

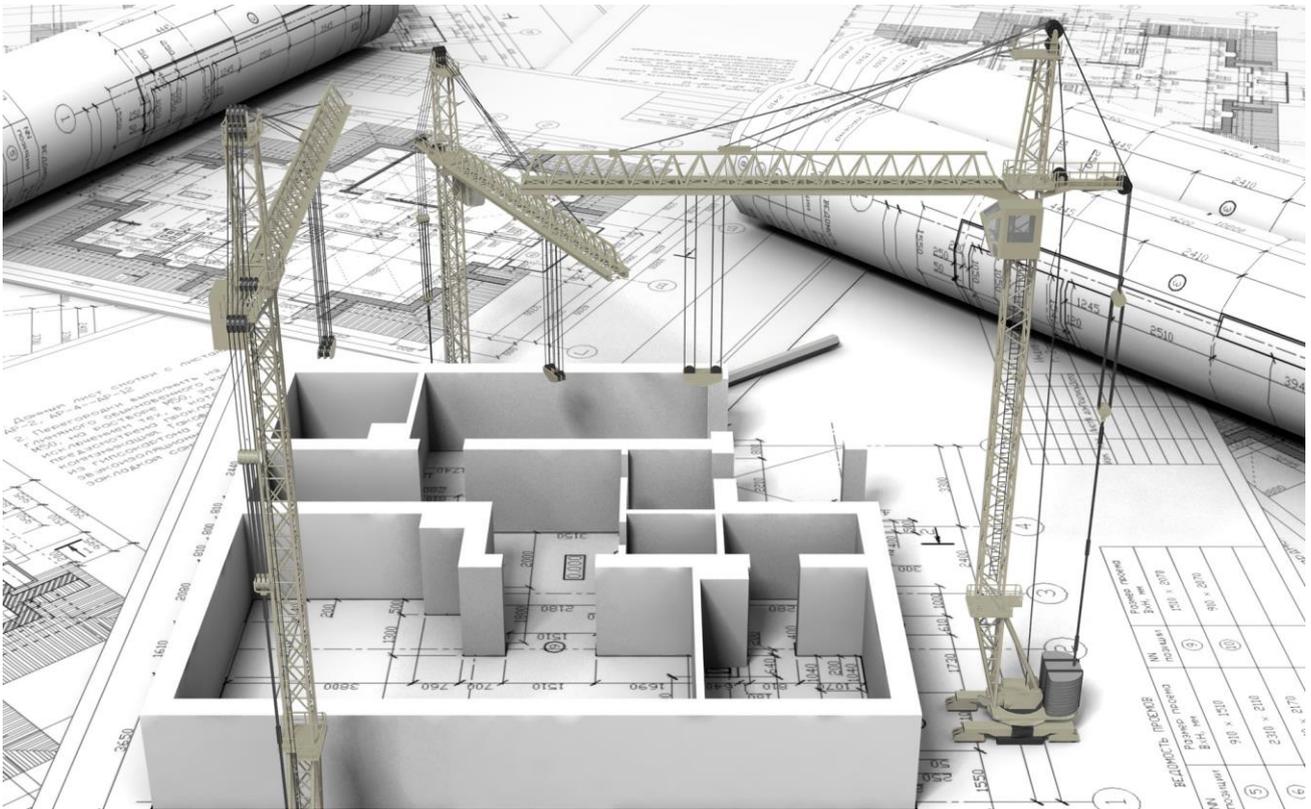
Department of Civil Engineering

July-December-2022

ECHELON INSTITUTE OF TECHNOLOGY

NEWS LETTER July-December 2022

DEPARTMENT OF CIVIL ENGINEERING



FROM THE DESK OF EDITOR IN CHIEF

It gives me immense pleasure to present the latest issue of Buoyant. The period has been packed with variety of activities in the hectic and tight academic schedule. This edition of the news letter summarizes the achievements and highlights of the semester. I would like to take this opportunity to present the readers with the glimpses of the week and other activities of the Civil Engineering Department. In this quest, I would like to keep you up –to-date with the happenings of the department. And hence, present you with this quarterly newsletter. You can know the details as you go through the News-letter. Department was strengthened with two new faculties including me through stringent selection process. Every effort was made to avoid the boredom of class room lectures and ample opportunities were provided for personality development of the students and enhancement of their skills as per their choice/ area of interest through hobby clubs and industrial visits. This approach helps maintaining a very healthy and conducive atmosphere of learning, keeping the students in an excited state eager to grasp knowledge at all times. The department is scaling new heights with such positive approach.



