AAKAR

'Siddirbhavathi karmajaa'

News Letter

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DEPARTMENT OF
CIVIL ENGINEERING

SHRI MADHWA VADIRAJA INSTITUTE OF TECHNOLOGY & MANAGEMENT

Accredited by NBA | Accredited by NAAC with 'A' grade | Affiliated to VTU, Belagavi,
Vishwothama Nagar, Bantakal, Udupi – 574 115, Karnataka, India
Website: www.sode-edu.in

SMVITM

About Department :

The Civil Engineering Department has been in existence since the inception of the Institute during the academic year 2010-11 with an intake approval of 60 Students. The Department has got a highly ualified team of faculty members having rich experience within academic and Industry. The Department is committed to provide quality education and produce competent engineers to meet the growing demand for professionals in Civil Engineering. The Department invites eminent personalities and academicians from prestigious Institutions and industries to deliver quality lectures to the Students frequently and has organized many highly useful workshops which are beneficial to the faculty, students and practisinengineers. The Faculty members attend various workshops/conferences/training programs on a regular basis, which would keep them abreast with the latest happenings and developments occurring in their related fields and upgrade their competencies and Skill-sets up to date.

What is civil Engineering?

Civil Engineering is a professional engineering discipline that deals with design, construction & maintenance of the physical and naturally built environment. To put simply, civil engineers build bridges, roads, canals, dams, tall buildings and other large structures. Civil Engineering is all about creating, improving and protecting the environment in which we live. It provides the facilities for day to day life and for transport and industry to go about its work. Civil engineers are concerned with all types of structures including dams, bridges, pipeline, roads towers and buildings. They are responsible for the design and construction of all our transport system, the design and management of our gas and water supply, sewerage systems, harbours, airports and railways. Civil engineering plan, design and test of the structures of private and public building facilities.

Consultancy and Third-party inspection work

Department of Civil Engineering undertakes Testing and Consultancy works for various agencies in the Udupi District
The area of consultancy includes:

- Laboratory testing of soil, cement, sand, Coarse aggregates, bitumen and water samples
- Design and Drafting of RCC and Steel Structures
- Field tests on roads and buildings to check the quality of work
- Inspection of roads, culverts, drains, buildings, etc.
- Concrete mix design
- Surveying of the mobile tower
- Water quality test
- Structural Test on reinforced bars

Third part inspection services to the following Organizations:

- Nirmithi Kendra, Udupi
- City Municipal Council, Udupi
- Town Municipal Council, Kaup
- Panchayath Raj Engineering Division, Udupi

Message from HOD

Civil Engineering is the oldest Engineering Profession in the World. The American Society of Civil Engineers was founded in the year 1852. It defines Civil Engineering as the profession, in which a knowledge of the mathematical and physical science gained by study, experience and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the progress of well-being of man.

The curriculum is not only a blend of theoretical and practical aspects of varied disciplines ofcivil engineering such as structural engineering, transportation engineering, geotechnicalengineering, and water resources engineering, surveying, but also provides values based education, inculcating the qualities of a responsible engineer who can undertake any challenging project with right understanding towards holistic development of the society.

The booming population and increased demands of sustainable infrastructure in the form of high-end road and railway network, better water supply arrangements and concept buildings provides opportunities and new scope in the civil engineering path. This job is called “evergreen”. Students enrolling for admission in civil engineering in 2022 can prepare and train themselves with the right skill set to be instantly employed in to high-end national and international projects.

Dr. Deepika B V
Associate Professor & Head,
Department of Civil Engineering

Our Vision

- To impart a quality holistic education and consultancy, in civil engineering with integrity, societal benefit, ethical standards and sustainable development.

