

# Mechanical Engineering Laboratories

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The Mechanical Engineering students has at their disposal many laboratories and facilities that help them understanding theories and obtain the required hands on experience in all aspects of mechanical engineering. The laboratories include Basic Mechanical Workshop, Manufacturing process lab I &II &III, Fluid Machinery, Design Of Machinery Lab, Mechanical Measurement laboratory, Dynamics of Machinery lab, Computer Aided design and Simulation Lab, Thermal Lab I & II.

## **Fluid Machinery**

The Fluid Mechanics Lab provides students with several tools to learn the basic principles of fluid dynamics, including experimental apparatus such as the Bernoulli's Principle demonstrator, the Horizontal Osborne Reynolds demonstrator, the Stability of a Floating Body experiment, Pitot-Static tube apparatus, and the Orifice and Jet Velocity apparatus.

## **Manufacturing process lab**

The Manufacturing Laboratory covers teaching, research and consulting in various manufacturing processes including multi-axis CNC machining, flexible manufacturing, metal spinning, laser cutting, high pressure water jet cutting, electric discharge machining, plastic injection moulding, metal cutting, casting, rapid prototyping, extrusion and friction and wear. There is also a Sustainable Manufacturing (or Life Cycle Engineering) laboratory.

## **Basic Mechanical Workshop**

This workshop mainly deals with the basic workshop & electrical elements. The workshop can accommodate latest facilities for basic workshop practices. The mechanical lab consists of Fitting Shop, Sheet Metal Shop, Foundry Shop, Welding Shop, Carpentry Shop.

## **Thermal Engineering Lab**

Thermal engineering lab helps the student to acquire knowledge about the working of various kinds of engines and engine components. The lab also helps the students in studying about air-conditioning and refrigeration systems. The various kinds of efficiency tests on engines are also conducted in this laboratory.

## **CAD/CAM Lab**

Computer aided design/drafting and computer aided manufacturing lab deals with the most modern technology of merging computer in production industry. The lab helps the student to create their own products in the computer software and get the products manufactured using CNC machine. The lab is equipped with most modern softwares such as Cadian Mech, Solid Edge ST-3, Femap Analysis 10.2, Cam Express etc.