

CIVIL CHRONICLES

The newsletter of the department of civil engineering



ABOUT THE COLLEGE

St. Thomas Engineering College, Sivapuram, Mattanur was established by St. Thomas Educational Society, Adoor, on 2014 with a view to impart high-quality engineering education through systematic studies and efficient training. The college has a team of eminent faculty members and a disciplined atmosphere which help to promote a holistic approach to learning.

There is a right balance of cognitive, conceptual, ethical, humane, and spiritual growth as a whole. The institution within its short span of existence plans to be a center of excellence in engineering education by bringing out the young engineers devoted and socially committed.

The college is approved by the All India Council for Technical Education and affiliated to both Kannur University and APJ Abdul Kalam Technological University. The college has been established in the interior area of Malabar with a view to cater the needs of engineering education in the north-eastern of the Malabar area, especially to people who belong to the backward communities, tribal communities, and immigrant communities who are otherwise deprived of qualitative higher education in their area. Nevertheless, the college is open to all meritorious students from all over Kerala to benefit the best and disciplined engineering education it imparts.

ABOUT THE DEPARTMENT

The Department for Trained Professionals in Civil Engineering is obvious, omnipresent, and even increasing. Practical knowledge is the ultimate aim and aspiration of the Civil Engineering Department.

The Civil Engineering Department is furnished with an excellent infrastructure to enrich the students in various fields of civil engineering like building construction, strength of materials, etc.

Today in an era of “interdisciplinary approach” and nobody must have a minimum basic knowledge of all the branches and disciplines. The department is taking more focused and multi-dimensional efforts to make the “foundation of the students” as strong and safe as possible.

VISION OF THE DEPARTMENT:

To grow as a globally recognized center in Civil Engineering with a focus on innovation and research by combining technical and ethical qualities.

MISSION OF THE DEPARTMENT:

M1: Professional Skills

To provide a better environment to encourage innovative and research thinking among students.

M2: Life-Long Learning

Instill in students contemporary knowledge in order to achieve academic and professional excellence with global perspective through experience of lifelong learning.

M3: Engage with Society

Impart a sense of community responsibility and leadership qualities to better meet the challenges of sustainable growth.

**Principal's Message**

I am happy to know that the Department of Civil Engineering is releasing a newsletter for the academic year 2022-23. Beyond the theoretical knowledge of their subjects, the students should ensure active participation in co-extracurricular activities to equip themselves with all sorts of skills to be a successful professional. Internships, projects, and research activities will help students to improve their life-learning capabilities and experience industrial environments before getting a job. Rapid changes are taking place in the field of engineering and technology, and the barriers in between engineering branches are diminishing day by day. Nowadays, interdisciplinary projects and researches are very common. Hence, students should acquire basic knowledge in all the latest trends in technology to have a successful career. Environmental protection is the prime responsibility of all responsible engineers to safeguard future generations in the planet Earth. Conventional construction materials are decreasing day by day and causes severe environmental impact also. In this context, we need to perform intensive research and explore new construction materials with less environmental impacts. I take this opportunity to request all civil engineering students to do environmental-friendly projects and designs as your final year projects. I would like to appreciate the students and staff editors of this newsletter for their untiring efforts to ensure quality and timely completion.

**From the HOD's Desk**

Awakened from the pandemic-stricken days, the calendar year 2022 brought about a plethora of memorable moments and noteworthy events at the Department of Civil Engineering at STM.

The department has churned out a sparkling 65% of its final year students into successful civil engineers this year, most of whom already started their career ventures in reputed firms. Academic performances of the students from subsequent semesters were also in par with the passed-out batch. The third year came up with 64% and the sophomores showcased a splendid 67% success in their university exams of the academic year 2021-2022.

A handful of technological activities were furnished by the department in tandem with its academic excellence. The inauguration of the Civil Engineering Association, SATTVA, being the most significant among them all. The parking survey conducted by our students for NATPAC was recognized well. Site visits, workshops, expert talks, industrial visits, and interdepartmental programs were also made their routine this year as well. Faculties and students outshined in their individual performance also. Be it in NPTEL results, teaching excellences, or in attending FDPs, the faculty showcased their skills. Meanwhile, the students excelled in arts, sports, or in academics.