Our Mission

- To provide a value added education to make the civil engineers to address the complex and multi- faceted Civil Engineering problems

- To improvise the industry and institute interaction by interdisciplinary research

- To provide the necessary holistic education to be a leader, planner, decision maker, structural designer, constructor and operator of the built environment

Programme Educational Objectives (PEOs)

The objectives of the Civil Engineering undergraduate program at SMVITM are to develop civil engineers with the following

5 years down the line after graduation, the graduates should have

- A strong foundation for becoming a technically competent human resource in the broad disciplines of Civil Engineering
- Excel in Civil Engineering profession to meet the challenges of construction industry
- Update and adopt modernization in Civil Engineering with lifelong learning
- Preserve the environment for the society by adopting sustainability in Civil engineering with professional ethics

Programme Outcomes (POs)

Graduates of the Civil Engineering program are able to:

PO No	Graduate Attributes	At the end of the programme the student should be able to
1	Engineering Knowledge	Apply knowledge of mathematics, science, and engineering to solve the Civil engineering problems
2	Problem Analysis	Identify the problem, analyze, formulate and apply appropriate Civil engineering techniques to obtain the solutions
3	Design & Development of Solutions	Design Civil Engineering structures, components or processes by considering public health and safety, societal, sustainability and environmental issues
4	Conduct Investigations of Complex Problems	Conduct investigations of problems, search, identify and select relevant information from the literature to provide valid conclusions.
5	Usage of Modern Tools	Use modern tools for solving the engineering issues associated with social and professional context
6	Engineer & Society	Understand the role and responsibility of a Civil Engineer and apply the knowledge for the development of society
7	Environment & Sustainability	Apply the concepts of Civil engineering to minimize the environmental hazards by adopting sustainability in construction activities
8	Ethics	Understand and apply professional ethics for the issues relevant to the Civil engineering practices.
9	Individual & Team Work	Work as a member of a multidisciplinary project or research teams and have an understanding of leadership in teams and organizations.
10	Communication	Produce engineering reports, communicate the thoughts and ideas clearly and effectively.
11	Project Management & Finance	Demonstrate knowledge of the civil engineering project management principles and apply them to manage construction projects
12	Life-long Learning	Understand the need of engaging in life-long learning to update the knowledge in Civil Engineering field
PSO-1	Focus on developing and exposure to alternative/ advanced technologies	Understand, develop and implement state-of-art technologies related to civil engineering
PSO-2	Extension of knowledge and testing facilities for the society	Provide solutions to day-to-day civil engineering problems by extending the intellectual knowledge base and the testing facilities for the society

CONTENTS

Programe Conducted in Odd Sem

• Guest Talk "A career Guidence for Civil Engineering"- by Mr. Surendra P

The Student Club of Civil Engineering Department, STHAPATI of Shri Madhwa Vadiraja Institute of Technology & Management (SMVITM), Bantakal, organized a Guest talk on Ultimate Destiny for Young Genius Aspiring minds, at the Department premises on 03rd August 2023 by Mr. Surendra P, Asst. Professor, AIET, Moodubidre. At the beginning, Sir spoke about the avenues in which an aspiring civil engineering student can go through various career opportunities available soon after studies. He then gave detailed information of each of those avenues. He also highlighted various career opportunities available in government and defence entities exclusive for civil engineers. At the end he gave the information of various web portals available through which a student can go through and get knowledge regarding interview process as well as career opportunities

•Alumni Talk "Career Guidance" - by Ms Janvi

Civil Engineering and Basic science Department in association with Alumni Cell organized Career guidance program for first and second year students which was held on 18 August 2023 in seminar hall 2 (Library Block) Resource persons for program was Ms. Janvi from 2022 passed out batch. She is currently pursuing her higher studies in Structural Engineering at NITK Surathkal.

The session started with Introduction about resource person and her experience in the institution where she has learnt. She stressed about use of productive hours for the development of students. She also told the study hacks students should follow. During COVID about the online classes and actively participating in learning; it would help students for life, not only for the marks. She also stressed about her development in the engineering institution like overall development in the entire field.

•"Project Ideation"-by Mr. Sunil S Haldankar

Civil Engineering Department in association with ISTE student chapter organized a talk "Project Ideation-Design, Thinking and Innovation "to the Final year Engineering students. Speaking on this occasion Mr. Sunil Haldankar, Senior Asssistant Professor, elucidated the students on the ideation, or idea generation process is an essential element of the creativity and innovation found in the Enactus team . It not only focuses on generating potential solutions to a particular area of need , but also allows for an evolution of ideas , sometimes leading to a potential solution for a different areas of engineering.

