

Placement brochure (2022-2023)



Department of mathematics
IIT Hyderabad

THE DEPARTMENT

[The Department of Mathematics](#) aims "to foster eclecticism and excellence in mathematical education and research which is well poised between abstraction and application."

With the primary focus on training the students right from the start of their academic career, the Department of Mathematics is recognised for its commitment to developing a strong foundation in mathematics, and offering statistical and computational skills to prepare them for positions in industry, government, and academia.

The department offers a complete range of mathematics programmes: BTech in Mathematics and Computing, MSc with specialisations in Mathematics, as well as, Mathematics and Computing, and PhD in Mathematics and Statistics.

MESSAGE FROM FOUNDER DIRECTOR AND HOD

“The students of B.Tech MnC are trained to harness the power of Math and Computing in their approach and attempts at solving problems in the domains of their influence.”

- **Dr. Anantha Lakshmi Narayana P**
Head of Mathematics Department, IITH



“The B.Tech in Math. and Computing at IITH gives a unique opportunity to JEE entrants who want to pursue a career in mathematics. It also injects a string mathematics component in the technological ecosystem of IITH ”

- **Prof. U.B Desai, Founder Director, IIT Hyderabad**

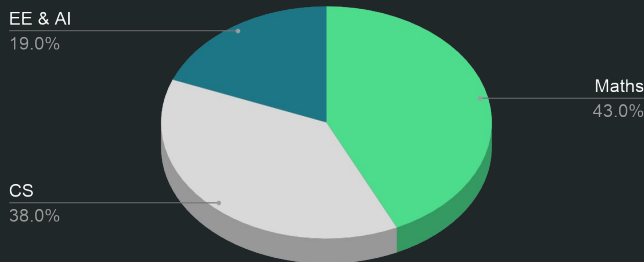


WHY MnC?

- Among the first few iits to offer BTech MnC.
- Curriculum designed to provide strong foundation in **Mathematics, CS, AI** and **EE** courses.
- Students trained in emerging areas including **Computational Intelligence, Coding and Cryptography** and **Statistical Data Analysis**.
- Nurtures **multi skilled professionals** for both **industry and academics**.

THE CURRICULUM

Curriculum Design



MATHEMATICS

- ❖ Linear Algebra
- ❖ Probability Theory
- ❖ Transform Techniques
- ❖ Functional Analysis
- ❖ Real Analysis
- ❖ Statistics
- ❖ Regression Analysis
- ❖ Time series
- ❖ Bayesian Inference
- ❖ Numerical Analysis
- ❖ Groups and Rings
- ❖ Multivariable Calculus

COMPUTER SCIENCE

- ❖ Data Structures & Applications
- ❖ Algorithms
- ❖ Theory of Computation
- ❖ Computer Networks
- ❖ DBMS
- ❖ Operating Systems
- ❖ Principles of programming language
- ❖ Compilers

EE and AI

- ❖ Internet of Things
- ❖ Artificial Intelligence
- ❖ Information Sciences
- ❖ Stochastic Processes
- ❖ Linear Systems & Signal Processing
- ❖ Convex Optimization

AREA OF RESEARCH

Pursuant to our vision, the department aims to become a world class center for theoretical, applicable and interdisciplinary research. The faculty members of the department are engaged in an active and an equal basis collaboration with eminent researchers.

Their research areas include Algebra, Analysis, Applied Mathematics, Data Analysis, Fluid Dynamics, Fuzzy Logic, Geometry, Machine Learning, Number Theory, PDE, Probability and Statistics (Optimal Design Theory, Biostatistics and Reliability Theory).

The students are specifically trained in theoretical, applied and statistical aspects of mathematics, as well as, in emerging areas, such as, **Computational Intelligence, Coding and Cryptography**, and **Statistical Data Analysis**, which is evident from the research projects they do as part of their curriculum.

PROJECTS TAKEN UP BY STUDENTS

CORE MACHINE LEARNING

- ❖ Extrapolations in Adaptive Bayesian Optimization
- ❖ Effect of High Dimensions on Kernels
- ❖ User Return Time Prediction in Recommendation Systems.

STATISTICS & DEEP-LEARNING

- ❖ Cluster Randomized Designs for Binary Responses
- ❖ Gaussian Mixture models in survival data analysis
- ❖ Human Path Prediction using Social LSTMs
- ❖ Sparse Adversarial Attacks in Machine Learning
- ❖ Attacking the Intelligence of Neural Nets By pruning vulnerable filters

FINANCE & COMPUTER SCIENCE

- ❖ Time Series Analysis of NSE Stock Prices
- ❖ Risk Return Relationship : Linear or NonLinear Trade off?
- ❖ LVM and SHM Mapping Kernel Driver
- ❖ Concurrency Based Chat Server
- ❖ Crypto-primitives using Multivariate Ideal Lattices

Past Recruiters

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Samsung

Razorpay

Adobe

salesforce

Byju's

Flipkart

Rakuten Mobile

Honeywell

Wisig Network

servicenow

Aizant

Contact us

Please reach out to the **Office of Career Services** at IITH for any further queries (<https://ocs.iith.ac.in>)

Student coordinators:

1. Madhav yadav (ma21mscst11003@iith.ac.in) (+91 9599280129)
2. K Satya Sandesh (ma19btech11008@iith.ac.in) (+91 8280788769)
3. Meet Vyas (ma19btech11007@iith.ac.in) (+91 9426109445)
4. Tushar Kumar Biswas(ma21mscst11014@iith.ac.in)(+91 7449711213)
5. Nikhil Kumar patel (ma21mscst11010@iith.ac.in) (+91 7978752334)

For more information Please contact Program Coordinator:
Dr Sameen Naqvi (sameen@math.iith.ac.in)