Placement Brochure 2013

Dept. of Computer Science and Engineering
IIT Kanpur
www.cse.iitk.ac.in

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, IIT KANPUR

Indian Institute of Technology Kanpur was the first Institute in India to start Computer Science education with the initial "computer-related" courses starting in August 1963 on an IBM 1620 system installed in the nation's first "computer classroom", a novelty then even in many North American and European universities.

Gradually, the Institute drew upon some of the brightest young Indians in Computer Science to serve on its faculty and initiated an independent academic program in 1971, leading to Ph.D. and M. Tech. degrees. The undergraduate program started later, with the first batch graduating in 1983. The department was formally established in 1984.

Currently, the department has a faculty of 25 whose interests span almost all areas of Computer Science.

The department admits students every year in the B.Tech. program, the M.Tech. program and the dual-degree program, which results in students getting both a B-Tech and an M-Tech degree at the end of 5 years. There are about 15 students registered in Ph.D. program at a time. Besides, there are a number of research engineers working in various sponsored projects.

The department continues to lead the nation in terms of excellence in research and teaching in Computer Science and Engineering. Many of the nation's leading experts, educationists and consultants in computer science today are the alumni of this department.

STUDENT INTAKE

Bachelor of Technology (BTech) Program

The department has one of the best undergraduate programs in the country. The course curriculum for the undergraduate program gives the flexibility to the students to prepare for advanced specializations. The department commits to offer a set of electives so that students can plan their academic program in advance. The course structure provides a right mix of compulsory and elective courses.

Master of Technology (MTech) Program

M-Tech degree program exposes students to a wide range of courses, combined with specialized research which culminates in a thesis. Such a combination gives students the breadth and depth necessary for pursuing careers in academics as well as industry.
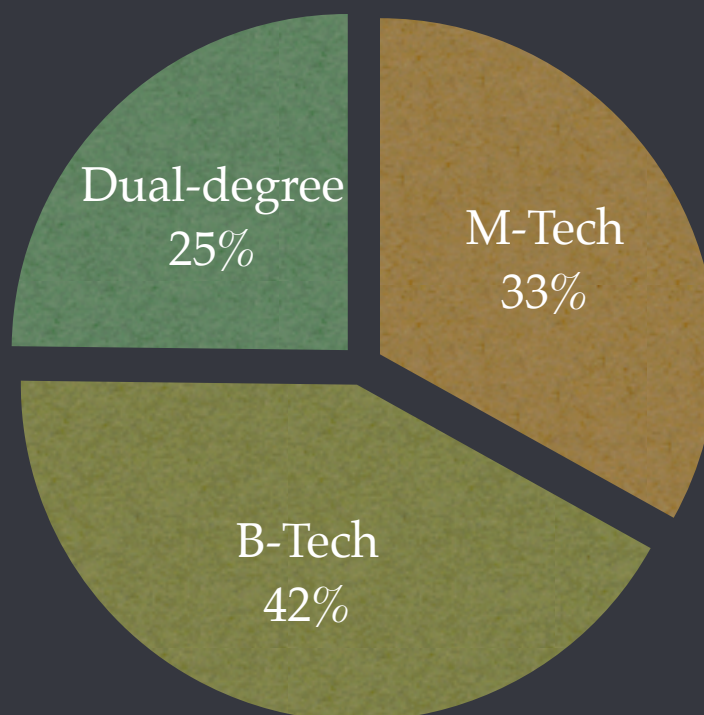
Dual Degree (BTech/MTech) Program

The students will be admitted through JEE, and are expected to take 5 years to complete. Both the degrees or B.Tech, for those students who do not meet the academic requirements for the award of M.Tech. degree, to be awarded at the end of 5 years or whenever the requirements have been completed thereafter. Several universities abroad, including MIT also have started similar programs in Computer Science and other disciplines.