Programe Conducted in Odd Sem

Ideation involves understanding the market, observe real people in real situations, Visualize " new to the world" solutions, and the ultimate customer, Evaluate and refine prototypes, implement new concepts. In the second session Mr. Sunil Haldankar, gave an insights on Project work guidelines and rubrics for the each and every phases of evalution.

•"Challenges and opportunities in contracting"- by Er.Harshith joshi

Civil Engineering Department ISTE student chapter in association with Alumni cell organized a talk "Challenges and opportunities in contracting"to the Final year Engineering students. Speaking on this occasion Er. Harshith Joshi, Propretor, Shivansh Constructions Pvt. Ltd. Enlightened the students on the Challenges and opportunities in contracting in context with the present day aspects. He started the session with the difficulties and hurdles taken by him at the start of the career in various companies like CCCL. Construction company and Malavika construction company Udupi.

Er. Harshith reminded that Civil Engineering is a vast field, students has to take up the right path soon after the engineering in which domain students want to work, that's the catch.try to learn the small things like construction of compound wall, masonry wall and measurement of a small buildings. He also narrated the tendering process in PWD and other Govt. works. Meaning of EMD, MD, Tendering documents and how to apply for getting as a PWD certified contractor.

•"Rainwater Harvesting in Urban Areas" -by Dr. Shekar Raghavan

Dr. Shekar Raghavan, Director, Akash Ganga trust rain center, Chennai, addressed the students about Need, Relevance And Importance of Rainwater Harvesting In Urban Areas. Sir gave the introduction of works done by rain centre, was set up in Chennai by Akash ganga trust inaugurated by our hon'ble (late) chief minister J. Jayalalithaa in august 2002. The rain centre is a one-stop information and assistance centre for rainwater harvesting. Activities of the centre was awareness raising, help in implementation and carry out periodic surveys and studies regrading rainwater harvesting. Sir, suggested in urban areas the one solution for Drought and Floods is Rainwater harvesting. Sir, showed in ancient times the rainwater harvesting was done in the world. Sir gave in depth insight into the procedure for rainwater harvesting by various methods with examples. Sir explained First flush arrangement at the Rain Centre at Chennai, Rainwater harvesting in individual house through sump and open well, groundwater recharge by construction of recharge well and methods of driveway runoff harvesting. Sir gave various action taken by the Chennai government for the rainwater harvesting. i.e recharge well on the road by Chennai corporation, recharge well on the road by the residents, recharge well within a drain etc. Sir indicated the success of Rainwater harvesting for a city like Chennai i.e. Chennai was not water starved till last year. Sir highlighted the importance of maintaining rainwater harvesting structures.

Programe Conducted in Odd Sem

- "Application and Demonstration of CivilEngineering Softwares"

- by Mr. Abhinav

Mr. Abhinav, Center manager, Trainer EduCADD Udupi, addressed the students about Need, Relevance And Importance of having various software skills with the technical skills. He highlighted necessity of the software skills in various abroad countries like Dubai. He demonstrated three software's, i.e. Staad Pro, 3Ds Max and Primavera. He showed various projects completed by EduCADD in Staad Pro, 3Ds Max and Primavera and gave in depth knowledge how these software's will increase the career growth of the civil engineering students. He explained the following details about the software's. The Structural Analysis and Design Program (Staad Pro) is a software program used for structural analysis and design of Buildings, Towers, Bridges, Industrial structures, Transportation structures, Utility structures. 3ds Max is a 3D computer graphics program for creating 3D models, animations and images. It's used for modeling, animating, and rendering detailed 3D buildings, photorealistic designs, and complex structure. Primavera is a project management software that helps with project planning, scheduling, risk analysis, and more. He elaborated on the future of the Staad Pro, 3Ds Max and Primavera. Has the growing needs of our economy, the infrastructure of our country is growing rapidly. Hence the civil engineers plays a pivotal role in the modern infrastructure developments and the these software's will play a major role for faster, safter and economical construction works.

