Pandit Deendayal Petroleum University (PDPU), Gandhinagar
School of Technology
Department of Mechanical Engineering
M. Tech in Mechanical Engineering (Design)

About the Program

In today's ever changing and dynamic requirements of specialized design in industry, research and academia are growing in leaps and bounds. Demand for disruptive technologies is the norm of the day. To meet this ever raising challenges, the talent pool has to be created to cater the needs of the market. Effective engineering design is one among those prominent areas that are the need of the hour. The Masters course titled "Mechanical Engineering (Design)" has been designed to meet this challenge.

The course has been prepared with a pedagogy involving various core design streams namely Fundamentals of Materials and Selection in Design, Product Design and Realization in Design, Computational and Numerical Techniques in Design, Vibration and condition monitoring and Optimization techniques in Real-time applications. The Mechanical Engineering (Design) post graduate shall be ready to solve real time design challenges be it in industries or research organizations or academia.At the end of the course, the Graduates of the program will be able to:

- Understand the fundamentals of
    - Design Principles and its applications
    - Vibration Analysis and New Product Development
    - Utility of Rapid Prototyping and Machine Learning in current scenario
    - Programming languages for Modelling and Simulation
    - Advanced Materials and Composite Design
    - Application of Design and FEA Softwares

- Have knowledge of modelling and optimizing the mechanical design components.
- Able to apply mathematical and physical laws to understand the physics of the analysis.
- Able to implement different experimental tools and techniques to analyse the dynamic and static state of system.

Scope

Department of Mechanical Engineering has envisioned the need of mechanical design professionals according to current market scenario and start two-year PG program as M. Tech in Mechanical Engineering Design. This program aims to cater the need of current demand of mechanical design professionals/engineer and numerous opportunities across various organizations. The curriculum is design so as to equip graduates on basic theoretical information along with hands-on experience with modern tools and techniques such as Design and analysis software, vibration analysis, data acquisition system, composite material fabrication and analysis, 3D printing etc.

Who is eligible to apply?

B.E. / B. Tech. or equivalent in Mechanical Engineering with minimum 60% or CPI/CGPA of 6.5 on a 10 point scale.

Pre-requisite:

Students are expected to have good background in mathematics and mechanical engineering subjects. Any programming experience would be an added advantage.

About Curriculum

The curriculum for the course has been designed by referring the curriculum of reputed Indian and Foreign Universities. It is further fine-tuned as per the industry requirement.

The curriculum has been structured in three phases:

1. Core Courses: The core courses provide critical understanding of theoretical and practical issues related to mechanical components design.

2. Elective Courses: Elective courses are designed and offered as per current industry and research requirement.

3. Industrial Internship and Projects: The objective is to offer opportunities to students according to the need of industry/research organization.