- M-Tech
- B-Tech
- Dual-degree

Dual-degree 25%

M-Tech 33%

B-Tech 42%

COURSES OFFERED

CORE COURSES

- Introduction to Computer Organization
- Computer Architecture
- Operating Systems
- Compiler Design
- Principles of Database Systems
- Principles of Programming Language
- Programming Tools and Techniques
- Discrete Mathematics
- Data Structures and Algorithms
- Theory of Computation
- Computer Networks
- Software Engineering

SPECIALIZED COURSES

- Randomized Algorithms
- Parallel Algorithms
- Computational Complexity
- Computational Geometry
- Cryptography
- Information Theory
- Automaton Theory
- Functional Programming
- Artificial Intelligence & Machine Learning
- Internet Technologies
- Multimodal Biometrics
- Data Streaming
- Compiler Optimization
- Data Mining
- Database Indexing and Searching
- Distributed Systems

RESEARCH AREAS

- Algorithms, Graph Theory and Theoretical Computer Science
- Wireless/Mobile and Computer Networks
- Compilers and Programming Languages
- Grid and High Performance Computing
- Image Processing and Computer Vision
- Machine Learning and Data Mining
- Discovery, Learning, and Cognition
- VLSI Testing and Fault Tolerance
- Databases and Data Streaming
- Natural Language Processing
- Internet and Web Ontology
- Computational Geometry
- Embedded Computing
- Computer Architecture
- Software Engineering
- CAD and Graphics
- Computer Security
- Operating Systems
- Cloud Computing
- Biometrics

GROUPS & ASSOCIATIONS

ACADEMIC ACTIVITIES

• SIGDATA – Special Interest Group in Data Mining and Indexing.

• SIGTACS – Special Interest Group in Theoretical Aspects of Computer Science

• Seminars and talks are regularly organized with both external and in-house experts.

RELEVANT STUDENT GROUPS

• Programming Club

– Conducts algorithmic and specialized programming contests

– Organizes Hackathons

– Mentors summer projects over a period of 8 weeks

– Conducts lecture series on various topics

• Association of Computing Activities (ACA)

– Is in charge of various departmental special interest groups.

– Trains students for ACM ICPC contests.

– Conducts summer school on introductory topics in CS

– Mentors theoretical projects over a period of 2 semesters

ACHIEVEMENTS

Dr. Manindra Agrawal has been awarded the Padma Shri Award for his contributions to Science and Engineering.

Research project by Umair Ahmed, Sumit Gulwani and Amey Karkare showcased at Microsoft Techfest 2013.

Amrita Chaturvedi gets the best paper award at ICSENT 2012.

Arpit Shrivastava and Pranav Maneriker have been awarded the Aditya Birla scholarship for the year 2012.

IIT Kanpur wins the Agriculture Leadership Awards for the year 2012 for its projects Agropedia and OpenAgri headed by Dr. T V Prabhakar.

Pranay Dighe and Anurag Kumar (EE) win the Samsung Innovation Award 2012 in the Product Design Category.

Parul Agarwal, Avani Nandini and Kritika Singh win the Google India Anita Borg Memorial Scholarship Award for 2012.

Shashwat Mishra and Varun Kumar Modi win second prize at the Aspiring Minds Machine Learning Competition 2012.

INFRASTRUCTURE HIGHLIGHTS

New six-story building named after Dr. Rajeev Motwani, with a 200 seat classroom, 22 faculty offices and 17 labs.

3 Gbps network

One 24-core and two 16-core machines procured for multi-core research

Mirrored major OS distributions with network installation service. Students are deeply involved in Lab Activities

Two Xeon linux servers provide NFS service for all CSE Lab users

Internet website & personal home pages are hosted on Linux (Debian) based xeon server

Departmental Library (besides the Central Library)

Online Judge for training students for competitive programming contests like ACM ICPC, Hacker Cup etc.

15 wireless access points (100 Mbps) placed in the building to serve wireless needs

CONTACT INFORMATION

Students' Placement Office

109, Outreach Building

+91-512 2594433/34

spo@iitk.ac.in

DEPARTMENTAL PLACEMENT CO-ORDINATORS

George Kuruvilla

georgekk@cse.iitk.ac.in

+91 7607 31 55 53

Sudhanshu Tamhankar

stamhankar@cse.iitk.ac.in

+91 8953 43 22 72

Shubhdeep Kochhar

shubkoch@cse.iitk.ac.in

+91 9005 66 63 44