



KUMARAGURU
COLLEGE OF TECHNOLOGY



Department of Mechanical Engineering

Newsletter

MExpress

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DEPARTMENTAL ACTIVITIES

PROGRAMMES ORGANIZED



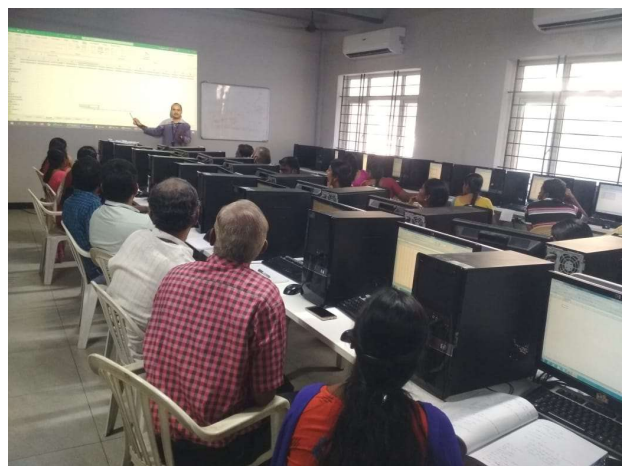
- Department organized a Seminar on “Placement opportunities in Japanese company” on 06.01.2020. Mr. Sanpei, CEO, M/s. GO WORK, Japan given a lecture in the seminar. Mr. K. Manikandaprasath, Assistant Professor coordinated the event.
- Another Programme on Foreign Language Awareness was organized on 10th January 2020 to understand the importance of Japanese and German language classes and registration.

Mr. Ravi Kandasamy, Head PMO, Mr. Selva, Japanese Instructor, Mrs Kavitha, German Instructor addressed the gathering.

Mr. K. Manikandaprasath, Assistant Professor coordinated the event.



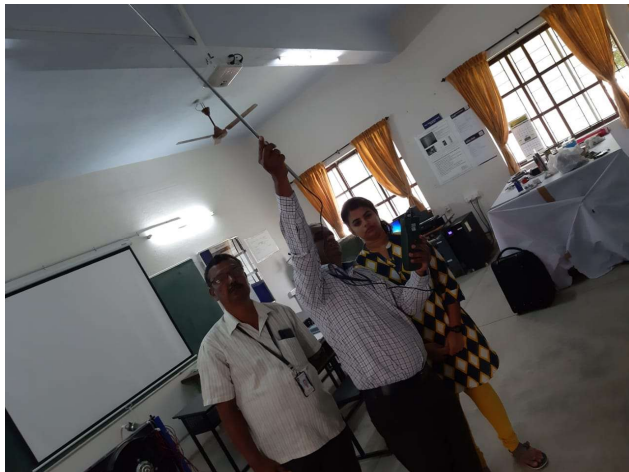
- Department organized 2-days workshop on Heating Ventilation & Air Conditioning - Refrigeration on 20th January and 21st January 2020. Dr. S. Thirumuruga Veerakumar, Associate Professor, and Mr. S. Suresh, Assistant Professor coordinated the event. Mr. Satish Kumar, Technical Coordinator, VLAND'S BEST Hub Private Limited conducted the workshop.



- Department organized One day Training Programme on “MS-Excel- :Unknowns to Knowns - Part 2” to the supporting staff members on 25th January 2020 at KCT CADD Centre. Mr. B. N. Sreeharan, Assistant Professor – II provided the training.

DEPARTMENTAL ACTIVITIES

- A guest lecture on “Career Guidance to join Defence Service as an officer” was arranged by the department on 30th January 2020. Mr. Manoj, Qualified Cadet for Pilot in Indian Airforce delivered the guest lecture. Dr. A. P. Arun, Assistant Professor - II Dr. V. Manivel Muralidharan, Assistant Professor - coordinated the event.



- Training on energy auditing Instruments was conducted on 20th December 2019 to M/s Ampere Voltage Consulting Pvt. Ltd, Coimbatore. Ms. Krishna Rubhiga from M/s Ampere Voltage attended the training program. Dr. C. Udhaya Shankar, Associate professor from EEE Department, KCT and Mr. K. Rangarajan, Senior technical Associate from Department of Mechanical engineering attended the training program.

