

**FREQUENTLY ASKED QUESTIONS (FAQs)**  
**BTech Mechanical Engineering, GSFC University**

**1. Why should I join mechanical Engineering at GSFC University?**

- BTech Mechanical Engineering is one of the very few programs in Gujarat that offers two specializations to make students industry-ready, 1. Smart Manufacturing 2. Robotics & Automation
- Exposure of working on industrial problems in the State of the art Research labs Additive Manufacturing labs, Robotics e-yantra lab, Design lab and CAD lab with advanced professional software like Ansys and Solidworks
- Prospects of working at the laboratories of GSFC Limited and access to 22 process plants for internship opportunities as well as learning from the industry experts
- Strong industrial linkages and curriculum intend to inculcate skills demanded in the industry
- Making students industry ready as 30 % of the faculty members are highly experienced, Industry Experts
- Inculcating innovation, funding support for innovative projects and extending support for startups through GUITAR (GSFC University Incubation Innovation Technology and Applied Research Council )

**2. What are the specialization offered in Mechanical Engineering?**

In Mechanical Engineering program we offer following specializations.

1. Smart Manufacturing
2. Robotics & Automation

**3. What is Smart Manufacturing and Industrial robotics and Automation?**

It is the move towards digitization of the manufacturing sector which will involve comprehensive interaction/interfacing between various modern technology such as the Internet of Things (IoT), cyber-physical systems, big data, advanced analytics, human-machine interfaces, cloud computing in real-time to form the fourth industrial revolution

Robotics & Industrial Automation refers to the use of control systems, computers and information technology in handling various processes and machinery in the industry. The ultimate aim is to replace manual labour and increase efficiency, speed, and overall

performance. The automated production processes help manufacturers increase their profit potential and meet market expectations. Robotics improves the overall efficiency of a manufacturing process by creating efficient means of completing production tasks.

#### **4. How will the specializations provide an edge to the student compared to a student with general Mechanical Engineering?**

Students will be trained in manufacturing processes, manufacturing systems, systems engineering, IT, Networks and essential shop floor communications. Experiential learning approach will be followed, and students will be gaining hands-on experience in many spheres of technology related to smart manufacturing.

A course in Robotics trains and educates an individual in the following fields,

- Computer-Aided Manufacturing
- Computer Integrated Manufacturing System
- Computational Geometry
- Robot Motion Planning
- Robot Manipulators
- Artificial Intelligence
- Finite element analysis
- Automation in Mechanical Systems
- Engineering Optimization
- Robotics Sensors, Grippers, and Vision
- Kinematics & Dynamics of Robotic Manipulators

#### **5. What are the opportunities for students after graduation with Smart Manufacturing Specialization?**

Being at the forefront of Industry 4.0 and taking advantage of technology will allow manufacturers, big or small, to achieve business outcomes that weren't possible ten years ago, such as improving cost-effectiveness and product quality. IoT enabled technologies will give manufacturers the chance to have full visibility of operations and allow them to be responsive to information about raw materials, inventory, quality, waste, output and customer demands, ensuring that opportunities for improvement are highlighted, and action is taken, saving money, time and improving customer satisfaction and supplier relations.

In all the above operations/activities, a student passing out with the knowledge of smart manufacturing will be able to make real value addition in achieving the desired targets of the industry.

#### **6. What are the different skills students will learn during the BTech Engineering Program?**

- 3D Printing and product development
- Advanced CAD software like Solidworks and Ansys
- CAD softwares like AutoCAD
- Basic Programming skills
- Creativity and Value Engineering
- Analyzing, designing and development software systems

#### **7. How does Mechanical Engineering Program provide industrial exposure to students?**

- Compulsory industrial internship of 4 weeks in every semester starting from the first year itself and the opportunity to work on the projects offered by industry partners/organizations like Indian Oil Corporation Ltd (IOCL), Gujarat State Fertilizers & Chemicals Ltd. (GSFC), L&T, Gujarat Alkalies and Chemicals Ltd. (GACL), Gujarat Electricity Board (GEB), Gujarat Institute of Disaster Management (GIDM) and others.
- Industry driven and flexible curriculum designed with the support of industry experts appointed on Board of Studies
- Expert talks, Symposiums, Projects and Hands-on experience from industry resources because of strong industry connects. Strong linkages with professional groups like ISHRAE and their student chapters inculcate practical knowledge among students and build competitive spirit and collaboration with students from other universities. MoUs with GIDM, NASSCOM, PTC, Atos and foreign universities.

