



CURRICULUM ESSENTIALS

MECHANICAL ENGINEERING

VISION

To develop responsible citizens who would 'think global and act local' and become the change agents of society to meet the challenges of future.

DEPARTMENT 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.

Program Educational Objectives (PEO)

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:

PEO 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.

PEO 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.

PEO 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.

Program Outcome (PO)

P01. ENGINEERING KNOWLEDGE:

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

P02. 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.

P03. 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.

P04. 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.

P05. MODERN TOOL USAGE:

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

P06. 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.

Program Outcome (PO)

P07. ENVIRONMENT 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.

P08. ETHICS:

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

P09. INDIVIDUAL AND TEAM WORK:

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

P010. 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.

P011. 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.

P012. 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 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.