to Georg Fischer Piping Systems Pvt. Ltd., Ratnagiri, on 18th August 2022 for the members of the ASME Student Chapter.

The visit began with an introductory speech by Mr Swapnil Kadam (HR Manager at Georg Fischer Piping Systems Pvt. Ltd., Ratnagiri). He shared the introduction to the company and safety instructions with the students. The plant visit was arranged in which various departments such as production, quality, maintenance and warehouse were covered. The injection molding processes were shown to the students in detail using various machines. Further, useful information related to material storage, material handling, cooling tower, heat treatment process, die maintenance, automatic packaging and dispatch was given by practical means.

During this visit, the students were enlightened about the importance, applications, use and implementation of various manufacturing and material handling processes which are extensively used in industries. Prof. Amar Yekane coordinated the industrial visit successfully. A total 16 number of ASME student members participated in the visit. The Industrial visit was organized by Prof. Hemant V Chavan, ASME FAMT Student section Advisor under the guidance of Dr M.S.Kirkire, Head of Mechanical Engineering Department.



Prof. Amar Yekane along with ASME students member at Georg Fischer Piping Systems Pvt. Ltd., Ratnagiri.

Programs Organized by Department

Parents Meet SE and TE Mechanical Engineering

The department of Mechanical Engineering organized a Parents Meet of S.E. and T.E. Mechanical Engineering students on Sunday, 21st August 2022. Around 43 parents participated in the meeting.

The meeting provided a common platform, where teachers and parents came together to discuss students' academic performance, result analysis, attendance, various events, workshops organized by the Mechanical Engineering Department, students' achievements, training and placement activities and various other ongoing activities of the department.

Head of Mechanical Department Dr Milind S. Kirkire presented department progress as well as guided the parents regarding the importance of various technical courses at the departmental level along with the plans of the department. He further discussed various value-added courses and their importance for placement of the students were also discussed.

It was followed by an informal session of discussion between parents, students and mentor/subject teachers/class teachers. Parents provided their valuable suggestions and feedback. The parent meeting was successfully coordinated by Prof. Abhijit M. Date and Prof. Priyanka A. Date under the guidance of Dr Milind S. Kirkire (HoD, Mech.) and Dr. Kaushal K. Prasad (Principal)



Selection of Prof. Hemant V Chavan for ASME Maharashtra State Professional Section

Prof. Hemant V Chavan, Assistant Professor Department of Mechanical Engineering, has been selected as the "Member at Large" in the first Section Leadership Team of American Society of Mechanical Engineers (ASME) Maharashtra State Professional Section for the year 2022-23.

ASME professional section volunteers the opportunities

that allow members to involve in a meaningful way and increases their visibility in the mechanical engineering field from planning impactful community outreach and events to managing finances. Volunteering at the section level is also a great way to build strong local networks with members and businesses. The Member at Large is responsible for supporting communications, web/social media posts and updates, assisting with ASME-related administrative tasks, member development initiatives, students, student section relations, awards/recognitions, activity planning and programming.

Dr Kaushal Prasad, Principal, Dr M.S. Kirkire, Head of Mechanical Engineering Department and Dean Academics and all faculty and staff congratulated Prof Hemant Chavan for this international achievement.



Expert Session on Sustainability: Theory and its Practice in Personal Life

The Department of Mechanical Engineering organized an expert session on Sustainability: Theory and its Practice in Personal Life, on 12th September 2022 for the students of Mechanical Engineering.



Mr. Dileep Kulkarni delivering session

Mr. Dileep Kulkarni was the resource person for the same who has authored more than a dozen books related to Sustainability. While practicing a completely sustainable lifestyle in harmony with mother nature for the past 25 years in a small village near Dapoli (Ratnagiri).

Programs Organized by Department

During the lecture, Mr. Kulkarni unfolded the comprehensive nature of the concept of sustainability, sustainable consumption and production, impact of need and greed on sustainability, GDP v/s NDP (net domestic product), the importance of sustainability for the survival of the human species and many other species on this planet. Later, he shared his experience while practicing a lifestyle that promotes sustainability. The lecture was organized by Dr Kedar Bhide under the guidance of Dr Milind Kirkire, Head of Mechanical Engineering. The session was attended and well received by a

Engineer's Day Celebration

On the account of Engineer's Day, dated 15th September, 2022, MESA (Mechanical Engineering Student Association) in association with ASME (American Society of Mechanical Engineers) and ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) organized an event along with a seminar titled Load Estimation and Electrical Safety. The program was attended by all the teaching faculty of the Mechanical branch with the prime presence of the Head of Department Dr Milind Kirkire and Dr Milind S Yadav.

After their brief introduction which was done by one of the committee members, the ceremony began with lighting the lamp. After that, a short film named "Pralhad: The Founder of Finolex" was shown to the Mechanical Engineering students. The students from the second, third and fourth years found the short film very inspiring. The next was a brief speech by the committee members along with a comic short poem. The entire event was coordinated by Faculty Advisor Prof. Hemant Chavan, Prof. Rishikesh Rasal and Prof. Mandar Padhye along with student members.



