



---

## MECHANICAL ENGINEERING DEPARTMENT

### Departmental Vision & Mission

#### **Vision:**

The Mechanical Engineering Department of JIS College of Engineering will mould their students into technically sound as well as ethically perfect professionals with innovative leadership qualities and a confident attitude for serving the society with global attention.

#### **Mission:**

The missions of the Mechanical Engineering Department are following:

- ✦ To impart a thorough knowledge of various core engineering subjects to our entire undergraduate and postgraduate students for ascertaining their fundamental strength in mechanical engineering.
- ✦ To expose our students to a curriculum consisting of modern laboratories, interdisciplinary subjects and industrial trainings in such a way that they get international exposure in world class industries.
- ✦ To train our students with modern drafting & analysis software for developing their computational capabilities as well as promoting higher studies and research works.
- ✦ To strengthen our students with innovative ideas and build the potential of leadership & teamwork through various projects in their curriculum.
- ✦ To inhibit strong ethical qualities in the students for lifelong learning and serving the society and nation as a whole.



## MECHANICAL ENGINEERING DEPARTMENT

### Program Educational Objectives (PEOs)

The Program Educational Objectives (PEO) of the Mechanical Engineering Program will demonstrate the essential components of a successful engineer for the best career based professional accomplishments after graduation. Therefore the objectives are following:

1. To teach students in such a way that they can apply relevant skills of basic science, engineering design, modeling, manufacturing, and management to real-life problems in Industries.
2. To encourage the incumbents for higher studies such that they can impart useful contribution to the field of education, research and modern technology in Mechanical Engineering as well as other allied fields.
3. To train the students in such a manner that they effectively participate in multicultural and multidisciplinary projects maintaining industrial ethics for the sustainable development of our society.



## MECHANICAL ENGINEERING DEPARTMENT

### PROGRAM OUTCOMES (PO)

Mechanical Engineering Graduates will be able to achieve the following outcomes:

PO 1	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science and the fundamentals of mechanical engineering to the solution of real life engineering problems.
PO 2	<b>Problem analysis:</b> Identify, formulate and analyze complicated engineering problems using mathematics & engineering sciences and review concerned literatures to reach substantiated conclusions
PO 3	<b>Design/development of solutions:</b> Design an optimized solution for complex mechanical engineering problems and formulate system components or processes for the public health and safety.
PO 4	<b>Conduct investigations of complex problems:</b> Use research-based knowledge for designing critical experiments, methods of analysis and interpretation of data to synthesize a valid solution of mechanical engineering problems.
PO 5	<b>Modern tool usage:</b> Learn modern CAD CAM software for modeling and prediction of detailed engineering phenomena and assess the appropriate results.
PO 6	<b>The engineer and society:</b> Apply reasoning induced by the contextual knowledge to assess societal, health, safety and cultural issues while maintaining consequent responsibilities of a Mechanical Engineering professional.
PO 7	<b>Environment and sustainability:</b> Understand the impact of mechanical engineering activities in environmental contexts and demonstrate the knowledge for sustainable development of the society.
PO 8	<b>Ethics:</b> Learn and commit to professional ethics and responsibilities by



	practicing consequent norms in various mechanical engineering practice
PO 9	<b>Individual and team work:</b> Function effectively as individual, as a member or a leader in diverse teams and multidisciplinary settings.
PO 10	<b>Communication:</b> Communicate effectively about mechanical engineering activities with the engineering community and with society at large, such as, being able to comprehend and design effective documentation, make effective presentations and give or receive clear instructions.
PO 11	<b>Project management and finance:</b> Demonstrate knowledge and understanding of core engineering and management principles to manage projects in multidisciplinary environments as an individual, a member or leader of a team.
PO 12	<b>Life-long learning:</b> Recognize the need for life-long learning in the broadest context of technological change and have the ability to engage independently.

#### PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1	Graduates will be able to apply necessary mathematical and advanced software tools for design, analysis and fabrication of components used in the field of mechanical engineering.
PSO 2	Students will be able to gain knowledge about engines, machineries and develop critical skills to analyze the cause and effect of complicated mechanical processes.
PSO 3	Graduates will be able to gain team spirit for working in industrial projects as well as pursuing higher studies to contribute in mechanical engineering research and development.