#### **8. What are the infrastructure facilities in the Mechanical Engineering Program?**

- Research labs such as Supercomputer Lab (PARAM Shavak DL-GPU) & Design IoT Lab, sponsored and supported by Gujarat Council on Science & Technology (GUJCOST), Department of Science & Technology ( DST)
- High Tech classrooms with Digital Podium and Well-Equipped Laboratories
- Specialized laboratories for Additive Manufacturing and CAD for core subjects
- Digital Campus System and Digital Library to access e-resources

**9. Is there any student chapter in the Mechanical Engineering program?**

GSFC University has a student chapter of the Indian Society of Heat Ventilation & Air Conditioning Engineers (ISHRAE). Participating students get advantages of job opportunities in ISHRAE placement activities, funding for research projects related to the industry, professional networking, technical seminars, expert lectures and technical quiz competitions. Seven students won top 3 prizes in inter- university quiz competitions at pan India level organized by a reputed professional engineering group.

**10. What is the placement scenario for B. Tech in Mechanical Engineering?**

- Students of Mechanical Engineering program have secured placements in reputed companies like Reliance, GSFC Ltd., Siemens, Deepak Nitrite, GACL, Axtels and many more.
- Students of Mechanical Engineering program have secured admissions in IITs, top-ranking business schools and prestigious foreign universities

**11. Apart from curricular activities, are there any co-curricular and extracurricular activities or platforms in chemical engineering at GSFC University?**

Along with the course curriculum, the students of Mechanical engineering also participate in

Various co-curricular and extracurricular activities through different student managed clubs

Like Environmental Club, Photography Club, Cultural Club, Sports Club, etc.

**10. What are the facilities available at the campus?**

GSFC University has indoor and outdoor sports facilities, a gym, a medical centre, etc. A fully developed, safe and secured hostel facility with the mess available within the GSFC Fertilizernagar Township for girls and boys. Both the hostel facilities are Wi-Fi enabled and well furnished with entertainment, food and other facilities.

**11. Do you provide Hostel facility?**

Yes. A fully developed, safe and secured hostel facility with a mess is available within the GSFC Fertilizernagar Township for girls and boys. Both the hostel facilities are Wi-Fi enabled and well furnished with entertainment, food and other facilities.

**12. Do you provide transportation facilities to reach GSFC University?**

The University campus can be reached by public transport from Vadodara city. All the buses going to Dashrath village can be used for this purpose. The University also runs buses on chargeable basis as per University timing. The information regarding the same can be collected from the administration office.

**13. Do you provide sports facility?**

Yes. We have additional facility for all the games such as badminton, cricket, basketball, volleyball, swimming, chess, carom, golf, gym etc. Besides, the students will have the opportunity to be trained by recognized coaches and national and international players of the game through the GSFC Ltd.'s sports department on nominal chargeable basis.

**14. Do you provide Hostel facility?**

Yes. A fully developed, safe and secured hostel facility with a mess is available within the GSFC Fertilizernagar Township for girls and boys. There are 71 rooms in boys hostel and 20 rooms in girls hostel . Both the hostel facilities are Wi-Fi enabled and well furnished with entertainment, food and other facilities.

**15. Do you provide transportation facilities to reach GSFC University?**

The University campus can be reached by public transport from Vadodara city. All the buses going to Dashrath village can be used for this purpose. The University also runs buses on chargeable basis as per University timing. The information regarding the same can be collected from the administration office.

**16. How is GSFC University campus girl friendly?**

The Campus is situated inside the GSFC Ltd township, which has 24 x 7 surveillance. The University also offers comfortable and convenient residence for girls. The residential complex provides accommodation on sharing basis and ensures safety and

well-being for all girls. The complex is designed to give the residents a sense of home and living in a big family.

**17. How to apply for admission?**

Link: <https://www.gsfcuni.edu.in/apply-for-admission>