Engineer's Day celebration

Seminar on Load Estimation and Electrical Safety

On the account of Engineer's Day, dated 15th September 2022, MESA (Mechanical Engineering Student Association) organized a seminar on Load Estimation and Electrical Safety for SE, TE and BE Mechanical Engineering students under the guidance of Dr. Milind S. Kirkire (Dean Academics and Head of Mechanical Engg. Dept.). A total of 154 students attended the seminar.

Dr. M. S. Kirkire felicitated Mr. Milindkumar N. Tagare (Associate Professor, Electrical Engg. Dept.) the resource person for the seminar. Mr. Milindkumar N. Tagare enlightened the students about the importance of electrical safety, how to calculate the electrical load of a house, standard safety equipment, etc. Mr. Rushikesh M. Rasal (Assistant Professor Mechanical Engg. Dept.) and Mr. Mandar S. Padhye (Assistant Professor Mechanical Engg. Dept.) coordinated the seminar successfully.



Mandavi Beach Clean-up Drive 2022-23

FAMT organized Mandavi Beach Cleanup Drive in association with the Indian Coast Guard on 17th September 2022. The students cleaned garbage on Mandavi beach including plastic bags, wrappers, plastic bottles, etc. Besides, they also interacted with visitors and public requesting to maintain cleanliness and avoid the use of plastic items which was the major source of the waste collected. The Officers of the Indian Coast Guard, and District Collector office members were also present on the occasion to motivate the students.



Students cleaning Mandavi beach

Programs Organized by Department

171 students along with 06 Faculty members of FAMT participated in the beach cleaning drive. The students from SE, TE and BE classes showed interest and requested to organize such social events every year. The program started with a pledge for cleanliness followed by a cleaning activity and refreshment. Prof. M. N. Tagare, Prof. S. S. Wamane, Prof. V. A. Sansare, Prof. Hemant Chavan, Prof. U. K. Samant and Prof. Abhijit Date took efforts and coordinated the campaign successfully.

Technical Talk on Solar Thermal Energy Conversion

On the Department of Mechanical Engineering organized a technical talk on Solar thermal energy conversion for the students of Elective subject in Renewable Energy Sources of Semester VIII. This technical talk was organized on 11th October 2022. A total of 33 students participated in the event.

The talk was based on the topic of solar energy and its application to the syllabus of renewable energy sources. The students can understand the need and potential of solar thermal energy for the development of a sustainable environment. The talk focused on the key aspects of the syllabus like studying the design and installation criteria of various equipment to convert renewable energy into useful energy. The program was coordinated by Prof. Hemant V Chavan under the guidance of Dr M. S. Kirkire, Dean of Academics and HoD Mechanical Department.



Mr. Rishikesh Kondekar delivering talk

Industrial Visit to Solar PV Power Plant

Department of Mechanical Engg organized an industrial visit to the solar thermal power plant of 50 kW capacity at Hotel Vihar Deluxe, Ratnagiri. This visit was a part of a case study on Solar thermal energy conversion for the students of an Elective subject in Renewable Energy Sources of Semester VIII. The visit was organized on 11th October 2022. A total of 33 students participated in this visit.

The objective of the site visit is to explore and understand practical, economically viable, scalable and sustainable energy access models. The participants will have a first-hand experience with the technology, business model, end application, operations and maintenance and on-the-ground issues of energy access models. The program was coordinated by Prof. Hemant V Chavan under the guidance of Dr M. S. Kirkire, HoD Mechanical Department.



Educational Tour to Intersolar India Expo 2022 at Gandhinagar, Ahmedabad

Department of Mechanical Engineering Student Chapters organized an educational tour to the Largest Intersolar India Expo 2022 at Gandhinagar, Ahmedabad on 9th December, 2022. The purpose of this tour is to explore new technology in solar, energy storage and electric mobility industry. Also, it helps students to develop networking with Exhibitors for internship and industry-institute interaction.



Students at Intersolar India Expo 2022

Six students participated along with Student Chapter Faculty Advisor Prof. Hemant V Chavan. The program was coordinated by Prof. Hemant V Chavan under the guidance of Dr M. S. Kirkire, HoD Mechanical Department.

Programs Organized by Department

Educational Tour to REFCOLD 2022 at Gandhinagar, Ahmedabad

Department of Mechanical Engineering Student Chapters organized an education tour to South Asia's Largest Exhibition and Conference on Refrigeration and Cold Chain Industry Solutions REFCOLD 2022 at Gandhinagar, Ahmedabad on 9th and 10th December, 2022.

REFCOLD 2022 is an initiative of ISHRAE & Radeecal communications as the exhibition partner for the year 2022 edition, which has been actively working towards the growth of the Refrigeration & Cold Chain industry to bring forward the best technology solutions and increase the overall growth of this sector. The students could explore new technology in the Cold chain industry and Dairy technology. It helped the students develop networking with Exhibitors for internship and industry–institute interaction.

