

## DEPARTEMENT OF MECHANICAL ENGINEERING

### FROM THE HOD'S DESK

The Department of Mechanical Engineering, being one of the prominent departments in the institute, with next generation resources providing a real time industrial platform for Mechanical students at Under-graduate, Post-graduate and PhD levels.

We are hereby providing our students a perfect blend of intellectual and practical experiences that help them to serve our society and address various technological challenges.

Academic courses and projects are designed based on the Outcome Based Education to endow students with the ability to apply the knowledge of Science, Mathematics and Engineering, which enable them to work effectively in multidisciplinary teams with good leadership qualities and technical expertise.



### ABOUT THE DEPARTMENT

The department of Mechanical Engineering was established in the year 1984. Our mission is to craft a research hub engaged in modern research in association with industries and other reputed institutions, instruct outcome based education (OBE) to students with up-to-date curriculum and content in harmony with industry requirements and foster a spirit of entrepreneurship among students to enable their own ventures. We are equipped with state-of-the-art workshops, laboratories and computing facilities. Several of our graduates are occupying responsible positions in various Industries like L&T, Mahindra, Pricol, TVS and Bosch and are holding senior positions in premier educational institutes in and outside India. The department is manned by 47 faculty members of whom 11 are doctorates, besides 22 supporting staffs.

<b>Programme of Study</b>	<b>Description</b>
<b>Under Graduation</b> <b>B.E. (Mechanical Engineering)</b>	Started with <b>60 seats</b> in 1984 Intake increased to <b>120</b> in 2009 and <b>180</b> in 2011
	Accredited by NBA - 4 times for 3 years
<b>Post-Graduation</b>	
<b>M.E.( Industrial Engineering)</b>	Started in 1997
<b>M.E.( Energy Engineering)</b>	Started in 2002
<b>M.E.( CAD / CAM)</b>	Started in 2003

## OBJECTIVES

### Vision

To facilitate mechanical engineering education, research and services that contributes to the advancement of scientific knowledge leading to social development.

### Mission

The Department is committed to provide quality education and training with emphasis on engineering fundamentals and applications to the students to be competent professionals with ethics. The department will execute research and provide services for sustainable development of society.

## RESEARCH ACTIVITIES

The department has a well-equipped integrated workshop facility which caters the needs of various departments. The department being recognized as a research centre by Anna University from April 2003 is actively engaged in research and our thrust areas are Bio-Materials, Composite Materials, Welding, Metal Cutting, Energy Engineering and optimization. The faculty members actively engage in research and constantly publish papers in International and National Journals. Guest lectures and industrial visits are periodically arranged for the students to enhance their curriculum. We strive for all round excellence in students, encouraging them in all extra-curricular activities.

The department has research projects funded by Department of Science and Technology (DST), All India Council for Technical Education (AICTE) and Naval Research Board (NRB) to the tune of more than 1 Crore for conducting research in Biomaterials, Composite Materials, Welding and Metal cutting.

## RESEARCH FACILITIES

- TIG and MIG Welding
- Pin-on Disc Testing Rig
- Metallurgical Microscope with Image analyzer
- Double disc - polishing machine
- Multi fuel VCR Engine Test rig with data acquisition system
- Multipurpose data logger
- AVL Gas Analyzer and smoke meter
- Vertical Machining Centre
- CNC Turning Centre
- Pitot-Tube Anemometer + Differential Manometer
- EDM Machine
- Co-ordinate Measuring Machine



**VERTICAL MACHINING  
CENTRE**



**VCR TEST RIG**



**TIG WELDING MACHINE**



**PITOT-TUBE ANEMOMETER + DIFFERENTIAL MANOMETER**



**CNC TURNING CENTRE**



**EDM MACHINE**



**CO-ORDINATE MEASURING MACHINE**

## **INDUSTRY PARTNERSHIPS**

The department emphasizes the industrial collaborative projects for the mutual benefit of industry and academia. These connections served to benefit students in the form of better placements, well-equipped laboratories and industrial exposure. The department is carrying out four projects collaborating with Cameron Manufacturing India (CMI), Coimbatore in the fields of welding analysis, welding experiments, valve design and erosion modeling. Also a collaborative project is carried out by the department with Lakshmi Electrical Drives Limited (LEDL). Also students are encouraged to do their projects with industry collaboration to know and analyze the real time problems that the industries are facing. In every year 40% of the students do their projects with industry collaboration.

## **COMPUTER FACILITIES & SOFTWARES**

The department is equipped with 170 high configured computers with the specifications of Intel® Core i5-4590 processor, 8GB DDR3, 1GB Nvidia Quadro K420 Graphics and 21.5” LED monitor. Also the department laboratories are equipped with following professional softwares.

- Autodesk Inventor Professional
- AutoCAD 2016
- ANSYS academic teaching perpetual license
- ANSYS academic teaching CFD 512000 nodes perpetual license
- ANSYS 16.2 Academic Multi physics Campus solution
- Pro-E wildfire 5.0 University edition perpetual license
- CREO software University plus Lab bundle perpetual license
- CATIA Mechanical Engineering Solution ED2
- CATIA V6 PLM Discover pack
- CATIA V6 Design master
- CATIA V6 Design Advance
- Primavera P6 Project management perpetual license
- Solid Works 2015 Educational edition
- MATLAB R2015
- NI LabVIEW 8.6
- Lanner WITNESS 14
- MASTERCAM X8
- EDGE CAM R2015

## **INFRASTRUCTURE**

The department of mechanical engineering has a complete range of specialized laboratories with latest equipment for teaching and research. Laboratories provide an environment for students to reinforce their understanding of the fundamental principles of Mechanical Engineering and apply their knowledge through hands-on learning using current technology. The following are the laboratories in this department.

- ✓ CAD Centre
- ✓ CAE laboratory
- ✓ Metrology laboratory
- ✓ Thermal Engineering laboratory
- ✓ Production Process laboratory
- ✓ Metallurgy laboratory
- ✓ Lathe Shop
- ✓ Heat transfer laboratory
- ✓ Energy laboratory
- ✓ Dynamics laboratory
- ✓ CAM laboratory
- ✓ Foundry laboratory
- ✓ Welding laboratory
- ✓ Project laboratory



**LATHE SHOP**



**PRODUCTION PROCESS LABORATORY**



**DYNAMICS LABORATORY**



**CAM LABORATORY**



**METROLOGY LABORATORY**



**THERMAL LABORATORY**



**ENERGY LABORATORY**



**METALLURGY LABORATORY**



**BASIC WORKSHOP**

## DEPARTMENT LIBRARY

In addition to the Central Library, a well-equipped department library is functioning in the department catering to the needs of the faculty and students with a seating capacity of 20 which stocks around 800 books and journals.

## FACULTY DETAILS

Visit us at <http://www.kct.ac.in/academics/departments/mechanical-engineering/faculty-details/>

## OUR RECRUITERS

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