Darshan UNIVERSITY

योग: कर्मसु कौशलम्

# B.Tech.

## MECHANICAL ENGINEERING

A **technical** **under-graduate** program that focuses on **skill & practical oriented** education to make students **industry-ready**

# Mechanical Engineering

It is the application of science and technology to solve real-world problems. The program emphasizes the strong theoretical fundamentals of mechanical engineering by imparting practical and hands-on experience. The field of mechanical engineering touches virtually every aspect of modern life, from mobile phones and biomedical devices to aircraft and power plants.

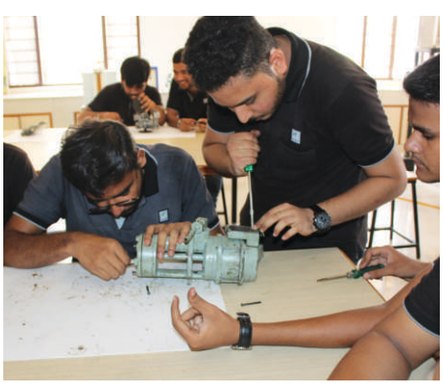
***The program is ideal for the students who wish to pursue their career in industrial sectors like Automobile, Aviation, CAD/CAM, Defence, Energy, FMCG, HVAC, Manufacturing, Marine, Railways, Oil & Gas, Pharma, Robotics and more...***

# B.Tech. in Mechanical Engineering @ Darshan University

- Highly Qualified, Well Experienced, Industry Linked and Dedicated Faculties.
- A strong theoretical foundation for crystal clear fundamentals.
- Continuous upgradation of laboratories to meet the dynamic industry demands.
- Focus on skill development activities which makes students industry-ready.
- Exposure to cutting-edge technologies through seminars, workshops and expert talk.
- Students have privilege to earn & learn by participating in live consultancy work.
- Excellent placement track record.

# Skill Development Activities @ DU

| Sem.-3 | Sem.-4 | Sem.-5 | Sem.-6 | Sem.-7 | Sem.-3 to 8 |
|---|---|---|---|---|---|
| AutoCAD | Creo | MS-Office | AC Troubleshooting | AR/VR | Mock Interview |
| Material Testing | Casting Simulation | NX Software | FEA | CNC | Aptitude & Technical Test |
| GD&T | Flow Measurement | Welding | PLC/SCADA | Rapid Prototyping | Group Discussion |
| Measurement | Pump Troubleshooting | Machine Tools | Pneumatics | Robotics | Soft Skills |



## Syllabus

### Semester-1

- Mathematics - I
- Office Automation Tools
- Basics of Electrical Engineering
- Engineering Drawing
- Workshop
- Environmental Studies

### Semester-2

- Mathematics - II
- Science for Mechanical Engineering
- Introduction to Python Programming
- Electronics Workshop
- Elements of Mechanical Engineering
- Communicative English

### Semester-3

- Mechanical Measurement & Metrology
- Mechanics of Solids
- Engineering Thermodynamics
- Industrial Drafting Lab
- Kinematics and Theory of Machines
- Indian Constitution

### Semester-4

- Advanced Engineering Mathematics
- Material Science and Metallurgy
- Fluid Mechanics
- Fundamentals of Machine Design
- Manufacturing Processes - I
- Solid Modelling Lab

### Semester-5

- Fluid Power Engineering
- Heat Transfer
- Machine Design - I
- Manufacturing Processes - II
- Professional Elective - I
- Open Elective - I

### Semester-6

- Applied Thermal Engineering
- Machine Design - II
- Dynamics of Machinery
- Finite Element Analysis Lab
- Professional Elective - II
- Professional Elective - III
- Open Elective - II
- Career Orientation

### Semester-7

- Operation Research
- Smart Manufacturing
- Professional Elective - IV
- Professional Elective - V
- Minor Project
- Life Management Skills

### Semester-8

- Internship / Major Project

## Electives

**Futuristic Technologies:** IOT & Applications, Extended Reality (AR/VR), Unmanned Aerial Vehicle (Drone), Industrial Automation & Robotics etc.

**Design:** Rapid Prototyping, Product Design & Development, Computer Aided Design etc

**Thermal:** Power Plant Engineering, Refrigeration & Air-Conditioning, Renewable Energy Engineering, Energy Efficiencies in Industrial Utilities, Turbomachines etc.

