Indian Institute Of Technology, Guwahati

Centre For Career Development

Placement Brochure

Jyoti and Bhupat Mehta School of Health Sciences and Technology

About the Institute

Since **1994**, when it was founded as the sixth Indian Institute of Technology, IIT Guwahati has become one of the world's most dynamic universities in technology, innovation, and research. The campus lies on a 285-hectare parcel of land on the northern bank of Brahmaputra 20km from the city centre. The curriculum and courses at IIT Guwahati are constantly changing to meet global needs and allow students to explore their interests.

The Institute offers **B.Tech, B.Des, MA, M.Des, M.Tech, MS(R), MBA, M.Sc, and Ph.D** programmes in 11 Departments, 9 Centres, and 5 Schools in all major engineering, science, and humanities areas. Our students can broaden their studies with a 'Minor' degree, open and interdepartmental electives, audit courses, and inter-disciplinary research.

The institute's state-of-the-art laboratories and **National Centres of Research** have made it a hub for research and technical education.

Apart from world-class research, the faculty prepares students for professional problems by teaching them their fields conceptually. It also helps students participate in worldwide projects, which helps them become pioneers and leaders.

IIT Guwahati has **MoUs (Memoranda of Understanding)** with top international institutes for semester-based student-exchange programmes and summer internships, boosting global integration and broadening our students' perspectives.

In their holidays, students intern in industrial, managerial, and research fields at top international corporations and research labs, contributing greatly. The institute provides excellent extracurricular opportunities to help students develop holistically.

About JBMSHST

The Jyoti and Bhupat Mehta School of Health Sciences and Technology at IIT Guwahati, established in the year 2021, is funded by the Mehta Family Foundation under their initiative to create intellectual talent through global academic collaboration. It aims to train biomedical engineers to take leadership responsibilities in the health sector. The learning here is oriented to gain an interdisciplinary understanding of engineering, bio-chemical science, humanities, and design principles through hands-on experiences. The focus is to bring scientific and technologic innovation to support health science and allied areas. JBMSHST is an important initiative at IIT Guwahati that bridges the gap of highly skilled personnel that exists in these emerging fields.

VISION

Empowered by NEP 2020 and supported by the Mehta Family Foundation, the school envisions fostering futuristic academic curricula, cutting-edge research, and impactful R&D in biomedical science and engineering. With a focus on "Health for All," it aims to develop state-of-the-art technologies and deepen scientific understanding of medicine.

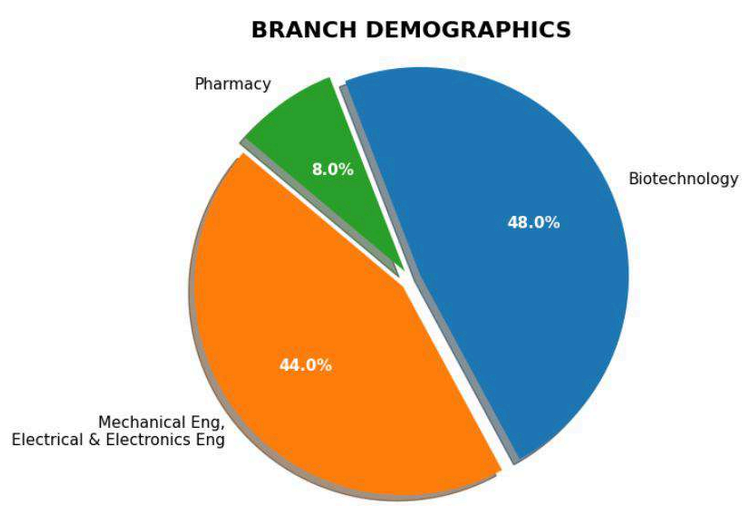
The school aspires to:

- Advance innovation, manufacturing, and equitable healthcare.
- Establish new standards in health sciences education.
- Promote public health and evidence-based, affordable care.
- Train academic leaders and skilled professionals aligned with initiatives like Atmanirbhar Bharat, Digital India, and Make in India.

By combining world-class guidance, hands-on training, and a focus on compassion and innovation, the school strives to lead scientific breakthroughs, set global healthcare standards, and ensure employment opportunities for the future.

Branch Demographics

Our program fosters an interdisciplinary environment, bringing together students from diverse backgrounds, including core engineering and biological sciences. This unique blend equips our graduates with the skills and knowledge to make meaningful contributions to the world of health sciences. With rigorous training and hands-on experience, our students actively tackle real-world challenges, driving innovation and advancing solutions to improve healthcare and well-being.



Prof. Subramani Kanagaraj

Head of School
Department of Mechanical Engineering

The Jyoti and Bhupat Mehta School of Health Sciences and Technology at IIT Guwahati aims to train biomedical engineers to take leadership responsibilities in the health sector. The school has been handsomely supported by Mehta Family Foundation for its upcoming state-of-art academic and research building.