In this moment, a well-deserved applause is handed over to Dr. Shinu Mathew John, the principal at STM, for his proper guidelines and wise remarks on the everyday activities of the department. The huge support from Er. Rijo Thomas Jose, CEO, STM, also deserves a special mention here as his continuous inspiration is pivotal for the department. I appreciate all the faculties and students who work in concord to achieve a successful year.

Hopefully, let us sustain our success in the coming years as well.

KWIZ- a knowledge feast

16/03/2022



Photos from the event KWIZ

KWIZ, a renovated form of regular quiz, conducted on 12/01/2022 at the Seminar Hall- STM, was a knowledge feast for the academic enthusiasts. The program was scheduled on the second week of the year 2022, marked as the first departmental program of the year. A screening test was conducted at the beginning to shortlist the participants as the number of teams registered for the participation was much more than that expected. Each team with its own members has to give right answers to the questions in several rounds. Each round comes up with various rules. The quizmaster used images, videos, audio clips, and webpages to bring forth innovative questions. Refreshed

score cards were displayed at the end of each round. Certain elimination rounds were intentionally planned to elevate three teams for the grand final round. The winners, who emerged in the final round were awarded with immediate prize money.

The entire session was brilliantly compared by Arya Sasidharan, with technical support from Shamjas KT, and Sijin. The event indeed was challenging for the questions setters as the participants are at various semesters. Questions were made by an expert panel comprising of faculties from various specializations.

Learning from the masters

16/03/2022

Owing to their reluctance to memorize latex commands, the final year students from the civil department were found to be spending too much of their valuable time on MS Word to prepare their project report. The problem arises only at the end of the semester, and no one cares the issue as they are focused on the quality of project content only. In this scenario, the students from the final year CSE came up with a novel idea to teach their civil engineering counterparts software Latex.

The program was planned as an interdepartmental program by the Department of Computer Science and Engineering. Ms. Anagha Hareendran and Ms. Raiza Khalid demonstrated the basics of Latex in a well-scheduled session. The classes were arranged during the project hours well in advance to the submission date of their report. A latex template of the report was used to explain which was shared to the participants at the end of the session.

Apart from making project reports, the students also acquired the ability to make standard quality slides for presentation. It took five sessions to complete the demonstration. At the end of each, almost the entire students got fluent in the software. Certificates were provided from the department to the students who conducted the sessions. The demonstration was conducted in the other branches as well.

Think out of the waste box

12/01/2022



Photos from the event Diseno

Diseno, contrary to its confusing way of pronunciation, came up with a rather simple set of rules to the participants to construct a civil engineering structure, with reused materials, in the most exciting way. Needless to say, the structure should be stable, strong and serviceable. Be it their own used pens, broken parts of utensils, wood or glass pieces, the apparently useless things found their way from the waste box to the table, and got a complete face change into marvelous civil engineering structures, during the program. The unique idea of the competition sprouted in the mind of students, during the lockdown, when most of them spend leisure time, making handcrafts out of reused materials. Innovation was at its peak, when the students eventually brought their work-piece ready to display at the seminar hall, on 12/01/2022. The stall arranged for displaying competitive items, got attracted by the students and faculties from the other branches too.

For the students, it takes their understanding on graphics, statics and geometry for designing the structures meanwhile, the spectators could enjoy the

coordination and imagination of the students, their social commitment towards reusing of waste material, and so on. The judgement was so challenging that each structure stood, one better than the other. 'In addition to aesthetics, we evaluated the selection of material, way of their articulation, and the relevance of the structure'- comments Mr. Nithin C, HOD- Department of ECE, from the judgement panel. 'Moreover, we asked them questions'- he added. 'The structures get dismantled and thrown away, right after the program; which still contributes to pollution. Then what is its relevance towards pollution control?' Each team answered with their own ways on waste disposals and ultimately the best one got the prize money.

Placement offers



N Sijin, Vibhilesh T K, Akash C K, Adarsh K S, Fathimathu Zarna Puthiyavalappil, Jayaram P Suresh got selected in RFS CO infrastructure private limited, Kasaragod

Placement offers



Arya Sasidharan, N Sijin got selected in Byju's the learning app.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1

Achieve excellence in the professional practices of Civil Engineering by utilizing the acquired knowledge and technical skills supported by modern day tools.

