

Details of UG & PG Programme:

Course	Level	Year of starting	Intake
B. Tech in Civil Engg.	Undergraduate	2007	60 (approved intake up to 2012) 120 (approved intake for 2012-13)
M. Tech in Structural Engg.	Post-graduate	2012	18

Programme objective :

To extend these courses of study with Professional generous which stands over a hard platform. Providing a vast technical skill to take the leadership on these Civil Engineering field students should get the scope to build themselves on this subject area syllabus.

Subject on civil survey work should be complied with GIS and GPS based. Analysis of Steel structure should be get exposure with industrial training for improvement of class work and laboratory practices. Course syllabi should be framed with more credit marks on civil Engineering core subject's mainly Concrete technology, Steel structural design analysis, Transportation Engineering and Environmental Engineering.

The course orientation should be focused on engineering solutions inspiring towards advance studies mainly encouraging and opening the broad area of modern technology in designing, planning, environmental solution and practices for competing the industrial needs.

Mission :

Accessing prior Knowledge, articulating ideas, feeling welcome in the Classroom, choose clear and specific goals, looking for new beliefs to modify Personal theories.

HOD's Message :

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Our department is vibrant due to our academic and staff members as well as our bright students. Our faculties come from highly respectable universities and industries with specialized knowledge that runs the gamut of civil and construction engineering ranging from geotechnical engineering to structural and construction management to transportation engineering to water and environmental engineering etc. We have excellent lab facilities which can be considered as one of the best in the country.

Civil engineering is a professional core engineering discipline that deals with design, construction and maintenance of physical and naturally built environment. Civil engineers build bridges, roads, canals, dams, high-rise buildings and other large structures.

Civil engineering was originally defined simply to distinguish non-military engineering from military engineering but it actually represents so much more. Without Civil engineers, we would not have a constant supply of clean water, roads or train to get the work in morning, or sustainable energy to help us save our planet.

Civil engineering is traditionally broken into several sub-disciplines including structural engineering, dealing with analysis and design of structures, geotechnical engineering dealing with analysis and design of foundation of various structures and soil related problems, water resource engineering dealing with analysis of water potential, design of hydraulic structures and allocation of water for various sectorial uses, environmental engineering dealing with water treatment for safe water supply to urban and rural areas and waste water treatments for pollution hazards, transportation engineering dealing with analysis and design of roads, railways, airports and harbours, surveying dealing with mapping and setting out works and construction engineering dealing with construction materials , construction and maintenance of various structures.

Civil engineers use computers for analysis, design and construction, new technologies like remote sensing, intelligent buildings, intelligent transportation system, green buildings, managerial skills for managing resources and structures, communication skills for better understanding with people etc.

The department of civil engineering fulfills the requirements of equipping the students with all aspects of civil engineering mentioned above and face the real world with confidence.

There are many career paths for civil engineers. Civil engineers can work in Government departments ranging from municipality, corporation, state and central Government, Defence, public sector undertakings and various private sector organisations in contracting and consulting firms. Other areas in which civil engineers can work include entrepreneurship, teaching, research etc. For teaching and research, one has to acquire additional degrees at master's and Ph.D. level.

Master's degree in structural engineering can be pursued at our institute.

Civil engineering offers opportunities to work overseas. By becoming professionally qualified, one will be able to enter international work place for short and long term. Today the world is undergoing radical ranges with technological revolutions, population growth, environmental concerns and more. All create unique challenges for civil engineers.

I shall be glad to assist the students about the future in civil engineering or about issues that interests them.

With Good Wishes and All the Best!

Prof. J. C. Guha

Approval / Accreditation: Approved by All India Council of Technical Education (AICTE)

Affiliated to West Bengal University of Technology (WBUT)

Faculty Details :

Name of the Faculty	Qualification University and year of graduation	Teaching/Industrial/Research/Consultancy Experience in Years
Jagadis Ch. Guha	B.E (CE), M.E.(PH)	Industrial & Consultancy-35 Ex Chief Engineer, HDA
Chandra Sekhar Sen Majumder	BE(CE), ME(Structure)	Industrial & Consultancy-32 Ex Director, Project palnning, KMDA
Dr. Somnath Bandyopadhyay	BE(CE), M.Tech(CE), Ph.D	Teaching- Ex HOD, NIT Durgapur Industrial & Consultancy-33
Dr. Pradip kumar Ray	BE(CE), M.Tech (Structure), Ph. D	Teaching- 48 Ex Professor, BESU

