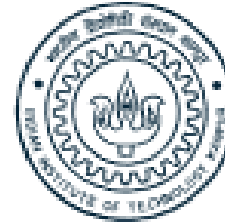


IIT KANPUR

Indian Institute of Technology, Kanpur



Student Placement Office



Department of Civil Engineering



From the Desk...



CIVIL ENGINEERING

IIT KANPUR



Civil Engineering at IIT Kanpur...



Sub-Branches

- Geo- Informatics
- Structural Engineering
- Infrastructure and Management
- Transportation Engineering
- Hydraulics and Water Resources Engineering
- Geotechnical Engineering
- Environmental Engineering and Management



Courses

Basic Courses

Technical Arts
Probability and Statistics
Fundamentals of Computing- C language
Computational/Numerical Methods
Maths -I (Calculus)
Maths- II (Linear Algebra and ODE)
Partial Differential Equations
Introduction to Electronics
Manufacturing Processes
Fluid Mechanics and Heat Transfer
Mechanics of Solids

Departmental Courses

Structural Analysis
Design of Steel Structures
Design of RCC structures
Surveying & GeoInformatics
Foundation Design
Soil Mechanics
Transportation Engineering
Air/Water Quality and Pollution Monitoring
Civil Engineering Materials
Engineering Hydrology
Engineering Hydraulics
Construction Management

Departmental Electives

Special Topics on Structural Design
GIS
Advanced Topic Of Geotechnical Engineering
Waste Water Management and Design
Transportation Facilities Design

Geo- Informatics

Geo- Informatics

Geoinformatics Lab of IIT Kanpur is amongst the best labs in this part of the world in terms of expertise, software and hardware facilities. The lab provides students and researchers all necessary support for carrying out their experiments. The lab personnel are highly trained and capable. The lab serves as a nodal point for all those who are engaged in Geoinformatics activities at IIT Kanpur.

Faculty Personnel:

Dr Bharat Lohani

Dr Onkar Dixit

Dr B Nagarajan

Current Projects:

- Lidar and Photographic data acquisition, NGRI-CSIR
- 3D modelling of landslides and stone shooting sites on the routes from Katra to Mata Vaishno Devi shrine using laser scanning, SMVDSB
- Establishment of National Facility of Application of Science & Technology in Archaeology and Cultural Management, MHRD

Equipment Available:

Trimble M3 Total Station

Trimble Theodolites

Trimble R4, R7, R10, R3

GNSS Receivers

Laser Scanners

Juno Navigator Receivers

Courses Taught: Digital Image Processing, Lidar and Photogrammetry
GNSS, Geodesy, Geospatial Data Processing, Remote Sensing



Structural Engineering

The Structural Engineering Laboratory at Indian Institute of Technology Kanpur serves a wide spectrum of activities covering those related to teaching, research, development, and consultancy. The primary activities include experimental studies on model/prototype of structural elements and assemblies under various static and dynamic loading conditions.

With the available test area, state-of-the-art load/displacement-controlled equipment for load application, precision instrumentation, online data acquisition and monitoring, the laboratory represents a unique facility for large and full scale investigation of the load-deformation behaviour of structures including their post-peak strength and deformability up to the failure.

Faculty Members:

Dr Vinay Kumar Gupta

Dr Shekhar Kr Chakrabarty

Dr Durgesh C Rai

Dr Samit Rai Chaudhary

Dr Sudib K Mishra

Dr Suparno Mukopadhyay

Courses:

Structural Dynamics,
FEM, Engineering Mechanics,
Stability of Structures

Projects:

Fragility analysis of Flat slab-column connections

Damage estimation of structure under multiple seismic event

Ground motion characterisation

Wireless Earthquake Monitoring System

Confined Unreinforced Masonry Walls for Earthquake Resistance

Digital Upgrade For Analog Strong Motion Accelerograph

Strong Ground Motion Instrumentation of Villages Reconstructed after 1993 Killari Earthquake