- "Making Resume & linkdin Profile"

-by Dr. C K Manjunath

Dr. C K Manjunath, Head of Training & Placement cell SMVITM, Bantakal, addressed the students about Need and Importance of Resume Making and creating profile in Linkdin. In his session he explained the importance of making the resume attractive and impressive. He explained the importance of Linkdin profile to improve the professional contact for internship and job opportunities. the session was very imformative and useful for the students.

Programe Conducted in Odd Sem

•"Industrial Visit"

-Varahi Hydro Electric Powerhouse, Mani Dam and Pickup Dam, Hosangadi

In association with Entrepreneurship development cell & STHAPATI organized a "Industrial Visit" to Varahi Hydro Electric Powerhouse, Mani Dam and Pickup Dam, Hosangadi on 26th October 2023. The Students were taken first to Underground Varahi Hydro Electric Powerhouse, Hosangadi. The Executive Engineer explained the step by step mechanics of generation of Electricity in their hydro power plant. The Executive Engineer showed all the three levels in the underground powerhouse with the explanation of all instruments. The first level the electricity generators was shown and the mechanics of same explained to students. In second level the coupler between the turbine and generator was shown and the role of the coupler was explained. In the third level the Pelton Turbine was displaced and how the water flows inside are explained. The Executive Engineer also displayed the amount of electricity generated and to where it's getting supplied to. The students got in depth knowledge how electricity is generated using hydro force. Then the Students were taken to Mani Dam and Pickup Dam at Hosangadi. There Executive Engineer shown the inlet valve for water to enter the underground powerhouse, then he explained the usage of the pickup dam and its necessity. Finally, the students were taken to main Mani reservoir dam and the Executive Engineer explained about the catchment area, various water level and working of dam.

•"Industrial Visit"

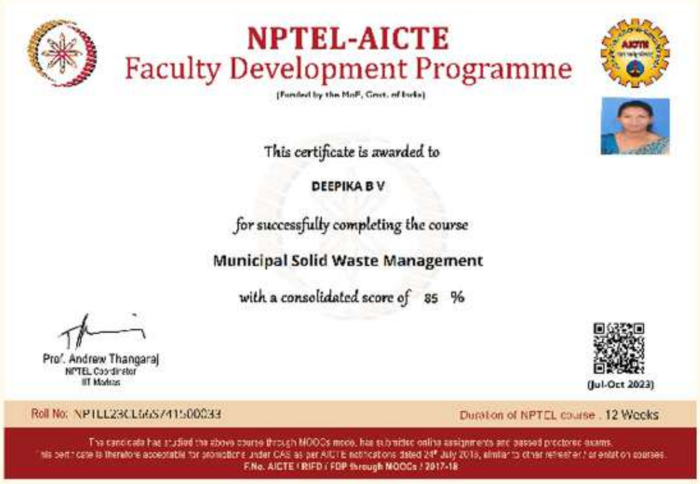
-to Shamili Hydel Power Plant, Hole Shankaranayana

in association with Entrepreneurship development cell & STHAPATI organized a "Industrial Visit" to Shamili Hydel Power Plant, Hole Shankaranayana on 26th October 2023. The Students were taken to Shamili Hydel Power Plant, Hole Shankaranayana. The Engineer explained the step by step mechanics of generation of Electricity in their hydro power plant with two 20 megawatts capacity and one 1 megawatts generators. The Engineer showed all the levels in the underground powerhouse with the explanation various stages in the generation of electricity. The Engineer explained how the water pressure is maintained in the pipe with the counterweights. The Engineer explained the Butterfly Valve used for inlet of water into the turbines and explained about the control systems with the working procedure to operating the machines. The students got in depth knowledge how electricity is generated using hydro force.

