

CHRIST UNIVERSITY FACULTY OF ENGINEERING
CIVIL ENGINEERING DEPARTMENT LABORATORY DETAILS

Physical Laboratories Available

Serial Number	Laboratory Name
1	Basic Material Testing Laboratory
2	Surveying Laboratory
3	CAD Laboratory
4	Applied Engineering Geology Laboratory
5	Geotechnical Engineering Laboratory
6	Highway Materials Laboratory
7	Structural Dynamics Laboratory

Research Laboratories available are as below

Serial Number	Laboratory Name
1	Concrete Technology Laboratory
2	Environmental Engineering Laboratory

LABORATORY FACILITIES OF CIVIL ENGINEERING DEPARTMENT

The department has excellent laboratory facilities with latest and new equipment. We have well trained laboratory staff assisting our highly qualified and experienced teaching faculty in conducting the labs. There are nine laboratories in the department out of which seven laboratories are for academic purpose these are Material Testing Laboratory, Survey Laboratory, CADD Laboratory, Applied Engineering Geology Laboratory, Geotechnical Engineering laboratory, Concrete Technology Laboratory, Highway Materials Testing Laboratory, Environmental Laboratory and Structural Dynamics Laboratory, the other two laboratories used for academic and research purposes these are Concrete Technology Laboratory and Environmental Engineering Laboratory.

The Civil Engineering department also has many design and drafting software packages available in academic labs including CAD, STAAD pro, ETabs and Ansys



1. Basic Material Testing Laboratory:



Basic Material Testing Laboratory was established in April 2011. The Laboratory has equipments and facilities to cater to the needs of students to get hands on experience on testing of materials like tiles, aggregates, concrete blocks and bricks. The laboratory is extensively used by III semester Btech students as a part of curriculum also by final year Btech and Mtech students for their projects.

The students will be able to independently perform tests to find out various properties of materials by acquaintance of this lab.

Skills acquired by students: Quality control and Assurance of materials.

Basic Material Testing Laboratory: III Block Ground Floor Room No 301

Major Equipments: Compressive Strength Testing Machine, Abrasion Testing Machine etc.

2. Survey Laboratory:



Survey Laboratory was established in April 2011. The Laboratory has all the latest and advanced instruments which can be used by students in getting acquaintance of survey works. Total Station the newly procured equipment in 2013 is state of the art, which meets the industry standards. This laboratory is extensively used by Btech students of III, IV and VI semester.

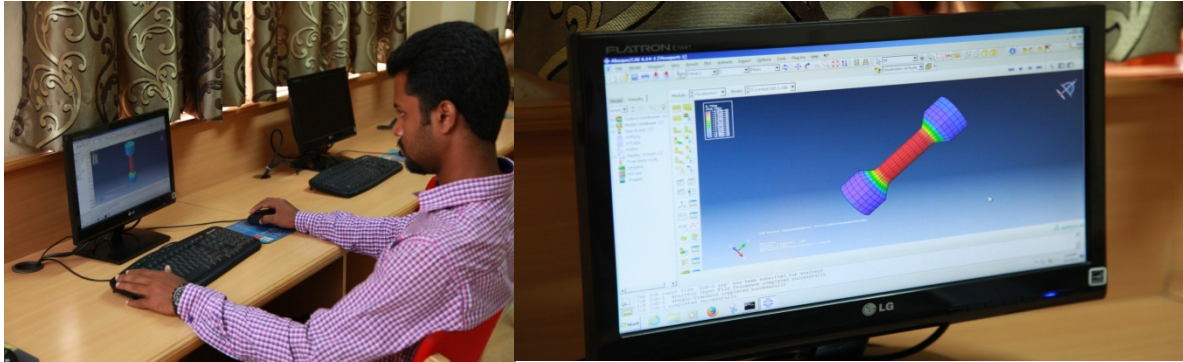
The students will be able to perform professional survey work in civil engineering works.

Skills acquired by students: surveying

Survey Laboratory: III Block First Floor Room No 317

Major Equipments: Total Station, Auto Level, Planimeter etc.

3. CAD Laboratory:



Computer Aided Design Laboratory was established in April 2012. It maintains windows based computers used for course work, teaching, design and research work. Commercial Software packages like AUTO CAD, STAAD Pro, E-Tabs, Auto Plotter, Road Estimator are available with user manual and It is used by Btech V semester and Mtech I semester students as a part of curriculum and for others as a part of design and project works.

The students will be able to draft plan and elevation of buildings and independently model and analyze structures.

Skills acquired by students: Designing and Drafting

CAD Laboratory: II Block First Floor Room No 222

4. Applied Engineering Geology Laboratory:



Applied Engineering Geology Laboratory was established in April 2012, it has a large collection of various rock mineral samples from various places used for studying and identifying different type of rock minerals. The Laboratory is used as a part of curriculum by V semester students.

