



# M.Tech Computational Biology

## Admission 2026-27 About the Program

- The M. Tech in Computational Biology is a two-year, full-time postgraduate program offered by the Department of Biotechnology and Chemical Engineering, Faculty of Science, Technology & Architecture (FoSTA), Manipal University Jaipur. The program is designed to address the growing demand for skilled professionals who can integrate biological sciences with computation, data science, and artificial intelligence.
- This interdisciplinary program equips students with advanced knowledge and practical skills in genomics, transcriptomics, multi-omics data analysis, bioinformatics, machine learning, systems biology, and AI-driven drug discovery. The curriculum emphasizes hands-on computational training, exposure to real biological datasets, and the use of modern bioinformatics tools and platforms.
- The first year focuses on building strong foundations in molecular biology, biostatistics, programming (R and Python), bioinformatics, and AI/ML in biology, along with specialized electives. The second year is dedicated to an extensive research dissertation or industry-oriented project, enabling students to work on real-world problems in collaboration with research institutions, healthcare organizations, and biotech or pharmaceutical companies.
- With a strong research orientation and industry relevance, the program prepares graduates for careers in computational biology, bioinformatics, pharmaceutical and biotech R&D, healthcare analytics, precision medicine, and AI-enabled life sciences, as well as for pursuing doctoral research and academic careers.



Omics & Genomics



Bioinformatics



AI & Machine Learning



Drug Discovery

### Key Highlights of the Program

- **Interdisciplinary Curriculum** integrating biology, computer science, data science, mathematics, and artificial intelligence.
- **Strong Focus on Emerging Areas** such as genomics, transcriptomics, multi-omics data integration, systems biology, precision medicine, and AI/ML-driven drug discovery.
- **Hands-on Computational Training** using real biological datasets, biological databases, and industry-relevant bioinformatics and modeling tools.
- **Research-Oriented Program** with seminars, research practice courses, and a year-long dissertation in academic, industrial, or research lab settings.
- **Industry and Research Exposure** through internships, collaborative projects, expert lectures, and interaction with academia and biotech/pharma professionals.
- **Flexible Elective Baskets** allowing specialization in areas such as computational drug discovery, clinical informatics, deep learning for biology, and biomedical image analysis.
- **AI and Machine Learning Integration** across the curriculum for biological data analysis and healthcare applications.
- **State-of-the-Art Infrastructure** including a dedicated computational biology lab, licensed bioinformatics software, and simulation facilities.
- **Career-Focused Training** preparing graduates for roles in bioinformatics, computational biology, pharmaceutical and biotech R&D, healthcare analytics, and AI in life sciences.
- **Pathway to Higher Studies** with strong preparation for PhD programs, research careers, and academic positions.

### Unique Research and Lab Facilities

- **Dedicated Computational Biology Laboratory** equipped with high-performance workstations, supporting large-scale genomic, transcriptomic, and multi-omics data analysis.

- **Integrated Wet–Dry Lab Ecosystem** with access to molecular biology and basic wet laboratory facilities, enabling translational research and validation of computational findings.
- **AI and Machine Learning Infrastructure** supporting data-intensive research in genomics, biomedical image analysis, precision medicine, and AI-enabled healthcare applications.
- **Research-Focused Learning Spaces** dedicated to dissertation and long-term research projects, fostering innovation and independent scientific inquiry.
- **Interdepartmental Research Access** through collaborations with Computer Science, Data Science & AI, Mathematics, and Basic Sciences, enabling interdisciplinary research projects.
- **Industry and Research-Oriented Project Support** facilitating internships and collaborative research with biotech, pharmaceutical, genomics, and AI-healthcare organizations.

### Career Opportunities

Graduates of the M.Tech in Computational Biology program are well-prepared for diverse and high-growth career paths across academia, industry, and healthcare sectors:

- Computational Biologist / Bioinformatician in research organizations and biotech companies
- Genomics and Omics Data Analyst in precision medicine and population genomics projects
- AI/ML Engineer in Healthcare working on predictive modeling and biomedical data science
- Drug Discovery and Cheminformatics Scientist in pharmaceutical and biotech R&D
- Clinical and Health Informatics Specialist supporting data-driven healthcare solutions
- Biomedical Data Scientist in diagnostics, imaging, and digital health platforms
- Research Associate / Scientist in academic institutions and government research labs

- Medical and Scientific Writer for healthcare, research, and regulatory communication
- PhD and Higher Studies in Computational Biology, Bioinformatics, Systems Biology, or AI in Life Sciences

Graduates can find opportunities in biotechnology and pharmaceutical companies, genomics startups, AI-healthcare firms, hospitals, research institutes, and IT organizations, both in India and globally.

### Potential Recruiters

Graduates of M.Tech in Computational Biology program are well positioned for opportunities with leading organizations across multiple domains, including:

- **Pharmaceutical & Biotechnology Companies**
- **Genomics & Life Sciences Organizations**
- **AI, Data Science & Healthcare Technology**
- **Academia & Research Institutes**
- **Clinical Research Organizations**
- **Information Technology Industry**

Graduates also find opportunities with genomics startups, AI-driven healthcare companies, pharmaceutical R&D organizations, research institutes, and IT firms working in life sciences.

### Eligibility

B. Tech/ M.Sc. in Biotechnology, Bioinformatics, Biomedical Science, B. Pharma, Computer Science, Mathematics or related life sciences disciplines with minimum 50% marks (or equivalent CGPA).

### Scholarships

For pursuing M.Tech Program, Manipal University Jaipur's offers a monthly stipend of Rs. 5,000/- to 10,000/- for meritorious students and a monthly scholarship of Rs. 15,000/- for GATE-qualified students.

### National and International Collaborations

International Collaborations with Institutes & Universities : 100+  
National Collaborations with Institutes & Universities : 100+

### The MUJ EDGE (Why MUJ)

- Strong legacy of Manipal Group in education. MUJ is highly ranked and renowned, especially for its engineering programs.
- NBA, NAAC (A+), AICTE, and UGC accredited university.
- Highly qualified and experienced faculty members who aim is to impart high quality education by fostering sustainability principles to improve the quality of life by mainly focusing on society and environment related problems.
- Our aim is to impart high quality education in different areas of Engineering .
- Provides state of the art environment and a rigorous academic program facilitating the students to excel in various areas of engineering.
- Inculcate leadership qualities and to foster students towards entrepreneurship and research.

## Admission Process



Application form initiated through our website  
[admissions.jaipur.manipal.edu](https://admissions.jaipur.manipal.edu)



Applicants must submit a completed application form with relevant documents within the due date.

## Hostel Details



[goodhostspaces.com](https://www.goodhostspaces.com) ☎ 08069122800  
[info.jaipur@goodhostspaces.com](mailto:info.jaipur@goodhostspaces.com)

## Counsellor Contact Details

**Mrs Meenakshi Sharma**  
☎ 8690987137



Our counsellors will guide candidates through the admission process, which is as per regulatory requirements.



Please visit the FAQ section on our website to know more about the admission process.



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**MANIPAL UNIVERSITY**  
**JAIPUR**  
(University Under Section 2(f) of the UGC Act)

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