Name of the Faculty	Qualification University and year of graduation	Teaching/Industrial/Research/Consultancy Experience in Years
Sunil kumar Roy	BE(CE), M.S.(USA in Illinois), Fellow of Economics development institute, Washington, D.C., USA	Professional experience- Director General (Planning and Development, Chief traffic and transportation planning engineer), KMDA Teaching-Ex Professor, BESU
Goutam Chowdhury	BE(CE, IIT KGP), ME(Structure, IIT KGP)	Teaching- 3 Industrial & Consultancy-33
Supriya Guha	BE(CE,JU), ME(Structure, JU)	Teaching- 3 Industrial & Consultancy-34
Rajkumar Banerjee	BE(CE, BESU), ME(Geotech, BESU)	Teaching- 6 Industrial & Consultancy-4
Sujoy Sarkar	BE(CE, JU), ME(Geotech, JU)	Teaching- 4 Industrial & Consultancy-4
Abhipria Halder	BE(CE), ME(CE)	Teaching- 2 Industrial & Consultancy-2
Samaresh Pan	BE(CE, JU), ME(Structure, JU)	Teaching- 2 Industrial & Consultancy-2 Research-4
Rudraprasad Bhattacharyya	BE(CE, BESU), MS(CE, IIT KGP)	Teaching- 1 Industrial & Consultancy-3
Tanmoy Laha	B. Sc (Environment & Water management, Burdwan University), M. Sc (Env. Science, Kalyani University)	Teaching- 2

Eminent member in Department BOS

: Prof. (Dr.) Pradip kumar Roy

Prof. Sunil kumar Roy

Syllabus (Broad contents with credits only) : As per WBUT SyllabusVisit website: wbut.ac.in**Curriculum beyond Syllabus :**

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1. Increasing students' self awareness
2. Student-led discussions —
“Pay to be tutor, not to be tutored” is the message from studies i.e. students read the passage and taught it to another student
3. Stages of developmental discussion —
Teacher times to keep the students aware of discussions i.e. the current focus. Typical stages are
 - i. Formulating the problem
 - ii. Suggesting hypothesis
 - iii. Getting relevant data
 - iv. Evaluating alternative solutions

Students' Projects :

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(Selected projects in last 3 years)

Batch	Project title	Contribution/ Achievements/ Research Output
2007-11	Truss Design	Performance study of different type of Truss.
	Permeability Characteristics of diff. type of soil	Performance study of different type of Soil.
	Self Compacting Concrete	Performance study of different type of concrete.
2008-12	Truss Design	Performance study of different type of Truss.
	Permeability Characteristics of diff. type of soil	Performance study of different type of Soil.

	Self Compacting Concrete	Performance study of different type of concret.
	Report on soil investigation for proposed multistoried building	Performance study of different type of Building.
2009-13	Multistoried frame Building	Performance study of different type of Building.

Laboratory Details :

All these laboratories have been especially designed to develop sound practical knowledge of the Undergraduate students in general and to cultivate the Research activities among Postgraduate students in particular. Department has planned to procure a number of sophisticated instruments from India as well as from abroad in the field of High performance concrete, Health assessment of reinforced concrete structures and offers consultancy services in different specialized areas.



Civil Engineering Department has well equipped updated Laboratory facilities in the following areas :-

- **concrete technology lab**
- **soil mechanics lab**
- **highway engineering lab**
- **environmental engineering lab**
- **surveying lab**

Concrete Laboratory

The main focus of Concrete laboratory is centered upon different areas like developing fundamental knowledge on concrete making materials, its production, quality control and monitoring health of reinforced concrete structures. Department is looking forward to set up a center for nurturing the New generation concrete such as Self compacting concrete, fiber reinforced concrete, high volume fly ash concrete as a part of research and consultancy activities.

- Major Equipments

- Compression testing machine
- Concrete mixer machine
- Motor vibrator
- Smith Rebound Hammer.



Soil mechanics Laboratory

The primary objective of Soil mechanics laboratory is to excel the indepth knowledge on characteristics of soil towards design of foundation and for many civil engineering applications.

- **Major Equipments**

- Consolidation test Apparatus
- California Bearing ratio test apparatus
- Unconfined Compression Tester
- Compaction apparatus



Highway engineering Laboratory

This laboratory offers handy solutions in testing road materials based on local needs by means of Los angeles apparatus, Crushing strength apparatus, Bitumen testing apparatus. Mix design of bituminous concrete for specified requirements is also performed. Benkelman beam is available to check the longitudinal profile of road crust.

- **Major Equipments**

- Los Angeles Abrasion testing machine
- Marshall stability test apparatus
- Benkelman beam apparatus
- Ring & Ball Apparatus
- Pensky mertene flash point apparatus



Environmental engineering Laboratory

Lab facilities are especially designed for testing and analyzing the municipal and hospital wastewater. Testing of drinking water parameters including Arsenic is available in the laboratory. Recently department has procured a number of modern and sophisticated computer operated instruments for analyzing drinking and waste water parameters.