Seismic Strengthening of open ground story buildings using Aluminum Shear link Dampers



Facilities Available at Structural Lab, IIT Kanpur



Forced Vibration Survey System



Electro Dynamic Shake Table



Servo Hydraulic Shake Table



Impact Hammer & Triaxial Wireless Accelerometer



Dynamic Signal Analyser & Fibre Optic Based Strain Measurement System



Structural Strong Floor Reaction Frames



LVDTs & DCDTS, Strain Gauge, Velocity Meter, Accelerometer, Dial Gauge & Proving Rings

Other Facilities:

Impact Echo Instrument
Diamond Cutter
Torque Wrench
1350KN Compression Testing Machine
6000KN Column Testing Machine
Force Controlled Hydraulic Jack

Other Facilities:

Flex Test GT Multi Actuator Controller
MTS 407 Controller
Ambient Vibration Survey System
Starterkit Wireless Accelerometer
& Bean Gateway Outdoor & Bean Scape Lite

Transportation and Pavement Engineering

Laboratory Facilities:

- Traffic Engineering
- Mix Design
- Pavement Evaluation
- Material Testing Facility

Faculty Members:

- Dr Partha Chakroborty
- Animesh Das
- Vinod Vasudevan
- Syam Nair

Courses:

- Traffic Flow Modelling and Simulations
- Analysis and Design of Pavement System
- Analysis and Design of Transportation Infrastructure
- Traffic Engineering
- Urban Transportation System
- Rail Transportation System Planning and Design
- Airport System Planning and Design
- Characterization and Analysis of Pavement System

Consultancy Activities:

Major areas :

- Pavement Material Characterization
- Bituminous Mix Design
- Pavement Design
- Pavement Evaluation

Major Clients:

- IRCON
- NHAI
- L&T Limited
- NTPC

Beca International Consultant



Construction Management



Hydraulics and Water Resources Engineering

Hydraulic and Water Resource Engineering(HWRE) is leading consultancy and research field of Civil Engineering Department. It is a major group within the Indian Institute of Technology Kanpur. Along with side academic work, it also undertakes project to address complicated water engineering problem related to ground water, hydrology, river flow, and flood plain management sediment transport, stratified flow, pipe flow, hydraulic structure. water distribution, climate change and environmental studies.

Faculty Members:

Dr Rajesh Srivastava

Dr Ashu Jain

Dr Saumyen Guha

Dr Shivam Tripathi

Dr Richa Ojha

Lab Facilities:

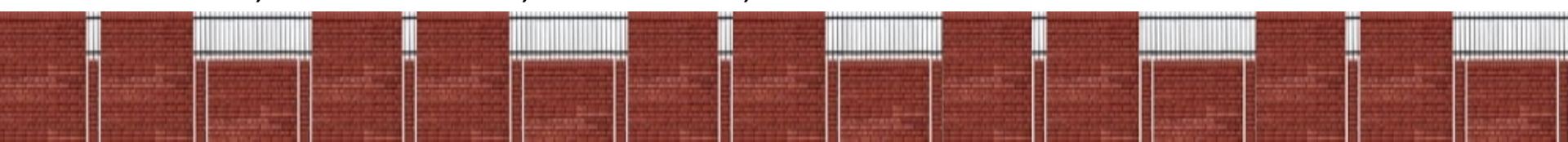
Bernoulli's Appratus, Energy Loss in Pipes, Fall Velocity, Ground Water Abstraction Hydraulic Jump, Hydrology System, Loss in bends, Impact flow, Notch and Weir, Particle Drag Coefficient, Pipe Fitting, Pipe Friction, Reynold's Experiment, Wind Tunnel, Venturimeter, Orificemeter, Water Hammer, Wind Tunnel,

Key Projects:

Ganga River Basin Management Plan

Research Areas:

Statistical Hydrology, Eco-Hyrdology, Surface Hydrology, Stochastical Hydrology, Rainfall Runoff Modelling, Pipe Flow, Sediment Transport, Climate Change, Ground Water Pollution, Computational Hydraulics



Environmental Engineering and Management

The Environmental Engineering and Management (EEM) Programme at the Department of Civil Engineering is one of the oldest and well recognized academic programmes in environmental management in the country and abroad. In addition to academic activities, the EEM group provides major environmental services. It has produced environmental engineers who are now leading professionals in water treatment and pollution control. Over 250 masters and 30 doctoral students have graduated. Several sponsored and consulting projects in areas like health-based air quality index, atmospheric dispersion of pollutants, air pollution monitoring and control, drinking water supply, heavy metal pollution, industrial waste treatment, biological processes, biosorption, virology, environmental systems modelling, and software have been completed.

Faculty Members:

Dr Purnendu Bose

Dr Mukesh Sharma

Dr Satyananda Tripathi

Dr Tarun Gupta

Dr Aabhas Singh

Dr Anubha Goel

Dr P M Prasad

Dr Vinod Tare

Projects:

Odd Even Formula of Pollution Control in New Delhi

Ganga Action Plan

Studies on aerosol behaviour under severe accident conditions in the context of Indian Nuclear Reactors by setting up of National

Aerosol Facility-980 Lakhs

TIGERZ

Modelling Relative Impact of Aerosol and LULC Changes of Regional Climate of Ganga Basin



Student Profile

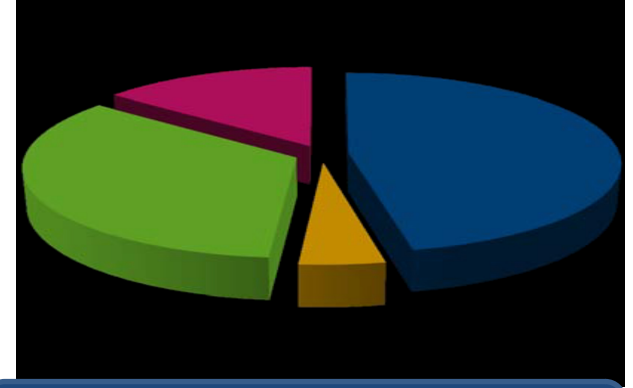


B.TECH-M.TECH DUAL DEGREE (5 YEAR PROGRAM), JEE QUALIFIED

- Basic Engineering courses
- Compulsory departmental courses
- Elective (UG and PG)
- Summer internship after 3rd year
- M. Tech. Thesis (1.5 years)

M.TECH GATE QUALIFIED, 2 YEAR PROGRAM

- Compulsory departmental courses
- Elective (PG)
- M. Tech. Thesis (1 year)



B.TECH (4 YEAR PROGRAM), JEE QUALIFIED

- Basic Engineering courses
- Compulsory departmental courses
- Elective (UG)
- Summer internship after 3rd year
- B. Tech. Project (1 year)

PhDs SELECTED via INTERVIEWS, 5YEAR TENTATIVE PROGRAM

- Ph.D. Electives
- Ph.D. Thesis

Project/Internships

Internships:

2nd Year Summer: Research Internship under Surge, Start-up Internship Portal IIT Kanpur, Departmental Internship to 5 student on merit basis, Foreign Research Programs/Internship via apping, Internship in PSUs via personal or faculty contacts.

3rd Year Summer: Internship via Student Placement Office IIT Kanpur, Various foreign research programs like DAAD, Mitacs, Charpak, Rakshak, TAMU, Japan Exchange Program and of-course personal aping, Internship in PSUs via personal or faculty contacts.

Projects:

Most of the students as a part of elective curriculum take Under Graduate Projects which give direction to their interests and enhances their skills. There are many courses like Structural Analysis, GIS etc. which include projects as a part of their courses.