PEO2

Participation in decision making and nation building by adopting energy efficient and sustainable practices in Civil Engineering.

PEO3

Encourage innovative thinking and entrepreneurship by research and higher studies in advanced areas of Civil Engineering.

PROGRAM SPECIFIC OUTCOMES (PSOs)**PSO1**

To solve engineering problems related to Civil Engineering by systematic techniques, skills and tools to meet the ever growing needs of sustainable infrastructural development.

PSO2

Design and build Civil Engineering-based systems in the context of structural, geotechnical, transportation and environmental requisites.

PROGRAM OUTCOMES (POs)**Engineering Graduates will be able to:**

PO1 Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Quantity surveying workshop

19/05/2022



Photos from the workshop

A workshop was conducted on Quantity Surveying. The resource person of the workshop, Mr. Anwar C.M., was an alumni at IIM Lucknow, an ex-Amazon employee, and a budding software entrepreneur. The Bangalore-based young engineer, with his extraordinary eloquence, won a mindful attention from the final year students at the workshop. During the session, the participants made awareness of software such as Cubit Pro, costX. 'Quantity Surveying is performed either manually or using conventional software such as AutoCAD or Revit; however, it takes the top-ended tools to render it more professional'- the orator says. Students got aware of the software packages to execute the manual procedures of rate analysis, valuation, and so on. The conventional classroom study based on the rate schedule has left behind a base idea among the students.

'We have to build up the software awareness from the base'- commented the orator, emphasizing the accuracy, speed, and user-friendliness of the software compared to the manual methods. Within the short duration of the workshop, students learn to install and operate the software. The department felicitated the orator at the end of the session. The students were provided with certificates as well.

Project Management with BIM: Insights and Career Opportunities

01/06/2022



Photos from the expert talk

An expert talk by Mrs. Vijayata Malla, Assistant Professor at NICMAR Hyderabad, was held online on June 1, 2022. Titled "Glimpses of Project Management Using BIM and Job Opportunities in the Industry Sector," the session drew a keen audience interested in civil engineering advancements.

Mrs. Malla, speaking fluent English with a Telugu accent, provided an in-depth overview of Building Information Modelling (BIM). She covered essential topics like building information systems and health monitoring, delivering insights into modern construction practices.

The session was particularly valuable for final-year students, sparking innovative project ideas and broadening their understanding of career opportunities. Inspired by her presentation, students expressed interest in further engagement and requested Mrs. Malla's contact details for additional guidance. This informative session left a lasting impression, highlighting the importance of BIM in project management.

Joining hands with NATPAC for a Parking-friendly Chirakkuni

28/06/2022



Surveying team at Chirakkuni intersection

It was just another ramble for the onlookers, on the fine morning of 28th June 2022 along the footpaths of the Chirakkuni Intersection- Kannur, but for the four civil engineering students from STM has some allegiance behind their ramblings. It was part of their duty to conduct a parking survey at the intersection, as the department has joined hands with NATPAC- a centrally funded institution under the Government of Kerala.

‘We were at our wit's end amidst the busy schedules of the Project ‘Traffic Congestion Measures of Chirakkuni Intersection’, which demands several field surveys including parking survey, traffic volume count, as well as OD studies’- the Project Supervisor Ebin Samuel says. ‘It was at this juncture, we requested for a even though it was hectic and tiresome to work on site. Moreover, it was their pleasure to receive certificates of participation from NATPAC. consultation from the nearby Engineering Colleges, and the Civil

Engineering Department of STM accepted the proposal immediately’- the Scientist cum Project Coordinator added. Four students along with a faculty coordinator comprised of the surveying team. Amidst their academic pursuits, the students themselves processed the raw data obtained in the form of vehicle count, converted them into the respective ‘Passenger Car Units’, and submitted the entire discourse to the authorities. A wholehearted applause was bestowed on the department for the accuracy of work and timely submission of the processed data. ‘We made several rounds of discussions with local politicians, panchayat authorities, and all, but everyone shrugged off. Now we have hope on the coming engineers like you in such endeavors’- the shopkeepers at the intersection says to the students during the survey. The comments from the stakeholders like this, made the day for the four-member team,



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