- **Major Equipments**

- BOD incubator
- Bacteriological Incubator
- COD apparatus
- Spectrophotometer UV tube visible
- Laminar Air Flow Machine
- Gutzeit generator



Surveying Laboratory

Surveying instruments with necessary accessories are provided from conventional survey to modern survey by means of chain survey, transit vernier theodolite, automatic level, dumpy level, digital theodolite and electronic theodolite - total station.

- **Major Equipments**

- Automatic level fitted with tripod stand
- Electronic digital theodolite
- Transit vernier theodolite
- Electronic Total Station



Geology Laboratory

Geology laboratory puts emphasis on identification of crystals, rocks and minerals with the help of hand specimens, petrology microscope, ore microscope, geomorphology model clinometer. Interpretation on Geological map India is also illustrated in detail.

Major Equipments

- Petrology microscope
- Ore microscope
- Geomorphology model



Research Publication and Books :

- **Journals**

- National : 4
- International : 2

- **Conference Proceedings**

- National – 4
- International – 1

- **Books** : NIL

Success rate of Students : (Last 3 batches)

Year of Entry (in reverse Chronological order)	Number of Students Admitted in 1 st year + Admitted in 2 nd year	Number of Students successfully completed 4 th year
2008	83	65
2007	62	59

Students' Achievements :

Participated in different Quiz contests, Model presentation, Deabates etc. in Different engineering colleges in West Bengal and awarded prize.

Placements/ Higher Studies :

Batches	Number of Students successfully completed 4th year	Placements	Higher Studies
2007-11 Batch	59	54 (Placed in 2011)	M. Tech 5
2008-12 Batch	65	40 (Placed in 2012) 12 (Placed in 2013)	8

Professional Activities :

- Events Organized:
 - Seminar on "URBAN TRANSPORTATION INFRASTRUCTURE DEVELOPMENT" on 24/8/2012
 - Seminar on "BIO-CHEMICAL EFFECTS OF ARSENIC IN ENVIRONMENT" on 22/1/2013

- Student's Chapter
 - Institute of Engineers (I) (under construction)
 - American Society of Civil Engineers (under construction)
- Faculty Interaction with Professional Bodies:

American Society of Civil Engineers
 Institution of Civil Engineers (India)
 Indian Concrete Institute
 Institute for Steel Development & Growth
 Indian Geo-Technical Society
 Indian Association for Computational Mechanics

Distinguished Alumni : Under process

Teaching Learning Process :

Simply not to pass out the syllabus, mentioning assignment for the next class. Rather a brief overview on the subject matter is more important even though the students have had no prepared assignment.

Course File, Plan of course delivery :

Teach students to learn and think. Course file involve analyzing materials, formulating problems, developing hypotheses, bringing evidence to bear, criticizing and evaluating alternative solutions-revealing methods of learning and thinking.

Teaching Methodology :

Encouraging students to formulate questions or asking questions oneself can facilitate understanding and memory. By recapitulating major points by proposing unanswered questions to be treated in the reading assignments or the future lectures and by creating an anticipation of the future, the lecturer can help students learn.

Continuous Evaluation (Assignments, Question bank if any, Class test, Slot tests, Quiz, if any) :

By examinations in the form of class test, slot test, oral examinations, perhaps even performance lists. Other methods of assessment applied for assertions:

- Students learn depends as much as on your lists as your teaching.
- Tests not simply for assigning grades. Moreover facilitate learning for your students.

- iii. Use some non graded lists and assessments that provide feedback to the students.
- iv. Check the assessment method against your goals, for examples, high order thinking.
- v. Values, motivation, attitudes, some skills may not be measurable by conventional lists.

Learning Resources : (including departmental library) :

Evaluating learning means for assigning grades. Tests should facilitate learning but values, motivation, attitudes, some skills may not be measurable by conventional lists. Examinations emphasize recall of facts, many students demand teaching that emphasizes memorization of facts.

Tests are an important educational tool which helps students progress, helps build self efficacy and motivation for further learning. A conceptual representations both for teaching and for accessing learning listed below.

- i. Attention
- ii. Chunking
- iii. Elaboration
- iv. Encoding
- v. Expectancy
- vi. Extrinsic
- vii. Information Processing
- viii. Means-end analysis
- ix. Memory
- x. Motivation
- xi. Planning
- xii. Recognition
- xiii. Retrieval
- xiv. Schema
- xv. Self-efficacy
- xvi. Self-regulation
- xvii. Working backward
- xviii. Working memory

Industry Interaction : :

- Industrial visit : Visit to TEXMACO PLANT, Agarpara (March, 2013)
- Expert lectures
 - Experts from Kalyani University, Dept. of Environmental Science

- Prof. Sudip kumar Roy, Ex Prof. BESU

- Mock Assessment
 - Questionire prepared by TEXMACO PLANT, Agarpara during plant visit in March, 2013