**Manufacturing:** Industrial Engineering & Management, Quality and Reliability Engineering, Production Technology, Entrepreneurship, Advanced Manufacturing Processes, Automobile Engineering etc.

: Unique approach of the department to develop proficiency of students in futuristic and latest technologies

## Cutting-Edge Laboratories

**AR/VR Lab**
Design Platforms & Work Stations | AR Kit | Oculus Quest-2

**Robotics Lab**
Arduino & IoT based Starter Kit | PLC based Robotic Arm | Line & Path Follower Robot

## Cutting-Edge Laboratories

**Rapid Prototyping Lab**

FDM & SLA 3D Printers | 3D Printing Pen | 3D Scanner | SLA Curing Chamber

**Pneumatics Lab**

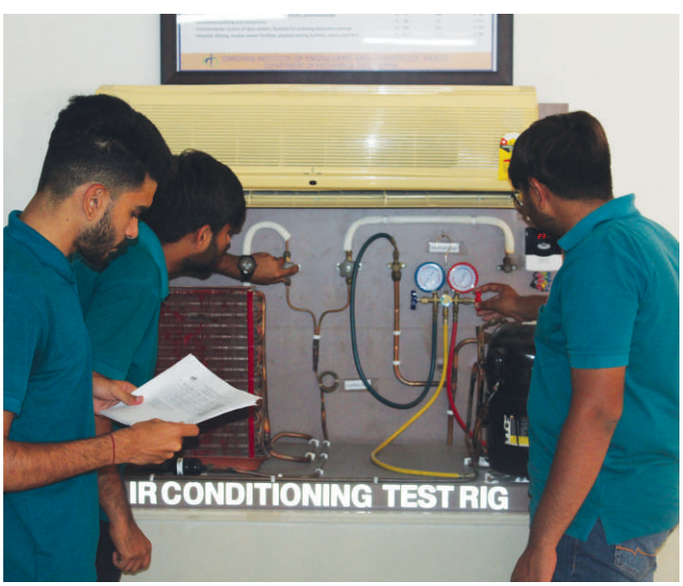
Basic & Electro Pneumatic Kit | Automation Simulation Software

## Lab Facilities

- Automobile Lab
- CAD/CAM Lab
- Fluid Mechanics & Machinery Lab
- Heat Transfer Lab
- I. C. Engine Lab

## Lab Facilities

- Kinematics & Dynamics Lab
- Material Science & Metrology Lab
- Mechanical Workshop
- Refrigeration & Air Conditioning Lab
- Theory of Machine Lab



# Dean

**Dr. Jignasa P. Mehta**
Dean & Head, Institute of Engineering & Technology
Ph.D. (Mechanical Engineering)

Experience : 28 Years
Phone : 9427495745, 9727747319
Email : mechanical@darshan.ac.in

Dr. Jignasa Mehta has completed her B.E. (Mechanical) from L.E. College, Morbi. She was awarded two Gold Medals one in B.E. – Mechanical and one in overall engineering branches at Saurashtra University. She has completed M.E. (Machine Design) from BVM, Vallabh Vidyanagar and Ph.D. (Mechanical Engineering) from Sardar Patel University, Vallabh Vidyanagar.

She has started her professional career with the ADICO group, Rajkot as an Engineer. Prior to joining the institute, she has worked at V.V.P - Rajkot for 24 years and also served as Head of the Mechanical Engineering Department for 12 years. She has published 18 papers in various reputed international Journals & Conferences, she is also a member of the editorial board and reviewer for various international journals.

At present, she is also working as an Independent Technical Director of Rolex Rings, Rajkot.

