



Indian Institute of Technology Hyderabad (IITH)

Department of Biotechnology

INFORMATION BROCHURE-2020

M.TECH

IN

MEDICAL
BIOTECHNOLOGY

Department of Biotechnology

Indian Institute of Technology Hyderabad
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About IITH

IIT Hyderabad is one among the 2nd generation of IITs started by the Govt. of India. IITH offers 9 B.Tech programs, 16 M.Tech programs, 3 M.Sc programs, 5 M.Phil programs, 1 M.Des program and Ph.D. programs in all branches of engineering, science, liberal arts and design. The vibrant research culture at IITH is evident from the several patents and publications. IITH enjoys a very special relationship with Japanese Universities and Industries that goes beyond academic and research collaborations. IITH is creating a unique holistic educational ecosystem that offers interactive learning, a highly, flexible academic structure, cutting-edge research, strong industry collaboration and entrepreneurship.

About the Department of Biotechnology

The department was established in 2010 and has outstanding teaching & research programs. The department offers M.Tech in Medical Biotechnology and PhD in Biotechnology and has active research groups in the frontier areas encompassing Carcinogenesis, Infectious Diseases, Prion & amyloid Diseases, molecular mechanisms of diseases/toxicity using zebrafish animal model, electrophysiology, Molecular and Cellular Neurobiology, Structural Biology and Enzyme Engineering. The department is rapidly expanding in the other cutting-edge biotechnology research areas as well.

Course curriculum

Students complete core and elective courses over a period of 2 semesters followed by a 2 semester long thesis. General structure is below:

Semester I	12+1 Credits	Core and elective courses + English communication
Semester II	12+1 Credits	Core and elective courses + Industrial Lectures
Semester III & IV	24 Credits	Thesis

Our specialised courses include:

Protein Technology, Cell Technology, Gene Technology, Structural Bioinformatics, Macromolecular Crystallography, RNA Biology & Therapeutics, Protein Design & Engineering, Protein misfolding in Neurodegenerative diseases , Physiology and Pharmacology of Receptorsand many more

For details on courses and curriculum please visit the website which will be updated periodically

<https://biotech.iith.ac.in/academics/courses>

Research Labs

There are seven advanced research labs in the department that have been setup by our faculty:

- Protein Misfolding and Disease Lab
- DNA repair Lab
- Protein Interaction Analysis Lab
- Molecular Biophysics Lab
- Macromolecular Structural Biology Lab
- Ion Channel Biology Lab
- Cancer Genomics and RNA Biology Lab



Research Areas

Several advanced research areas are being pursued in the department:

- Prion & Amyloid diseases
- Carcinogenesis
- HIV-1 Biology
- Protein Engineering
- Structural Biology
- Protein Misfolding
- Cell Signaling
- Biomolecular NMR
- X-Ray Crystallography
- DNA Repair, Epigenetics
- Ion-channel biology
- Cancer Genomics
- RNA biology
- Toxicology
-and many more

Research Facilities

- Fluorescence microscopy
- Circular dichroism
- Isothermal Titration Calorimeter
- Electrophysiology rig
- FPLC
- Multimode readers
- IBright gel imaging
- FACS
- Confocal Microscopy
- SEM
- TEM
- AFM
-and many more

Programs Offered

Two-year Regular MTech Program*

Eligibility

a) Candidates with B.Tech or M.Sc in any branch of life sciences with a valid GATE score in BT or XL only are eligible to apply.

Selection: Candidates will be selected based on GATE score. Offers will be made through COAP.

b) IIT B.Tech graduates with **CGPA of 8.0** or above without GATE score are eligible to apply.

Selection: Candidates will be selected based on the performance in the written test and/or interview.

****All the students under the regular MTech program are eligible for fellowship as per MHRD guidelines.***

Self-sponsored MTech program#

Eligibility

a) Candidates with a B.Tech or M.Sc in any branch of life sciences with a **CGPA of 7.0** or above are eligible to apply. GATE score is not mandatory.

Selection: Candidates will be selected based on the performance in the written test and/or interview.

#This is a non-subsidized program, wherein a student pays tuition fee per credit basis. The candidates registered in this program are NOT eligible for any financial assistance/fellowship.

Govt. Lab/ PSU sponsored MTech program

Eligibility

a) Candidates with a B.Tech or M.Sc in any branch of life sciences with a **CGPA of 7.0** or above are eligible to apply. They should be sponsored by Govt or PSU.

Selection: Candidates will be selected based on the performance in the written test and/or interview.

How to apply?

Please follow the link <https://iith.ac.in/mtechadmissions/home.jsp> to apply online

Fee structure

<https://www.iith.ac.in/academics/fee-structure/>