Training was provided by Mr. B. Jeeva, Assistant Professor.

INDUSTRIAL VISIT

- Dr. C. Velmurugan, Professor & HoD, Dr. V. R. Muruganantham, Associate Professor, Dr. K. M. Senthil Kumar, Associate Professor, Mr. P. D. Devan, Assistant Professor, visited M/s. Sakthi Auto Companies and M/s. Microtek Precision, Coimbatore on 11.01.2020 to enhance the Industry Institute relationship.



- An industrial visit to M/s. MJP Enterprises private limited, Kovilpalayam, Coimbatore was arranged on 22.01.2020 for the first year Mechanical ‘A’ section students. Dr. S. Balasubramanian, Associate Professor, coordinated the industrial visit.

PAPER PUBLICATION

A paper entitled “Experimental Research on the Tribological Mechanical Properties of Al-SiC composites and EN31 Steel” was published in International Journal of Engineering and Advanced Technology, ISSN: 2249 – 8958, Volume-9 Issue-2, December, 2019, a Scopus Indexed journal by Dr. V. R. Muruganantham, Associate Professor.

DEPARTMENTAL ACTIVITIES

SAE BAJA

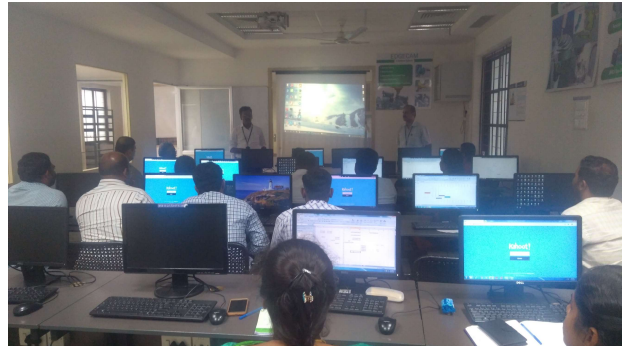
- Team BLITZKRIEG and Team E BLITZ comprising our students had participated in SAE BAJA main event 2020 conducted between 23-01-2020 and 30-01-2020. Dr. S. Balaji, Assistant Professor and Mr. M. Ramesh Kumar, Assistant Professor coordinated the participation.

MoU



- On behalf of our department, Dr. C. Velmurugan, HoD signed a MoU between the department and M/s. L R Fabrications, Coimbatore on 21st January 2020 to enhance the industry relationship. Dr. V. R. Muruganantham, Associate Professor and Mr. P. D. Devan, Assistant Professor coordinated the event.
- Department also signed MoU with M/s. SS Engineering Works, Coimbatore and with M/s. Bright Inspection Services, Coimbatore on 30-01-2020 and 31.01.2020, respectively. Dr. V. Muthukumar, Professor, Dr. S. Balaji, Assistant Professor, Dr. K. M. Senthilkumar, Associate Professor coordinated the event.

GUEST LECTURE DELIVERED



- Mr. B. N. Sreeharan, Assistant Professor – II was the resource person in the one-day training program on One day Workshop on MS Excel for Efficiency where he delivered the guest lecture and provided the training to the KCT staff members on 31.01.2020. Workshop was organized by KLDA, KCT headed by Dr. V. Muthukumar, Professor of our department.

INTERACTION WITH OUTSIDE WORLD

- Dr. K. K. Arun, Assistant Professor - III, acted as external examiner for the End Semester Practical Examinations held at SNS College of Engineering, Coimbatore on 20.01.2020 and 21.01.2010.
- Dr. V. R. Muruganantham, Associate Professor and Dr. A. P. Arun, Assistant Professor - II, acted as external examiner for the End Semester Practical Examinations held at Government College of Technology, Coimbatore on 20.01.2020 and 21.01.2010.

DEPARTMENTAL ACTIVITIES

RECOGNITION

- Dr. P. S. Samuel Ratna Kumar, Assistant Professor was approved as recognized supervisor under Anna University to guide research scholars. He also got selected for doing his Postdoctoral Fellowship under Global Excellence Stature Fellowship Award.