# Key Faculties

### Dr. Ashvin Makadia

- Ph.D., M.Tech. (CAD/CAM)
- 29 Years Experience
- ashvin.makadia@darshan.ac.in
- 9426429122
- CAD/CAM, Design

### Bhavin Vegada

- Ph.D. (Pursuing), M.Tech. (Thermal)
- 12 Years Experience
- bhavin.vegada@darshan.ac.in
- 9825366601
- Heat Transfer, Fluid

### Mukesh Vekaria

- Ph.D. (Pursuing), M.Tech. (Thermal)
- 16 Years Experience
- mukesh.vekaria@darshan.ac.in
- 9998986259
- Thermal, I.C. Engine

### Vimal Limbasiya

- M.Tech. (CAD/CAM)
- 12 Years Experience
- vimal.limbasiya@darshan.ac.in
- 9879360219
- Machine Design, CAD/CAM/CAE

### Paresh Bhuva

- M.E. (Machine Design)
- 13 Years Experience
- paresh.bhuva@darshan.ac.in
- 9879254198
- CAD, Design

### Jinesh Tank

- M.E. (I.C. Engine & Automobile)
- 13 Years Experience
- jinesh.tank@darshan.ac.in
- 7567252009
- I.C. Engine, Automobile

### Sagar Kanjiya

- M.E. (Thermal Engineering)
- 9 Years Experience
- sagarkumar.kanjiya@darshan.ac.in
- 9408040240
- Thermal, Fluid

### Paras Vegada

- M.Tech. (Pursuing), B.E. (Mechanical)
- 13 Years Experience
- paras.vegada@darshan.ac.in
- 9724340710
- Manufacturing, Metrology

### Ankur Tank

- B.E. (Mechanical)
- 12 Years Experience
- ankur.tank@darshan.ac.in
- 9712804466
- Automobile, CAD/CAM

### Yash Tank

- M.Tech (Manufacturing Engineering)
- 4 Years Experience
- yash.tank@darshan.ac.in
- 9727673689
- Robotics, Additive Manufacturing

> "If a child can't learn the way we teach,
> may be we should teach the way they learn."
>
> **- Ignacio Estrada**

## Mechanical Consultancy Cell (MCC)

At MCC, we understand the importance of innovating and customizing the existing products of our customers in the minimum possible time frame.

Our capabilities in providing solutions throughout the product development life cycle from conceptual design, industrial and mechanical engineering design, CAD modeling and detailing, simulation, analysis and prototyping makes MCC a unique one stop solutions provider for Engineering Services.

### Services Offered

**CAD & CAE CELL**

- Product Development
- Part Modeling
- Finite Element Analysis
- Optimization
- Engineering Drafting
- Jig & Fixture Design
- Press Tool Die Design

**RAPID PROTOTYPING CELL**

- Prototype Design
- 3D Scanning
- 3D Printing

**MANUFACTURING CELL**

- Computerized CNC Programming
- CNC Job work

**CALIBRATION CELL**

NABL Approved Calibration Facilities of

- Vernier Calipers
- Micrometers
- Dial Indicators
- Height Gauges
- Bevel Protectors

**AR STUDIO**

- Augmented Reality for
  - Product Manufacturing
  - Service & Maintenance
  - Sales & Marketing
- Development of AR Experiences with
  - Image Target
  - Plane Target
  - Model Target

## Earn While You Learn

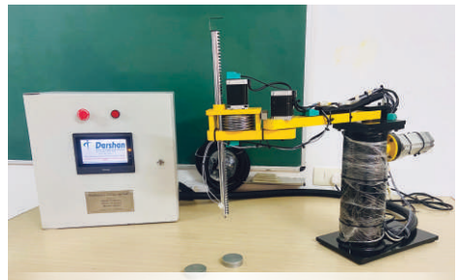
The Earn While You Learn program provides an unique opportunity to the students to showcase their talent and earn financial rewards in industrial projects carrying out by Mechanical Consultancy Cell.

## MoUs

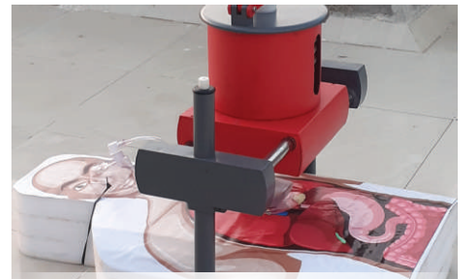
| | | | | |
|---|---|---|---|---|
| ROLEX ROLLED RINGS | GM G M ENGINEERING PVT. LTD. | Rüpkala | AMUL Group of Companies | ANMECX |
| MINIMATIC An ISO 9001:2008 Certified | PELICAN | GUJARAT INTRUX | ADHYA ENGINEERS | PHOENIX CALIBRATION |
| KE KISHAN EQUIPMENTS RAJKOT | Fieldmarshal | Amtech Investment Casting Pvt. Ltd. | BLOOD ROTATING GENIUS | RAVI Metal Treatment Expert Heat Treaters |
| iTech Advance Inspection Services | UNIVERSAL Designovation Lab | CMK CMK ELECTRO POWER PVT LTD. (An ISO 9001:2008 Certified Company) | MASCOT CNC Tools & Equipments Pvt. Ltd. | SPEEVO HIGH EFFICIENT FAN |