DesCon:

A hobby group under Science and Technology, IIT Kanpur where UG student of all four years participate in events like Truss Design using Popsicle Sticks, Liquid Column Damper using Popsicle Sticks, Rain water harvesting models and represent IIT Kanpur in various national level technical festivals like Techkriti, Inter IIT Tech Meet, Techfest etc.

An Example of testing of Liquid Column Damper done on Shake Table, Structures Lab, IIT Kanpur



M-Tech Thesis:

It is compulsory for all the M-Tech and dual degree Students to submit a thesis of 72 credit on a topic of their choice and present to the whole department.

It involves deep work in the field of their research area which is spread over a span of approximate 3 semesters.

In many cases student goes for a semester exchange or summer exchange program where they try to complete their thesis work in very sophisticated labs and under of professors of reputed university across world who act as their co-supervisor for their thesis.

Survey & Geology Camp, Nainital

All B-tech, dual degree and M-tech students are required to camp in the city of Nainital.

The camp takes place in the month of December and deals in the area of Surveying and Geology.

Student work in the adverse weather condition and difficult terrain and have to complete their respective task within a given deadline.

Industrial/Site Visits:

Although this is not compulsory but in many courses like Design of RCC structures, Design of Steel Structures etc. faculty members take us to either construction site or at the constructed structure to get a better feel and understanding of applications of the theories taught in these respective courses.

Research achievements

GIVE THE NAME OF INDIVIDUAL AWARDS , CONFERENCE, JOURNALS ETC FROM DOC PREPARED

Past Recruiters



Alumni



Anupam Dhiman
Director (Operation)
Sunil HiTech



Dr Udai . P . Singh,
President EWRI,
American Society
for Civil Engineers



Dr Sudhir Misra
Registrar &
Professor, IIT Kanpur



Prabhat Singh,
Director (Marketing)
GAIL



Lalit Jalan, Director,
Corporate Strategy
and Affairs



Satyendra Dubey
Project Director, NHAI



R.K.Mishra, Founder
Indian Council for
Public Private
Partnership



M Anand Krishnan
Chairman, IIT Kanpur



Priyaranjan Swaroop,
Founder and Director
Construction
Development Industry
and Council

Alumni In Research Fields:

- Anu Tripathi, PhD, University of Mannitosa
- Neha Parool, PhD , NUS
- Prakhar Misra, PhD , Utokyo
- D R Sahoo, Professor, IIT Delhi
- Vaibhav Singhal, Professor, IIT Patna
- Hemant Kaushik, Professor, IIT Guwahati
- Adhitya Roshan, PhD university of New Brunswick
- Shaharyar K Ahmad, PhD, University of Perdue
- Khusboo Gupta, Virginia Tech
- Samit Ray Chaudhary, Professor, IIT Kanpur
- Suparno Mukopadhay, Professor, IIT Kanpur
- Sarvesh Chandra, Professor, IIT Kanpur
- Saumyen Guha, Princeton University, Professor, IIT Kanpur

Distinguished Alumni In Industrial Fields:

- Vishesh Punjabi, Btech-Mtech dual degree, Best Mtech Thesis Award
- Mohit Sharma, Seimens
- Hari Shankar, Indian Registrar of Shipping
- Nirav Thakkar, Senior Executive, Larsen & Turbo
- Pawan Agnihotri, ITC Limited
- Prakhar Misra, EXL Services, and Sony Japan
- Naga Prasad Pasala, Structural Specialist, Jacobs Canada
- Samaresh Paikar, Manager L&T Construction
- Ummati Ramesh, Analytics at AIR World wide India Private Limited
- Abhay Misra, Senior Engineer, TCS
- Arjun Rao, Project Scientist, Ministry of Earth Science
- Asutosh Swadeshi, Lead Engineer, Info Edge India Limited
- Ritesh Kumar, Business Analyst @ Axteria
- Natarajan Jaiswal, Vodafone
- Himanshu Kumar Gupta, Lead Engineers, Grofers



Department Placement Coordinators Civil Engineering



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