PROGRAMMES ATTENDED



- Dr. R. Manivel, Professor and Mr. B. Jeeva, Assistant Professor participated in the 3rd International Workshop on Compact Heat Exchangers for Aerospace Applications jointly organized by Aeronautical Development Agency and Dayananda Sagar University, Bangalore during 2nd and 3rd January 2020.
- Dr. S. Balasubramanian Associate Professor went to Indian Coach Factory with COSIEMA team as a part of industrial visit in the National event, conducted by MSME for Entrepreneurship development during 29-01-2020 and 30-01-2020.



- Dr. S. Balasubramanian, Associate Professor, successfully completed a training on "Entrepreneurship Development Program" conducted as part of IIC Innovation Ambassador Training Series, organized by Institution's Innovation Council of MHRD's Innovation Cell held at Sri Krishna College of Engineering and Technology, Coimbatore, Tamil Nadu on 6-7 January 2020.
- Following faculty members from the department had participated in I-Manager Training Programme conducted by FORGE, under KCT-FORGE training programme from 02.01.2020 to 08.01.2020.

Mr. S. Subbiah, Assistant Professor
Dr. N. Sangeetha, Senior Associate Professor
Mr. P. D. Devan, Assistant Professor
Dr. S. Sivakumar, Assistant Professor – III
Mr. M. A. Vinayagamoorthis, Asst. Professor – II.

STUDENT ACTIVITIES

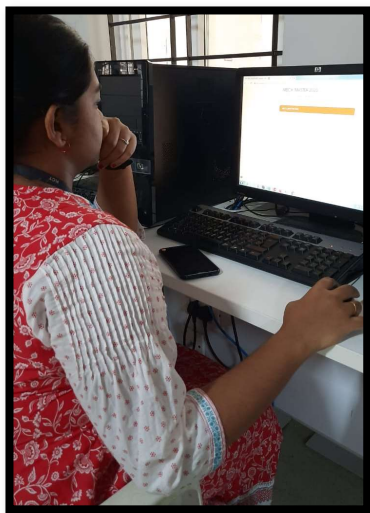
MECHANICAL ENGINEERING ASSOCIATION

MECH_MASTER:

Mech Master has always been the showcase event of Mechanical Engineering department. MEA aims in preparing the technical aspirants of the department to face GATE, IES and more. For that an event called "Mech Master" was conducted by the association for all Mech Cluster. This event was aimed to be conducted in two different phases.

In Phase-1 the technical aspirants were tested their technical standard in Manufacturing Technology. Students from various departments actively participated in this event. Top scorers from phase were selected for phase-2.

This event was Conducted Successfully by Ms. Rushethra. P. N, Secretary, MEA on 29th January. Under the guidance of Dr. V. R. Muruganantham, Associate Professor and Mr. S. Rajesh, Assistant Professor.



SKILL DEVELOPMENT COURSES:

MEA organised SKILL DEVELOPMENT COURSE-2020 in association with Ré, iQube, Garage, Forge and KC.IRI from 22nd January to 29th January. Resource personal from the above-mentioned technical forums has come to directly teach the students. On the 22nd of January the course began with a workshop on Critical Thinking conducted by Rè. Simultaneously on these dates from 23 through to 25 and 27 to 30, modelling sessions by KC.IRI., Arduino, Node MCU and Raspberry-Pi by iQube. 3D Printing Technology by Garage. A 3 hours session on itools, Technical Writing and Marketing was conducted by Forge on 28th January. This was planned for 1st years in order to provide them with the best outcomes. Dr. V. R. Muruganantham, Associate Professor and Mr. S. Rajesh, Assistant Professor.



STUDENT ACHIEVEMENTS

- Mr. Mithileshwaran – 18BME080, Mr. Kavipriyan – 18BME056 from Namma Hip-Hop Club, has took part in Jananam 2020, Entertained audience by their rocking performance.



- Mr. Parthiban – 17BME224, from Hassaya, has took part in Jananam 2020, Entertained audience by his sense of humor. He played the role of a Nurse.



- Mr. Tamilselvan – 17BME118, from Hassaya, has took part in Jananam 2020, Entertained audience by his sense of humor.