A total 6 number of students have participated along with Student Chapter Faculty Advisor Prof. Hemant V Chavan. The program was coordinated by Prof. Hemant V Chavan under the guidance of Dr M. S. Kirkire, HoD Mechanical Department.



Student Members interacting at the DAIKIN stall

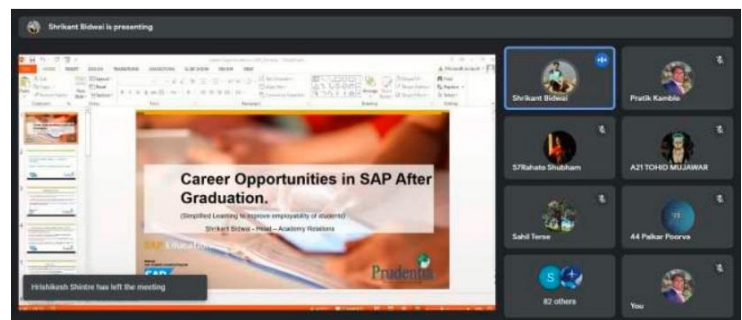
Webinar on Career Opportunities in SAP

The Department of Mechanical Engineering in association with Prudentia Technology Solutions India Pvt. Ltd., Pune organized a Webinar on “Career Opportunities in SAP” on 19th December 2022 for the final year Engineering students.

Mr Shrikant Bidwai (Head-Academy Business, Prudentia Technology Solutions India Pvt. Ltd., Pune) delivered the seminar. He informed the students about the field of SAP and related opportunities available in the industries. The expert also guided the students about the importance of knowledge of SAP in getting their first job and career as an SAP consultant for those who are interested in working with information technology and business administration

He also highlighted the opportunities available for engineers to use their skills and knowledge to help businesses improve their efficiency and optimum use of SAP software towards the same. The webinar concluded with a vote of thanks by Prof. Pratik Kamble (Asst. Prof. Mechanical Engg.). 199 students from the final year attended this seminar.

The program was organized under the guidance of Dr M. S. Kirkire, Head of Mechanical Department. Prof. P. R. Kamble coordinated the webinar successfully. Mr Sahil Terse (TE Mechanical anchored the program).



Mr. Shrikant Bidwai addressing the students

Faculty Achievements

FDP attended

- **Dr. Shashikant S. Goilkar**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
- **Prof. Vidyasheel S. bagade**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
- **Prof. Gayatri J. Abhyankar**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
- **Prof. Abhilasha S. Jadhav**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
- **Prof. Sumit S. Malusare**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
 - Completed FDP on "Internet of Things (IIOT)"
- **Prof. Mahadev L. Naik**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
- **Prof. Shodhan U. Mayekar**
 - Completed FDP on "Advances in Electrical Vehicle Industry"
- **Prof. Abhijit M. Date**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
 - Completed FDP on "Materials & Advanced Manufacturing"
- **Prof. Priyanka A. Date**
 - Completed FDP on " ANSYS Training " organized by FAMT Ratnagiri
 - Completed FDP on "Materials & Advanced Manufacturing"
- **Dr. Kedar G. Bhide**
 - Completed FDP on "Teaching & Learning in Engineering" organized by NPTEL

Webinar/Workshop attended

- **Prof. Mahadev L. Naik**
 - Completed workshop on "Preparing a review paper: The use of innovative tables, flowcharts and graphs"
- **Prof. Abhijit M. Date**
 - Attended webinar on Indigenous Materials for Energy Storage (Lithium-ion and Supercapacitor) Applications

Faculty Achievements

Webinar/Workshop attended

- **Prof. Priyanka A. Date**

- Attended webinar on Indigenous Materials for Energy Storage (Lithium-ion and Supercapacitor) Applications
- Attended webinar on Innovations in Materials Processing: Importance of Ceramic Shell Moulds for Investment Casting of Gas Turbine Components
- Attended webinar on TRIZ-An Idea Generation Technique in Product Development
- Attended webinar on Designing Outcomes-focused questions

Paper publications

- **Prof. Gayatri M. Kirkire**

- Published a paper on “Revisiting Sustainable Supply Chain from Industry 4.0 Perspective” in international Conference

- **Prof. Amar S. Yekane**

- Published a paper on “Casting Defect Elimination using Modeling and Simulation Technique” in National Conference

Certification Courses

- **Prof. Mahadev L. Naik**

- Completed NPTEL course “Introduction to Industry 4.0 And Industrial Internet of Things”
- Completed NPTEL course “Strategic Management for Competitive Advantage”

- **Dr. Kedar G. Bhide**

- Completed NPTEL course “German – I “

Reviewer/Judge

- **Dr. Shashikant S. Goilkar**

- Worked as Judge for Maharashtra Startup Yatra 2022

- **Prof. Gayatri M. Kirkire**

- Reviewer for Sardar Patel International Conference On “Industry 4.0 - Nascent Technologies and Sustainability for 'Make in India' Initiative”



Awards