Hindusthan College of Engineering and Technology

Coimbatore- 641032

Department of Mechanical Engineering

Centre of Excellence

Digital and Fabrication Lab

Objectives

Digital Fabrication lab is established in 2015 with well-trained faculties and aspired to improve student's skills and hands-on experience in these fields. The main objective of Digital Fabrication Lab is to undertake industrial consultation for performing reverse engineering, calibration of measuring instruments, 3D Printing and also providing training for the students.

Scope

- To perform Calibration of instruments
- To obtain High-speed acquisition to measuring
- To measure deviation maps from CAD for industrial products
- To analyse deviation maps from CAD for reverse engineering work
- To check angularity, circularity, symmetry, cylindricity of industrial shafts

Facilities available

- Coordinate Measuring Machine (CMM)
- Profile Projector
- Autocollimator
- 3D – Printer

Using CMM, lot of research work have been done for reverse engineering and concurrent engineering. Number of consultancy work have been done in the above said fields.

Consultation works done:

- Implementation of Concurrent Redesign & Manufacture procedure for an Automotive Component.
- Implementation of Reverse Engineering for Crankshaft Industry.

Digital Fabrication Lab Trainers:

Mr. S. Alagar, AP/Mech,
Mr. G. P. Arun Babu, AP/Mech
Mr. N. Dhayananthan, AP/Mech
Mr. C. A. Jagadish, AP/Mech
Dr. P. N. Karthikeyan, AP/Mech
Mr. K. Ramesh Kumar, AP/Mech
Mr. M. Senthil Kumar, AP/Mech

Lab Activities :

Industry Powered Laboratory: Virtual Thermal Cutting Lab

Hindusthan College of Engineering and Technology recognized as Skill Development Centre for Welding and Thermal Cutting

HICET - Virtual Thermal Cutting Lab is established in 2016, to enhance student's skill and upgrade their hands on experience in this domains.

Messer Cutting Groups have pioneering experience in the field of Thermal Cutting and Welding, they have the distinction of bringing in new products in this field right from our inception in 1898. They also have a full-fledged manufacturing facility at Coimbatore replete with a vibrant R&D for new product development and bringing the latest in the field of Thermal Cutting to India. This is one among the five factories, they have worldwide and has been exporting machines to the west right from day 1.

Messer Cutting Groups assisted HICET for setting up a Thermal Cutting Technology Lab and impart quality inputs to the interested students in thermal cutting techniques. They provide dedicated Welding and Cutting training facility to HICET students. Messer

Executives take out time for imparting training on the industrial trends and needs in this field and make in more employment centric.

Our scope of this HICET - Virtual Thermal Cutting Lab is to provide skill development in the areas of welding and thermal cutting. It inspires the students to solve problems, accelerates the productivity, and gives the confidence to continually innovate. In close collaboration with industry, this innovative program has been designed to bridge the recognized gap between state-of the-art technology, academia and current industry requirements in the area of welding and thermal cutting. It will be suitable for all technological disciplines including Mechanical, Mechatronics, Aeronautical and Automobile Engineering.

HICET - Virtual Thermal cutting Lab Setup: Virtual Thermal Cutting Laboratory is fully equipped with the latest setup.

- Display stand with samples which are cut with Oxy fuel, Laser & Plasma: 10 samples bar coding.
- A 42 inch TV with HDMI port
- A Laptop with HDMI port with videos of cut samples and training materials.
- A Bar code Scanner.

HICET - Virtual Thermal cutting Lab Activity:


OXY-FUEL (Flame) CUTTING


TYPES OF PLASMA CUTTING
1. Dual Gas
2. Water Injection
3. Air Plasma
4. High Tolerance Plasma
PLASMA BEVEL HEAD


TYPES OF PLASMA CUTTING