- Ms. Pavithra. R - 18BME106, Mr. Nikilesh. M - 18BME052, Mr. Pon Mukesh - 18BME133, Mr. Hariharan - 19BME116, Mr. Kavi arasu - 19BME126, Mr. Rohith Jaganathan-19BME125, Mr. A. Aakash 17BME095, Mr. P. Kishore 16BME050 from Team Evoke, took part in Jananam 2020, Entertained audience by their rocking performance.



PAPERS PRESENTED

Mr. Sachinjith, 17BME067 presented a paper in an internal conference held at VIT during 06-01-2020 and 08-01-2020. Mr. S. Sivakumar, Assistant Professor – II guided Mr. Sachinjith.

STUDENT ARTICLES

DIGITAL MANUFACTURING



Aravind Kumar – 18BME120
2nd Year Mechanical – B

The digital revolution is now breaching the walls of manufacturing as it continues to disrupt media, finance, consumer products, healthcare, and other sectors. Indeed, the explosion in data and new computing capabilities—along with advances in other areas such as artificial intelligence, automation and robotics, additive technology, and human-machine interaction—are unleashing innovations that will change the nature of manufacturing itself. Industry and academic leaders agree that digital-manufacturing technologies will transform every link in the manufacturing value chain, from research and development, supply chain, and factory operations to marketing, sales, and service. Digital connectivity among designers, managers, workers, consumers, and physical industrial assets will unlock enormous value and change the manufacturing landscape forever.



Yet while manufacturing generates more data than any other sector of the economy, few companies are harnessing it. One oil-and-gas company.

For example, discards 99 percent of its data before decision makers have a chance to use it.

We believe that companies that can close this gap by tapping the data they generate (and what's publicly available) will uncover valuable insights to drive profits and growth. Consider traditional car manufacturers and Uber, which are both—at the highest level—in the business of moving people around. Car makers meet that need on the floors of factories and showrooms, using a century of manufacturing experience. Uber meets people's transportation needs not with steel, glass, rubber, and salespeople but with data, matching individual riders and vehicles via smart phones. Barely five years into its existence, it is valued at about \$50 billion. Uber's data, algorithms, and enormous growth prospects have already made it more valuable than all of the physical assets, intellectual property, and brand names of some of the world's biggest car manufacturers.

It comes as no surprise, then, that manufacturers are waking up to the opportunities and threats of digitization. In the United States, the National Network for Manufacturing Innovation is organizing six major research institutes to speed new manufacturing technologies to market. While all of these institutes have a digital component, one is focused specifically on digital manufacturing.¹ Similar efforts are underway across the globe, including Germany's Industry 4.0 effort and China's Made in China 2025. One global convening organization, the Industrial Internet Consortium, was founded just 18 months ago and already has 175 members.



KUMARAGURU college of technology

COIMBATORE – 641 049

Department of Mechanical Engineering

INSTITUTE VISION:

The vision of the college is to become a technical university of International Standards through continuous improvement.

INSTITUTE MISSION:

Kumaraguru College of Technology (KCT) is committed to providing quality Education and Training in Engineering and Technology to prepare students for life and work equipping them to contribute to the technological, economic and social development of India. The College pursues excellence in providing training to develop a sense of professional responsibility, social and cultural awareness and set students on the path to leadership.

DEPARTMENT VISION:

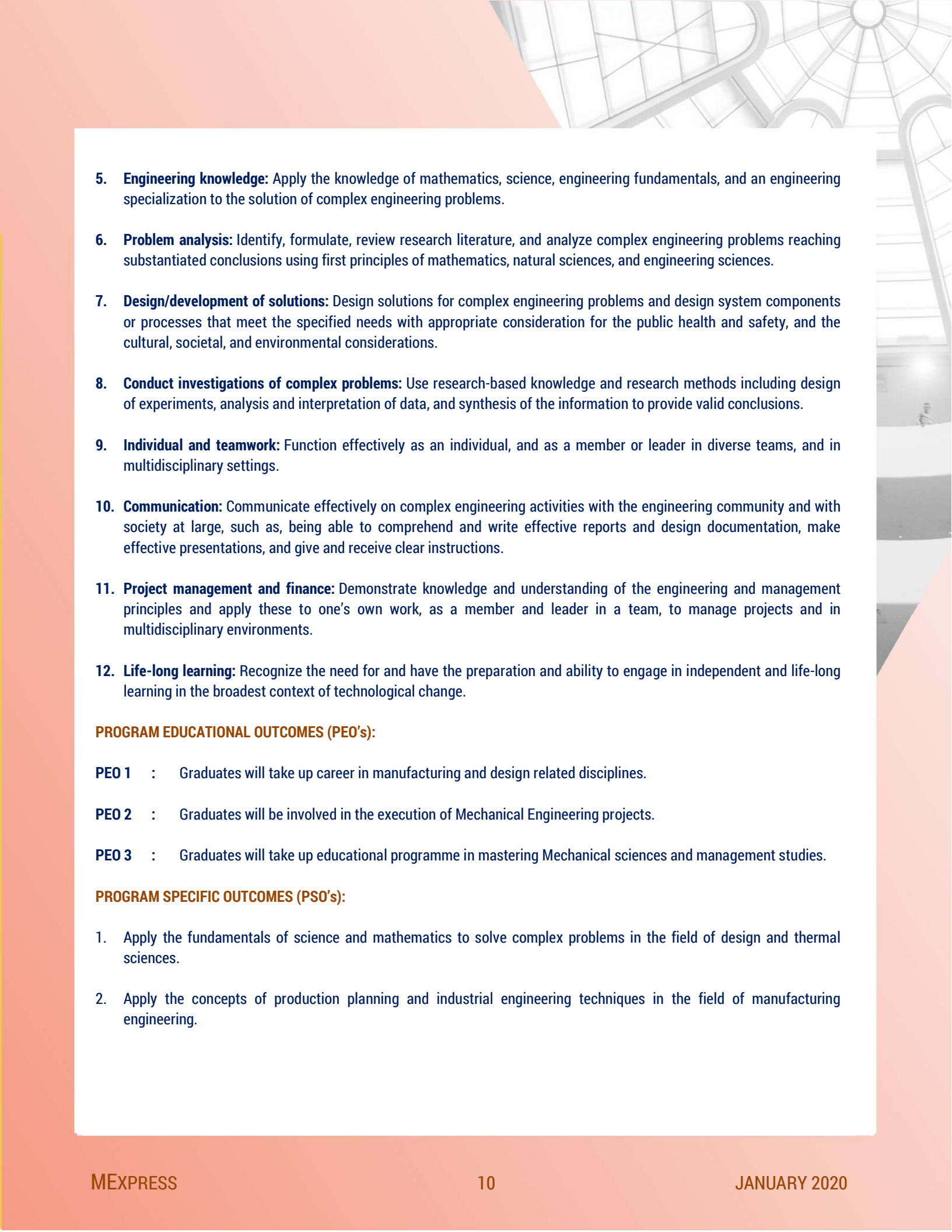
To emerge as a centre, that imparts quality higher education through the programme in the field of Mechanical Engineering and to meet the changing needs of the society.

DEPARTMENT VISION:

The department involves in sustained curricular and co-curricular activities with competent faculty through teaching and research that generates technically capable Mechanical Engineering professionals to serve the society with delight and gratification.

PROGRAM OUTCOMES (PO's):

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **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.
3. **Design/development of solutions:** 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.
4. **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.

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5. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
 6. **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.
 7. **Design/development of solutions:** 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.
 8. **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.
 9. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
 10. **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.
 11. **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.
 12. **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.

PROGRAM EDUCATIONAL OUTCOMES (PEO's):

- PEO 1** : Graduates will take up career in manufacturing and design related disciplines.
- PEO 2** : Graduates will be involved in the execution of Mechanical Engineering projects.
- PEO 3** : Graduates will take up educational programme in mastering Mechanical sciences and management studies.

PROGRAM SPECIFIC OUTCOMES (PSO's):

1. Apply the fundamentals of science and mathematics to solve complex problems in the field of design and thermal sciences.
2. Apply the concepts of production planning and industrial engineering techniques in the field of manufacturing engineering.