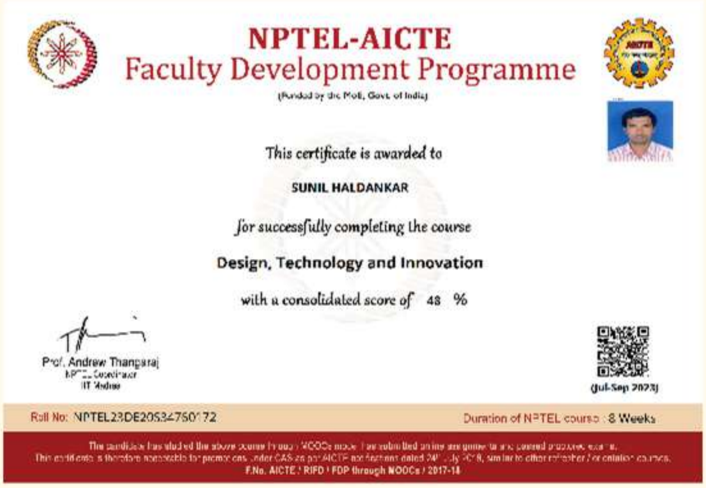
Then the Students were taken to Pick up Dam near the Shamili Hydel Power Plant. There Engineer shown the inlet valve for water to enter the underground powerhouse and outlet valve for supply of water to irrigation lands by Varahi Channel.

Accomplishments

FDP Attended :



NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)
This certificate is awarded to
DEEPIKA B V
for successfully completing the course
Municipal Solid Waste Management
with a consolidated score of 85 %
Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras
(Jul-Oct 2023)
Roll No: NPTEL23CE66S741500033
Duration of NPTEL course : 12 Weeks
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18



NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)
This certificate is awarded to
SUNIL HALDANKAR
for successfully completing the course
Design, Technology and Innovation
with a consolidated score of 48 %
Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras
(Jul-Sep 2023)
Roll No: NPTEL23DE20S34760172
Duration of NPTEL course : 8 Weeks
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18

NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)
This certificate is awarded to
MADHUSOODHANA RAO N
for successfully completing the course
Global Navigation Satellite Systems and Applications
with a consolidated score of 55 %
Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras
(Jul-Aug 2023)
Roll No: NPTEL23CE94S34730150
Duration of NPTEL course : 4 Weeks
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18

NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)
This certificate is awarded to
JAYARAM NAYAK B
for successfully completing the course
Global Navigation Satellite Systems and Applications
with a consolidated score of 86 %
Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras
(Jul-Aug 2023)
Roll No: NPTEL23CE94S34730102
Duration of NPTEL course : 4 Weeks
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18

NPTEL Completion Certificats:

Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)
TOPPER 5%
This certificate is awarded to
DEEPIKA B V
for successfully completing the course
Municipal Solid Waste Management
with a consolidated score of 85 %

Online Assignments	22.03/25	Proctored Exam	63/75

Total number of candidates certified in this course: 2597
Jul-Oct 2023
(12 week course)
Prof. T. V. Bharat
Indian Institute of Technology Guwahati
swayam
Roll No: NPTEL23CE66S741500033
To verify the certificate
No. of credits recommended: 3 or 4

NPTEL Online Certification
(Funded by the MoE, Govt. of India)
This certificate is awarded to
SUNIL HALDANKAR
for successfully completing the course
Design, Technology and Innovation
with a consolidated score of 48 %

Online Assignments	13.08/25	Proctored Exam	35.29/75

Total number of candidates certified in this course: 700
Jul-Sep 2023
(8 week course)
Prof. Sridhar Iyer
Indian Institute of Technology Bombay
swayam
Roll No: NPTEL23DE20S34760172
To verify the certificate
No. of credits recommended: 2 or 3

Accomplishments

NPTEL Completion Certificats:

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

MADHUSOODHANA RAO N

for successfully completing the course

Global Navigation Satellite Systems and Applications

with a consolidated score of 55 %

Online Assignments 23.33/25	Proctored Exam 31.5/75

Total number of candidates certified in this course: 134

Prof. Kaushik Ghosh, Professor Emeritus, Coordinator CEC

Jul-Aug 2023

(4 week course)

