

## Departmental Activities

In addition to the regular and complete syllabus coverage in the classrooms, our department has maintained a conscious and thriving existence in related activities

- ROBOCON CLUB
- SAE BAJA CLUB
- AEROMODELING CLUB
- E - YANTRA CLUB



## OUR PLACEMENT PARTNERS



**GANPAT UNIVERSITY**  
U V PATEL COLLEGE OF ENGINEERING



# U V PATEL COLLEGE OF ENGINEERING



**MECHATRONICS, MECHANICAL & AUTOMOBILE  
ENGINEERING DEPARTMENT**

## GANPAT UNIVERSITY - U V PATEL COLLEGE OF ENGINEERING

Ganpat Vidyanagar-384012

Mehsana-Gozaria Highway, Mehsana (Gujarat).

website: [www.uvpce.ac.in](http://www.uvpce.ac.in)

Email: [hodmc.uvpce@ganpatuniversity.ac.in](mailto:hodmc.uvpce@ganpatuniversity.ac.in)

[hodme.uvpce@ganpatuniversity.ac.in](mailto:hodme.uvpce@ganpatuniversity.ac.in)

Ph.: +91 2762 286080, 286805,

+91 7567276276, +919925103100



## MECHATRONICS AN EMERGING TECHNOLOGY DOMAIN



Mechatronics is an interdisciplinary branch of engineering combining mechanical engineering, Electronics, computers and software, control Engineering and including hydraulics and pneumatics, robotic etc.



The developments in the field of electronics computer technology, and hydraulics and pneumatics and avenues in the research and development of machines , equipments , process and controls and plants and machinery. As a result there is a requirement for technical and manpower having knowledge and skills in interdisciplinary areas covering these fields.

This branch of engineering was formalized by Japanese in seventies and subsequently adopted by European countries. Now, it is offered at undergraduate and post graduate levels in various institutions in U.K and U.S.A and other countries and also in India.

The curriculum is designed based on requirements of skills and knowledge for technical personnel working in the field a mechatronics engineering is employed for design , manufacture, installation, maintenance and operations of plants, machinery , and equipments which are automated and controlled (by software and hardware), in addition to shop floor duties.



## MECHANICAL ENGINEERING

An evergreen branch of engineering, it requires little introductions the students of mechanical engineering acquires skills in the fields of design, production and management, thermal engineering, with advanced electives in subjects like CAD/CAM, Internal Combustion Engines, Refrigeration and Air conditioning, Automobile etc. they are exposed to the real life skills sets required through workshop exercises, industrial training and project work where all their knowledge and skills gained to fruitful use.

## LABORATORIES

Various Laboratories are established with complete equipments and infrastructure facilities for effective practical teaching of different courses. Each Lab is used by students freely with careful guidance from instructors and faculty. Some of the important laboratories with equipments are:



### Kinematics and Dynamics Laboratory

Vibration bench Link Mechanisms, Balancing Machine, Whirling of Shafts, Torsional Vibration Equipment, Gyroscope, Governor Apparatus, Models, Etc..



### Hydraulics & Pneumatics Lab

Hydraulic Experimental Set-up bench with various control valves, Cylinder, Pistons, Actuators, Sensors, Power pack. Pneumatics Experimental Test Bench, Air Compressor, PLC Control Software. Hydraulic - Pneumatic Kits, Input Output Interface Kit.



### CAD Lab

Computers with High Configurations AutoCAD, SolidWorks, SolidEdge MATLAB, LabVIEW, ANSYS Internet Lab for students.



### Robotics and Control Lab

Mini Trainer Robot, PIC Controller Programmer, PLC Programmer

## Microprocessors & Microcontrollers

Microprocessor 8085 kit, ADC, DAC Card, Stepper Motor, Education Practice Board for MINI 51, Microprocessor Training Kit, CORTEX M4 Microcontroller Board, and Many More.



## CAM and Manufacturing Technology

CNC Machining Center, Conventional Machine Tools, Lathes, Milling Machine, Shaping Machines, Grinding Machine, Drilling Machine, Electro-Discharge Machine, Unigraphics CAM NX-8, CAM Software, Welding (Arc, Gas, TIG, MIG), and Many More.



## Material Technology Lab

Metallurgical microscope with C.C.T.V. System, Ultrasonic Flow Detector, Heat Treatment furnaces, Image Analyzer, Jominy end quench Apparatus, Tensometer, Wear Apparatus



## Metrology and Instrumentation Lab

Various Instruments for linear, angular and spatial measurement Mechanical, Electrical and Electronics Measuring equipment / Instruments.



## Fluid Power Engineering Lab

Test rig for Centrifugal Pump, Gear pump apparatus, Set-up for friction losses in Pipes, Impact of Jet, Francis Turbine test rig., Metacentric Height, Pelton Wheel Turbine test rig, Notches etc.