Mr. Rohit Shukla

Assistant Professor

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EIT Faridabad

ENDEAVOUR BY HOD

The main motto of our department is to provide quality education. The process of learning is extremely important in life. What you learn, how you learn and where you learn play a crucial role in developing ones intellectual capability, besides career. I am proud to see that the students and faculty of our department have put in appreciable effort into creating this newsletter. This newsletter highlights the academic and non-academic activities of both faculty and students of the Department of Civil Engineering.

I congratulate the editorial team for their brilliant and original efforts. I wish all the students and faculty a great academic career



HOD Civil Engg.

EIT, Faridabad



ABOUT THE DEPARTMENT

Civil Engineering is the application of physical and scientific principles, and its history is intricately linked to advances in understanding of physics and mathematics throughout history. Because civil engineering is a wide ranging profession, including several separate specialized sub-disciplines, its history is linked to knowledge of structures, materials science, geography, geology, soils, hydrology, environment, mechanic sand other fields.

The course cover basic sciences, Mathematics, Engineering graphics, computing techniques along with the fundamental Engineering principles of construction materials, Building Drawing and Laboratory classes interesting of materials help to understand Civil Engineering in a practical way. Software packages like AutoCAD, STAAD Pro allows our students to expand their skills and provide an adequate platform to perform analysis, design and drawing for a wide range of civil Engineering buildings and other heavy structures viz. Roads, bridges, flyovers, dams, etc.

Every semester students will be taken for Industrial Visits to various Construction sites and water Treatment Plant, Atomic Power stations, Dams and places of interest to impart Practical Knowledge. In addition, the students have to undergo practical Training for 2- 3 weeks in any Construction industry to gain practical experience and technical skills. The students are also encouraged to give seminars on current areas of research. To acquire high degree of Engineering skills and to translate brilliant ideas into a working reality.

ACTIVITIES IN CIVIL DEPARTMENT

- College presents “Techelon 2022”
- Organized the “Industrial Visit to the Students”



BIM

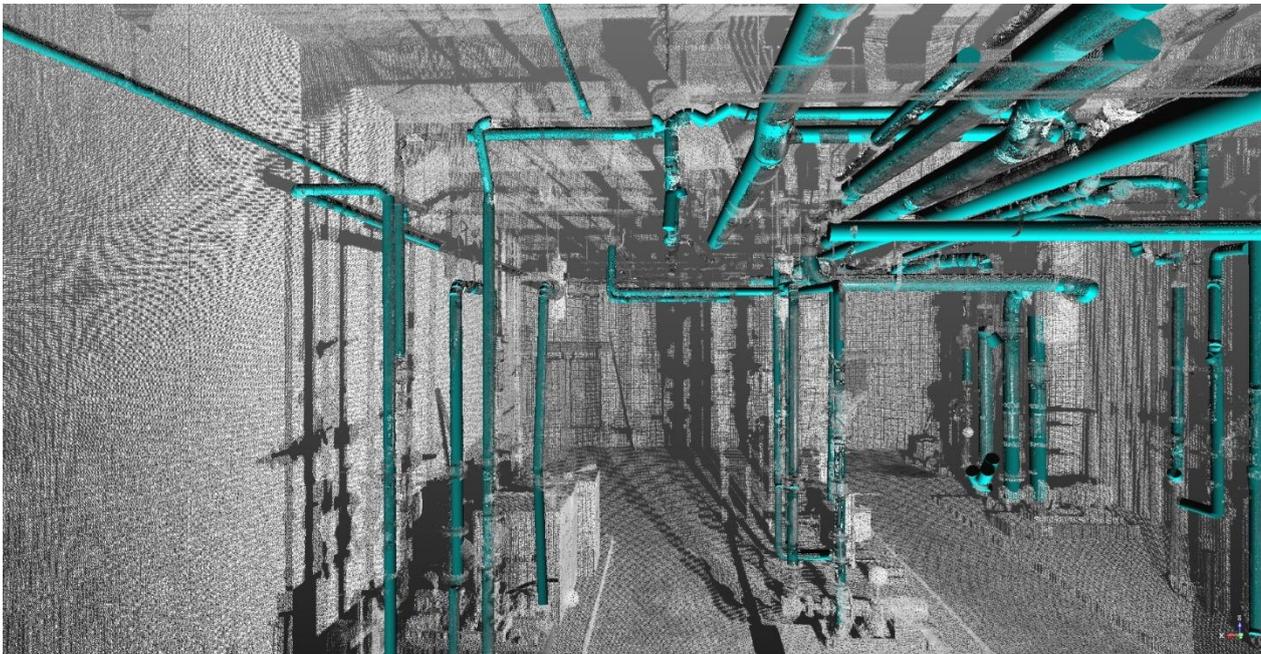
Building Information Modelling (BIM)