## Projects @ Glance

Drone for Agriculture Application

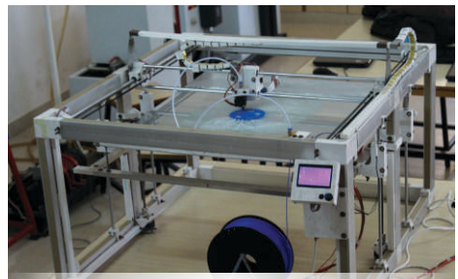


Pick & Place Robotic Arm



Cardio-pulmonary Resuscitation Machine

Multipurpose Wheel Chair



3D Printer

Artillery Gun

## Activities @ DU (Apart from Curriculum)

Expert Talk

Technical Workshop

Industrial Visit

Presentation

Mini Projects

Mock Interview

# Our Students @ Reputed Companies

**Him Poojara**
Batch 2010-14
JOHN DEERE

**Viraj Donga**
Batch 2011-15
Godrej

**Vasim Tank**
Batch 2011-15
JOHN DEERE

**Pallav Vakharia**
Batch 2011-15
Infosys

**Jaydip Jarsaniya**
Batch 2012-16
Tech Mahindra

**Vishal Dholiya**
Batch 2011-15
HÄFELE

**Priyank Parmar**
Batch 2009-13
Kilburn Chemicals Ltd

**Vivek Limbad**
Batch 2009-13
LARSEN & TOUBRO

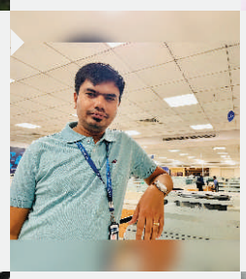
**Karan Makwana**
Batch 2012-16
Nidec

**Neel Jagani**
Batch 2009-13
LARSEN & TOUBRO

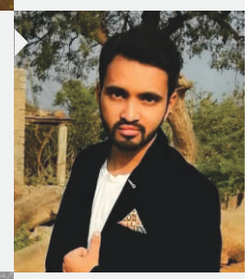
**Meet Kapdi**
Batch 2016-20
Reliance

**Shyambal Ghadiya**
Batch 2011-15

**Dev Makwana**
Batch 2011-15
JYOTI



**Akash Hindocha**
Batch 2011-15
LARSEN & TOUBRO



**Divyesh Savaniya**
Batch 2014-18
Hitachi Energy

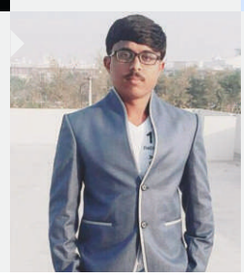
**Bansal Ajudiya**
Batch 2012-16
THERMAX

**Ashish Amrutiya**
Batch 2010-14
Reliance

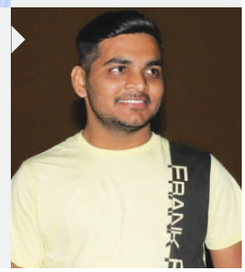
**Darshak Joshi**
Batch 2017-21
ATUL

**Mayur Ghevariya**
Batch 2010-14
torrent POWER

**Nikunj Delvadiya**
Batch 2011-15
Reliance



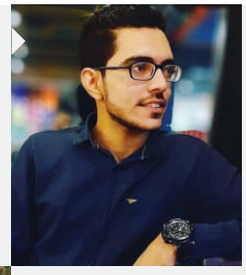
**Brijesh Jethava**
Batch 2018-21
accenture



