

# CHAMOS MATRUSANSTHA

## DEPARTMENT OF

# MECHANICAL ENGINEERING

(Estd. 2001)

### Scope of Mechanical Engineering

- Mechanical engineering is a discipline that applies the principles of engineering, physics & materials science for design, analysis, manufacturing & maintenance of mechanical systems.
- Mechanical engineering provides a foundation to the entire engineering education. Hence, it is known as 'Mother' discipline.
- Mechanical Engineers focus their attention towards emerging areas such as nano technology, development of composite materials, bio-medical applications, environmental conservations etc.

### About the Department

The CHAMOS Matrusanstha Department of Mechanical Engineering was started in 2001. It offers following programs.

#### Bachelor of Technology with *Minor Specialization*

- Mechanical Engineering (120 Seats)
- *Robotics & Artificial Intelligence*
- *Electrical Vehicle Systems*

#### Master of Technology

- Advanced Manufacturing Technology (18 Seats)
- Thermal Engg. (18 Seats)

#### Doctor of Philosophy

- Research Scholars (35 Pursuing)

### Grants Fetched

- Consultancy and research work: Rs. 1.2 Crore
- Lab development grant (AICTE): Rs. 35 Lac
- Faculty development programs: Rs. 2.90 Lac

### Faculty Strength

- All Faculty members are having research (Ph.D.) exposure.
- The department is enriched with dedicated faculty members trained from IIT, NIT and various universities of repute.

### Professional Society Student's Chapters

- **SAE:** Society of Automotive Engineers.
- **ISHRAE:** Indian Society of Heating, Refrigerating & Air-conditioning Engineer.



### Certification Courses

- FESTO: Certificate Programs on Pneumatics, Hydraulics & Industry 4.0.
- Certificate programs on SOLIDWORKS, ANSYS etc software.

## Faculty Achievement

- **Publications of Journals and Conference Papers : 300 +**
- **Patent:** Device for Handling the Molten Metal
- **Research Projects:**
  - **SMART Foundry 2020**  
Funded By: Technology System Development Program (TSDP) scheme of DST
  - **Time –Varying Performance Evaluation of Boundary Mould Elements**  
Funded By: Research Promotion Scheme (RPS) of AICTE
  - **Experimental Investigation of Nano fluid Thermal Conductivity Enhancement**  
Funded By: Minor Research Project Scheme of GUJCOST
  - **Tribological and Wettability Studies of Nano Structured Thin Films**  
Funded By: Research Promotion Scheme (RPS) of AICTE
  - **“E-Foundry” in collaboration with IIT Bombay**  
Funded By: National Knowledge Network (NKN), and GOI

## Student Achievements

- Team OJASWAT got overall 10<sup>th</sup> rank in the design event for Formula Bharat competition in January 2020 at Coimbatore, Tamilnadu.
- Winner in the “live model presentation” at Institute of Advanced Research Gandhinagar in January 2019.
- 1<sup>st</sup> rank in overall cost presentation in FFS (Engineering design competition) October 2018 organised by FMAE (Fraternity of Mechanical and Automotive Engineers) at Coimbatore, Tamilnadu.
- 1<sup>st</sup> and 2<sup>nd</sup> rank in Anveshan (Student Research Convention) at Interstate Level (West Zone), 2017.
- 1<sup>st</sup> position in national level poster presentation “Go Green Technology on Automotive” in February 2016.
- 1<sup>st</sup> position in ESVC (Electric Solar Vehicle Championship) at Ambala in February 2015.

## Glimpse of 2020



**adani**

**Keyur Savaliya**

Annual Package: 4.1 Lacs



**adani**

**Vraj Patel**

Annual Package: 4.1 Lacs



**torrent**  
POWER

**Yogesh Tharani**

Annual Package: 3.2 Lacs

## GATE: All India Rank



**Rutvik Lathia**

Passout: 2017

GATE AIR: 5



**Chirag Chaudhary**

Passout: 2018

GATE AIR: 151



**Arth Patel**

Passout: 2019

GATE AIR: 1256



Team OJASWAT at FFS India 2017 & 2018 Organised By FMAE



## Events



## National/International Event/Events/ Workshop/Seminar

















GUJCOST, SAEINDIA, ISTE, ISHRAE, AICTE, MRSI sponsored workshops are organized in the various domain of Mechanical Engineering like Fluid Mechanics, Automobile, Materials Processing, Metal Casting, Composites, Nano Coating etc.



## Institute - Industry Interaction

- MOUs with industry associations like GIDC, Vatva and GIDC, V. U. Nagar etc.
- Faculties undergo industry training every year.
- Students of B.Tech. and M.Tech. final year do their projects and dissertation work as an intern with various organizations like ISRO, L & T, Apollo tyres, TBEA etc.
- Faculties have membership of technical bodies like ISTE, SAEINDIA, AMM, IIF etc. and participated in national/international conferences and workshops to enhance their domain knowledge.
- MoU with L&T power training institute to facilitate summer internship.

## Indicative List of Laboratory Facilities

						
Universal Testing Machine (50kN Capacity)	Wear and Friction Monitor	3D Microscope	Magnetron Sputtering Machine	Goniometer	CNC Vertical Machining Centre	Electro discharge machine
						
Multi-Channel Charge Amplifier	Piezo Based Tool Dynamometer	3D Laser Scanner LPX 60	3D Printer	Thermal Imaging Camera	Stir Casting Machine	Multi-fuel, VCR Engine Test Rig

## Research Laboratory

E-Foundry Cell

Surface Engineering Lab

Materials Processing Lab

Manufacturing Technology Lab

Material Testing & Characterization

### FESTO Centre of Excellence

Pneumatics, Hydraulics and Factory Automation.



### Teaching Methodologies & Learning

- Students Centric Learning
- ICT Based Learning
- Group /Team learning
- Project Based Learning
- e-Learning
- Use of Learning Management System

### Students Support and Best Practices

- Use of NPTEL, COURSERA, Team, Google Classroom, SWAYAM, Edmodo and Video Lectures
- Competitive Exams Assistance like TOEFL, GRE, GATE, CAT, Professional Readiness Program
- Alumni Association and Parent-Teacher Association
- Soft Skill Summer Training Programs
- Health Check-up

### Major Software



### Outstanding Attributes

- CBCS (Choice Based Credit System)
- CHARUSAT Sponsored Summer Internship at L&T Power Training Institute -Vadodara
- CDPC (Career Development & Placement Cell)
- Student Counselling
- Project & Dissertation work in reputed research organisation like ISRO, BARC, PRL, IPR etc.

### Prime MOUs



### Our Major Recruiters



mechanical.charusat/



Accredited with Grade 'A' by NAAC



mechanical\_charusat/

### CONTACT US

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