The learning methodologies of the school have been designed to gain understanding on the diverse areas of of engineering, biological- chemical science, data analytics, and design principles through hands-on experiences. Thus, the students and scholars graduating from the school are strong in the fundamental areas of PCBM and well-equipped with the basics of electronic-mechanical-bio instrumentations, circuits, devices, bioprocesses, and design principles through hands-on experiences in the laboratories. In the near future, scientists and engineers from all streams, doctors, designers, regulators, entrepreneurs, and policymakers will invent and innovate under this umbrella to inculcate cutting-edge research from this school. The focus here is to build up on the gen-next inventions and innovations that reduce import dependency and make the country self-reliant.

Course Curriculum

The M.Tech program in Health Sciences and Technology is a multidisciplinary two-year curriculum designed to equip students with cutting-edge knowledge and skills in biomedical sciences, medical devices, and health data analytics. This program emphasizes both theoretical foundations and practical applications, bridging the gap between engineering, biology, and healthcare innovation. The curriculum is tailored to meet emerging research and industry demands, empowering students to contribute to advancements in healthcare technology and policy. Students are actively involved in hands-on projects, teaching assistantships, and collaborative research, fostering their growth as leaders in the field of health sciences.

Medical Devices and Diagnostic, regulatory affairs

- Regulatory affairs of Biomedical devices
- Medical diagnostic devices, BioMEMS, and Biosensors
- Introduction to Biomedical Electronics and instrumentations

Labs

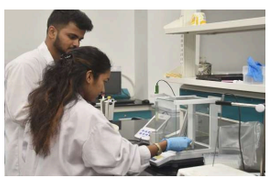
- Diagnostics and Devices Laboratory.
- Product design and prototyping laboratory.
- Biotechniques and Bioinstrumentation laboratory.
- Regenerative medicine and Stem Cells laboratory.

Biology

- Cellular Processes.
- Physiology for clinical immersion.
- Advanced immunology.
- Regenerative medicine and stem cells.
- Tissue engineering and regenerative medicines
- Stem cell and therapeutics.

Data Science and maths

- Health Data analytics.
- Advanced statistics
- Biomedical Image processing.
- Machine learning and Artificial intelligence.
- Deep Learning.

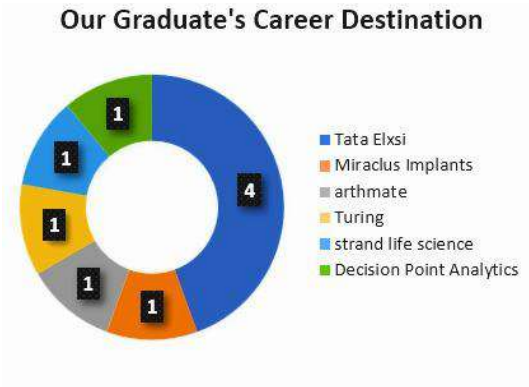


Projects

- Multi-task learning for medical image segmentation, classification and refractive error estimation.
- Risk prediction model using genetic data.
- A Multiplexed PoCT for early diagnosis of Liver disease.
- Leveraging deep learning techniques for custom insole manufacturing from 2D foot images.
- To address and solve the research gaps in the characterization of FAM 168 Gene Family, in order to treat cancer.
- Developing a device that uses electric fields to treat Alzheimer's disease by targetting and modulating brain activity.
- Nanomaterial-enabled sensor for the detection pathogens in biological samples.
- Design and development of a user friendly healthcare solution for hallux valgus
- Design and Fabrication of heart valve for optimal flow and functionality using CFD Techniques.
- In silico study of promising drug candidates by AutoDocking and simulation and their effects on stem cells.
- Studying the movement of liquid or gases through a material containing pores (void spaces).
- Development an enzyme based PoC device for the detection of E.coli. qualitatively and quantitatively.
- Development of antifungal drug databases for human and plant based fungal pathogens for drug prediction.
- Developing in vitro Human heart valve model for transplantation.
- The detection of circulating tumor cells (CTCs) in human blood is a cutting-edge technique in cancer diagnostics and monitoring.
- Conditional modelling of lysine sunccinylation of mycobacterium tuberculosis Hsp 16.3 protein.
- Machine Learning based approaches to understand protein dynamics.
- Developing a 3D in-vitro osteosarcoma model for drug screening and exploring reprogramming of tumour associated macrophages for osteosarcoma targeting.
- Developing a 3D bioprinted in vitro skin model as a platform for high-throughput drug testing using silk.
- Correlating quantum mechanical properties with anti-bacterial and anti-cancerous activity of carbonaceous material in solvent medium.
- Creating a device which can detect early prostate cancer from biofluids like urine and blood.
- Multiplexed microfluidic devices for point-of-care-testing of biomarkers.

Skills

Placement Statistics



Startups & Collaborations

Startups

Collaborations

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