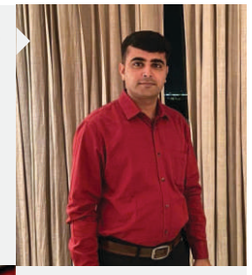
# Our Students @ Reputed Companies

**Sanket Kalavadiya**
Batch 2011-15
AARTI INDUSTRIES LIMITED

**Jay Joshi**
Batch 2012-16
adani Solar



**Umesh Parmar**
Batch 2009-13
JYOTI



**Sagar Visavelia**
Batch 2011-15
SYNNOVA GEARS & TRANSMISSIONS PVT. LTD.

**Dhaval Maru**
Batch 2012-16
PEGASUS

**Nilay Raval**
Batch 2009-13
DEEPAK PHENOLICS

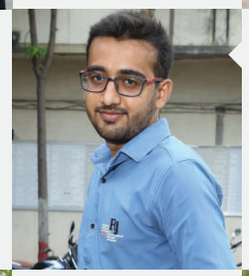
**Kumarpal Belani**
Batch 2013-17
FinOlex INDUSTRIES

**Jay Chavda**
Batch 2012-16
Hitachi Energy

**Vishal Paghadal**
Batch 2014-18
Member IMC Group
Tungaloy

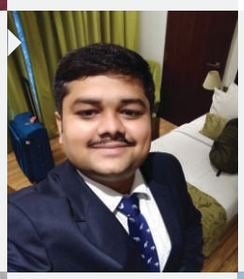
**Hardik Solanki**
Batch 2013-19
SHAKTIMAN
MAKING AGRICULTURE MORE ECONOMICAL

**Ankit Mursaniya**
Batch 2014-18
JAIVEL aerospace



**Nilay Panchasara**
Batch 2016-20
FUJI ROBOTICS

**Vishal Katudiya**
Batch 2011-15
NORD DRIVESYSTEMS



**Mayur Rajodiya**
Batch 2011-15
macpower

**Manthan Kanjariya**
Batch 2018-21
NOVA TECHNOCAST PVT. LTD.

**Harshad Sutariya**
Batch 2009-13
Reliance

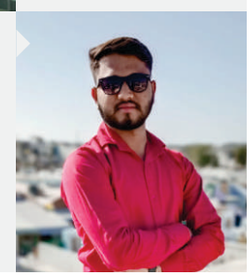
**Nikunj Detroja**
Batch 2012-16
LARSEN & TOUBRO

**Devendra Devaiya**
Batch 2012-16
Reliance

**Milind Vagadia**
Batch 2014-18
Indiamart

**Prakhar Upasani**
Batch 2015-19
CILICANT

**Bhautesh Vara**
Batch 2017-20
Vestas

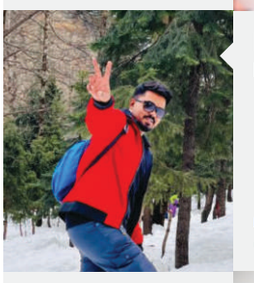


# Our Students @ Government Job

**Gaurav Zalariya**
Batch 2009-13

**Nirmal Patel**
Batch 2013-17

**Palash Ukani**
Batch 2010-14



**Hitesh Patel**
Batch 2012-16

**Divyaraj Zala**
Batch 2012-16

**Kishan Saravaiya**
Batch 2013-17

**Mayur Joshi**
Batch 2013-17

**Darshil Mehta**
Batch 2012-16

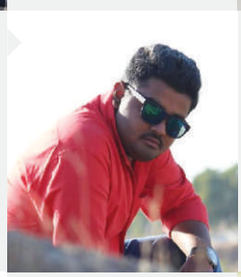
**Mahendra Barad**
Batch 2013-17

**Devendra Jadeja**
Batch 2010-14

**Shyam Pisavadia**
Batch 2012-16

**Ravi Kathad**
Batch 2013-17

**Harnish Vyas**
Batch 2018-21



**Bambhaniya Jaydip**
Batch 2012-16

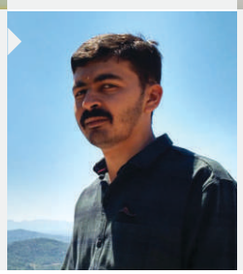
**Mayur Kasundra**
Batch 2009-13

**Usman Kherani**
Batch 2010-14

**Disha Gondiya**
Batch 2010-14

**Kishan Kanani**
Batch 2010-14

**Purvaraj Jadeja**
Batch 2009-13



**Akshay Barad**
Batch 2012-16

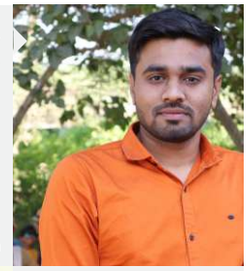
**Hiren Ranwa**
Batch 2015-19

# Our Student Entrepreneures

**Sojitra Kaushik**
Batch 2013-17
Jenisha Automation

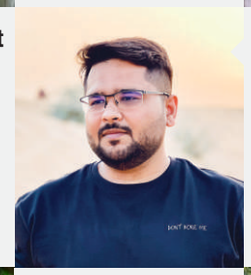
**Ponkiya Madhur**
Batch 2009-13
Ironide Engineering