The students will be able to recognize and describe common geological formations of relevance to civil engineering and ability to interpret geological maps

Skills acquired by students: Recognizing rocks suitable for civil engineering works

Applied Engineering Geology Laboratory: III Block First Floor Room No 317

5. Geotechnical Engineering Laboratory:



Geotechnical Engineering Laboratory was established in July 2012. Laboratory has equipments used to study and determine various index and engineering properties of soil. The equipments meet the standards for teaching and basic research purposes. Students of Btech VI semester use the Laboratory for curriculum and also by other students for their project works.

The students will be able to classify the soil, find out soil parameters used for design and construction, and apply modern techniques, skills necessary for engineering practices.

Skills acquired by students: Testing on soil for its properties.

Geotechnical Engineering Laboratory: III Block Ground Floor Room No 313

Major Equipments: Triaxial Shear, Direct Shear, Unconfined Shear, CBR Testing Machine etc.

6. Highway Materials Laboratory:





Highway Materials Laboratory was established in May 2012. It has all facilities catering to the needs of curriculum and few of the equipments can be used for basic research purposes. The materials like bitumen and aggregates can be tested effectively. Students of VII semester use the laboratory for their curriculum and other students for their project works.

The students will be able to determine properties of bitumen, aggregate and hot mix asphalt testing.

Highway Materials Laboratory: III Block Ground Floor Room No 312

Major Equipments: Marshal Stability, Bitumen Automatic Compactor, Bitumen Ductility etc.

Skills acquired by students: Material quality assessment.

7. Structural Dynamics Laboratory:



Structural Engineering Laboratory was established in December 2014. It was started for the advance study as a part of curriculum, projects and research for Mtech students. It has advanced equipments necessary for analyzing various loads and its effect on different structural elements.

The students will be able todo independent dynamic analysis of single degree and multi degree freedom system.

Skills acquired by students: Identifying dynamic loads and structural design.

Structural Engineering Laboratory: III Block Ground FloorRoom No 311

Major Equipments: Electro Dynamic Shaker, Vibration Absorber, Models for Simulation etc.

Research Labs

In addition to the above labs, Civil Engineering department has two laboratories exclusively for research namely the Concrete Technology Laboratory and Environmental Engineering Laboratory

1. Concrete Technology Laboratory:



Concrete Technology Laboratory was established in May 2012. It is having facilities and equipments used for preparing and testing of different types of cement and concrete specimens which can be used for teaching, research and consultancy purposes. The Laboratory is housing block making machine which is extensively used for making ecofriendly blocks using the iron ore tailings from mines. The Laboratory also has a specialized self-compaction concrete testing setup used in research works and mix design for different grades of concrete can be done. Laboratory is used by Btech VII semester students as a part of curriculum and other students for their research and project works.

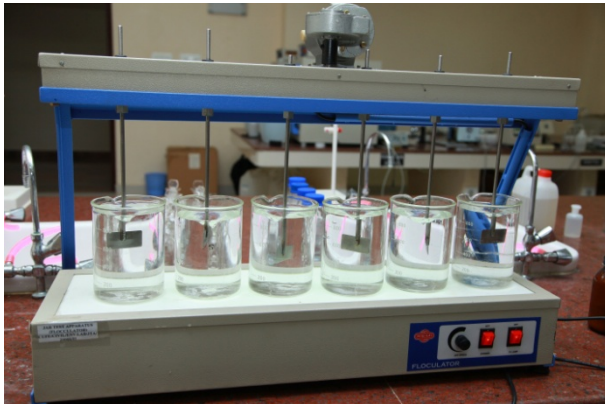
The students will be able to do concrete mix design and apply quality control techniques to test concrete quality and carry out test procedures and the principal laboratory properties of fresh and hardened concrete.

Skills acquired by students: Quality control and mix design

Concrete Technology Laboratory: III Block Ground Floor Room No 310

Major Equipments: Auto Clave etc.

2. Environmental Engineering Laboratory:



Environment Engineering Laboratory was established in January 2013; latest equipments have been procured, which can be used for studying water, waste water and microbial characteristics for teaching and basic research. Some of the equipments like U. V. Spectro Photometer meet industrial standards. Laboratory is used by VII semester students as a part of curriculum and also for project works.

Students will be able to analysis physical, chemical and biological parameters of the water and waste water.

Skills acquired by students: Water and waste water quality parameter assessment

Environment Engineering Laboratory: III Block Ground Floor Room No 305

Major Equipments: BOD incubator, Muffle Furnace, U.V. Spectrophotometer etc.

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