Prof. Ranjana Pathania, Professor (SG), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

swayam

Roll No: NPTEL23CE94S347301S0 To verify the certificate No. of credits recommended: 1 or 2

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

TOP 5% TOPPER

This certificate is awarded to

JAYARAM NAYAK B

for successfully completing the course

Global Navigation Satellite Systems and Applications

with a consolidated score of 86 %

Online Assignments 23.33/25	Proctored Exam 63/75

Total number of candidates certified in this course: 134

Prof. Kaushik Ghosh, Professor Emeritus, Coordinator CEC

Jul-Aug 2023

(4 week course)

Prof. Ranjana Pathania, Professor (SG), Coordinator (NPTEL)

Indian Institute of Technology Roorkee

swayam

No: NPTEL23CE94S347301102 To verify the certificate No. of credits recommended: 1 or 2

TESTS ON WATER
As per BIS standards

- CONDUCTIVITY
- TURBIDITY
- CHLORIDES
- FLOURIDE
- IRON
- pH
- TDS
- E-COLI
- HARDNESS
- ALKALINITY
- CHLORINE DEMAND
- RESIDUAL CHLORINE

Tests on
Building Materials

Compressive strength, water absorption and effloresence of bricks.

Compressive and flexural strength of timber and ceramic/roofing tiles.

Tensile strength, percentage elongation, weight and other properties of mild and TOR steel.

Fineness modulus, crushing and impact values, flakiness and elongation indices, abrasion andwater absorption of coarse aggregate.

Fineness modulus, silt content and bulking of fine aggregates.

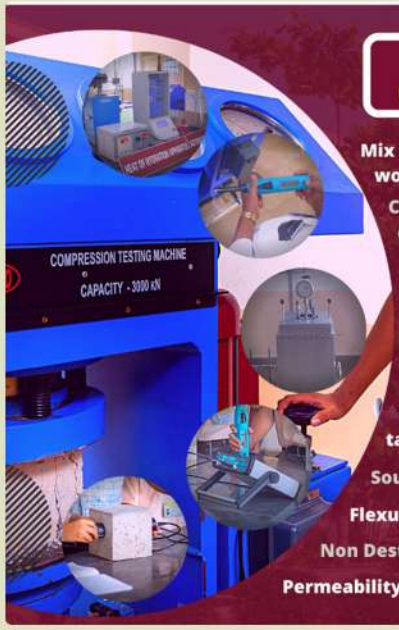
Soil Investigation
Tests on soil

Index properties, grain size distribution, standard and modified compaction characteristics.

Shear strength parameters, permeability values, consolidation characteristics.

California Bearing Ratio (CBR) Value and determination of Safe Bearing Capacity (SBC) etc.

Soil investigation report with recommendations



Tests on
Cement/ concrete

Mix Design of concrete for varieties of works.

Compressive strength, of Concrete cubes and solid/hollow blocks, bricks etc.

Concrete air permeability (blaine type).

Specific gravity, Normal consistency and setting time of cement.

Workability of concrete using flow table as well as slump test.

Soundness of cement using autoclave.

Flexural strength of hardened concrete.

Non Destructive Testing.

Permeability of concrete as per DIN Standards.

Tests on
Highway Materials

Flash and fire point of bitumen.

Ductility of bitumen.

Viscosity of bitumen.

Measurement of resistance to plastic flow.

Bitumen consistency testing.

Specific gravity test on bitumen.

Quantification of percentage of bitumen used in road construction.

Crushing strength of aggregates.

California Bearing ratio test to determine the road subgrade strength.

We also undertake

Surveying works including mapping and preparation of layout plans, counter map and earthwork estimation.

Analysis design and drawing of all Civil Engineering sub - structures and super structures.

Estimation, costing and valuation of proposed and existing structures.

Third party inspection for flood damage, drought and other infrastructure works sanctioned under various heads, executed by different Government agencies such as PWD, Panchayathraj, Irrigation department, and Municipal authorities etc.

For Testing, Consultancy and R&D Works/Needs
Contact us: +91 97424 06206, +91 97401 69411

www.sode-edu.in

SMVITM