**Baravaliya Nirav**
Batch 2013-17
Jenisha Automation



**Dudhatra Hem**
Batch 2011-15
Uni-Tech Casting LLP

**Sanghani Sanket**
Batch 2011-15
Austramax Engineering



**Vaghela Jigar**
Batch 2010-14
Playway Systems

**Dhorajiya Sandip**
Batch 2009-13
SD Fitness Equipment

**Chaniyara Gunjan**
Batch 2013-17
Satyam Techno

**Navapariya Vaibhav**
Batch 2014-18
R. K. Auto Tech

**Kachhela Rakesh**
Batch 2012-16
Pramukh Solutions

**Kyada Tanmay**
Batch 2013-17
CAD-SOL Design Solution

**Nonghanvadra Jenish**
Batch 2012-16
Jay Mangal Engineering

**Der Mohit**
Batch 2011-15
Detailing Devils

**Ranpariya Uttam**
Batch 2012-16
Silver Foils Pvt. Ltd.

**Rabadiya Devid**
Batch 2011-15
Detailing Devils

**Jani Maulik**
Batch 2009-13
Krishna Plast

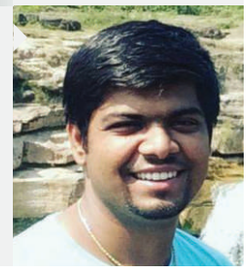
**Bhensdadia Milan**
Batch 2014-18
Phi Tech Solutions

**Usdad Ankit**
Batch 2013-17
Cognova Heat Treatment LLP

**Thakar Priyank**
Batch 2011-15
Karma Equipments Services

**Hapaliya Brijesh**
Batch 2014-18
Acme Industries

**Hansaliya Rishit**
Batch 2011-15
Karma Equipments Services



## Placement @ Glance

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| Registered | 41 | 41 | 30 | 24 |
| Placed | 41 | 41 | 30 | 24 |
| Placed Percentage | 100% | 100% | 100% | 100% |
| No. of Companies | 26 | 43 | 22 | 24 |

## Top Recruiters @ DU

Reliance
LARSEN & TOUBRO
adani
Godrej
NAYARA ENERGY
AARTI INDUSTRIES LIMITED
MAGNETI MARELLI
JYOTI
ABB
ATUL AUTO LIMITED
GN ALTECH
ORBIT
EPP Composites Pvt. Ltd.
GM
macpower
DELTA Technocast Pvt. Ltd. THE INVESTMENT CASTING COMPANY
dsi
CAPTAIN Pioneer of The Mini Tractor
NIRMA
ASSA ABLOY Global Solutions
R&B TUFF
UTC
IMPEL MOTORS
om
JAIVEL aerospace
OMNITECH
ORPAT
Mahindra CIE
HI-BOND CEMENT Bonding Nation...
SYNNOVA SYNNOVA GEARS & TRANSMISSIONS PVT. LTD.
COGNOVA THE SCIENTIFIC ART
BALAJI MULTIFLEX PRIVATE LIMITED
STEELCON
Jay Jalaram Precision Component LLP
Shilpan

## Scan QR Codes

Department of Mechanical Engineering

Mechanical Laboratories

Mechanical Consultancy Cell

Career after Mechanical Engineering

Campus Video


Darshan UNIVERSITY
योग: कर्मसु कौशलम्

**University Campus**
Rajkot-Morbi Highway,
Rajkot – 363650.
9727747310 / 11
www.darshan.ac.in

**Counseling Centre**
401, Lotus Arcade, 8 - Royal Park,
Between KKV Circle & Indira Circle
150 Ft. Ring Road, Rajkot - 360005.
9712804466, 9408040240