BIM is similar to CAD (computer-aided design), but not the same. It is software for 3D design to digitally model what is going to be built. The application of BIM increases prefabrication, modularization, and eco-friendliness.

But its capabilities don't stop there. It doesn't just create a visually appealing 3D model of the building. It also creates numerous layers of metadata and renders them within a collaborative work flow. It captures things in a way that paper just can't.

More than 30% of builders are currently using BIM or CAD software. The use of BIM provides space for better collaboration because everyone and expertise area can add their piece to an equivalent model, rather than breaking out onto multiple versions of a 2D paper drawing. One of the highest trending construction technologies in 2020.

This way, the model evolves as people contribute, streamlining the process and increasing efficiency. BIM also helps with problem-solving within the design and planning stages of a project, by automating clash detection and providing an entire picture of the project.



Smart Building and Connected Homes

Smarter buildings equate to better lighting control, better energy efficiency, and proper air-conditioning control. Just Like computer servers connected in a network to form the internet, solar-powered homes will build an interconnected cell-powered system, thus generating and managing power and energy more efficiently.

If you have a website, you most likely have analytics set up to measure and monitor traffic and user behavior on your site. Soon, we will start to see more applications of analytics in residential and commercial buildings. This way, we will get real-time insights into the amount of traffic and behavior of visitors, allowing the smart building to make adjustments to its features.

That could include turning off lights where there are no people, adjusting temperatures, closing shutters for the facades facing the sun, or opening lanes for the car park exits instead of just one when everyone is leaving the office for home. One of the simplest emerging trends in engineering



Latest Ongoing Projects of Civil Engineering in India

Construction of Flood Lighting along Indo-Bangladesh Boarder:

Construction of Flood Lighting along Indo-Bangladesh Border Site for Flood Lighting falls on Indo-Bangladesh Border Area in the state of Mizoram

Pir Panjal Railway Tunnel, Jammu & Kashmir:

The 11 km long tunnel across the treacherous Pir Panjal mountain range on the Banihal-Qazigund railway line in Jammu and Kashmir, is the longest such transportation passage in India and second longest in Asia.

Pamban Bridge, Tamil Nadu:

It is also India's first Cantilever bridge and there were many challenges while constructing it, as it was built in world's second highly corrosive environment.

Panval Nadi Viaduct, Ratnagiri:

This 424 m long superstructure, built on the Panval river in Ratnagiri is the third highest viaduct in Asia. You get to see this engineering marvel while travelling with the Konkan Railways.

Bandra-Worli Sea Link, Mumbai:

This eight-lane bridge constructed in Arabian Sea joins the two suburbs of Mumbai, Bandra and Worli.

Mahatma Gandhi Setu, Bihar:

Touted as a true engineering miracle, equilibrium and graceful in appearance is what this bridge is known for. Mahatma Gandhi Setu, depicts exceptional prowess of both engineering design and technology.

Capacity assessment of a Single Span Arch Bridge:

The aim of this project is to assess the load carrying capacity of the Glomman Bridge outside of the Swedish city Örebro. The Glomman Bridge is an unreinforced concrete single span arch bridge with backfill. The bridge was constructed in 1923