

Civil Engineering



HoD Note

It is my immense pleasure to write here and inform you that NCE-Department of Civil Engineering is marching towards the goal to emerge as an academic excellence for the students in their career development from well experienced and professional faculty, committed to take up the task of imparting well designed teaching mechanism and innovative teaching practices. You will feel high standard learning environment, to discover the deeper meaning of your career development in future, a great place not only to enhance your technical knowledge but personality development through various activities and programs in NCE throughout the year. I therefore, heartily welcome you to be an "Alumni of NCE-Civil Engineers" !

Er. Amrit Man Tuladhar
Head of Department
Department of Civil Engineering



“ committed to take up the task of imparting well designed teaching mechanism and innovative teaching practices for academic activities ”

Civil Engineering

Civil engineering is arguably the enormous engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like buildings, roads, highways, hydropower, bridges, canals, dams etc. These built environment encompasses much of what defines modern civilization. Civil engineers build the world's huge infrastructure. In doing so, they have shaped the histories and destinies of every nation. In fact, civil engineer's concepts make civilization truly possible.

Since time immemorial, human beings have been engaged in building all kinds of edifices. From huts made of mud to high raise buildings, we have definitely come a long way. As civilizations matured, it simultaneously led to the development of bigger, better and diverse structures.

Some significant structures from the past include the Bruz Tower of Dubai, the tallest building in the world, Bird-nest stadium of China, Stonehenge in Britain, the Great Wall of China and Huge marine dams of Holland, the magnificent Eiffel tower of Paris etc. These are just but a mere glimpse of the examples set by one of the important branches of engineering, that is, Civil Engineering.



Career

Amongst all the branches of engineering, specially the range and application of civil engineering is the broadest and the most visible. In fact, the entire infrastructural framework of a modern nation is the creation of civil engineers. The credit of building mighty power plants, dams, airports, highways, hydropower, inland waterways and industrial plants goes to civil engineers. These professionals are also engaged in building an unending array of urban structures such as commercial complexes, skyscrapers, tunnels, bridges, roads, urban rapid transport systems, sports stadia and so on.

The opportunity of working in government sectors, semi-government sectors as well as in educational sectors, private sectors, consultancies, construction companies depends on individual's field of interest and capability and these doors are always open for civil engineers.

Is it the Right Career for Me ?

As a civil engineer, you will have to plan out, design and supervise the construction of different types of buildings. You need to possess good knowledge of mathematics and science. Also, you must also have good supervisory and administrative skills along with the creativity.



Why NCE for Civil Engineering?

With qualified and enough full-time faculty members as well as highly experienced part-time faculties, the Department of Civil Engineering at National College of Engineering (NCE) is working energetically to provide and enhance all academic activities for excellence. This department is running successfully at NCE since 2066 and there is Civil Engineering Student's Society-National College of Engineering (CESS-NCE) for pursuing academic activities of the students.

All the academic buildings and laboratories are located at student friendly and peaceful environment which is within the walk able distance from the main street road (ring-road). Students are provided with ideal study environments. Several academic field visits like Geology site visits, Hydrology field work, Irrigation tour, Transportation and Construction site visit, Survey Camp etc. are arranged by the Department as per IOE curriculum. Additional activities such as guest lectures, workshops, seminars, exhibitions, educational participants / visits, etc are conducted for the growth of students and to enhance the learning process among them.

The modern teaching - learning technology is adopted for the excellent academic quality. This is made possible with Qualified and experienced academicians, Use of Projector and Multimedia, Well equipped laboratories, Well stored text books, reference books, journals etc. in the library, Modern practical equipments etc.

Memorandum of Understanding (MoU)

The department of civil engineering has signed the memorandum of understanding (MoU) with International Urban Training Center, Ganwong Province, South Korea in order to facilitate / train the teachers and students. Besides these, 6 departmental faculties have already received training in South Korea. The department has also signed a MoU with Picasso Consultant Pvt. Ltd. And Safe and Sustainable Travel Nepal (SSTN), according to which the organizations provide financial and technical support in research activities and conduction of workshops, presentations, talk programs, etc. Also, Picasso Consultant Pvt. Ltd. Provides On the Job training and placement for selected students of NCE.

ACHIEVEMENTS

"Civil Engineering Exhibition cum Competition-2072"

- Winner (1st. Position) : Quiz Contest
- Winner (1st. Position) : Technical Presentation
- 1st Runner up (2nd Position) : Model Competition (Retrofitting Technique)
- 1st Runner up (2nd Position) : Photography Competition

Organized by CESS-Nepal, Pulchowk Campus

"Inter College Model Competition cum Exhibition"

- 2nd Runner up (3rd Position) : Model Competition (Domestic Rain Water Harvesting)



Organized by Advance College of Engineering

- Winner - "Model Competition"
 - 1st National Civil - Mechanical Engineering Exhibition - 2071
- Organized by Pulchowk Campus

3rd Pulchowk Inter Technical Football Cup - 2072

- Runner Up

The focus of an academic institution should primarily be educational excellence along with personal development. NCE is a great platform to enhance engineering passion as well as to explore innovative ideas. With provision of affluent infrastructural facilities, NCE also includes peaceful environment, qualified faculty members, easily accessible library, and well equipped labs. I am delighted to be a part of such reputable college which has not only helped me to shape my career but also to flourish as a responsible individual. A great learning experience, kind staffs, supportive classmates and tons of cheerful memories is what I am grateful for.

Aditi Baniya

073/BCE/417



Qualified lecturers, easily accessible library and friendly environment are some of the key traits of our college. Actually, colleges are meant to be; not only academically sound but also need to provide students with verities of opportunity to enhance their pro-existing skills. In NCE, I got the opportunity to grow both academically and professionally, as a whole. So I would like to pay my utmost gratitude to the college and its faculty for providing me with such diverse environment.

Avash Sapkota

072/BCE



Civil Engineering Curriculum

1st Semester

- Engineering Mathematics I
- Computer Programming
- Engineering Drawing I
- Engineering Chemistry
- Fundamentals of Thermodynamics & Heat Transfer
- Workshop Technology

2nd Semester

- Engineering Mathematics II
- Engineering Drawing II
- Basic Electronics Engineering
- Engineering Physics
- Applied Mechanics
- Basic Electrical Engineering

3rd Semester

- Engineering Mathematics III
- Applied Mechanics (Dynamics)
- Strength of Materials
- Engineering Geology I
- Fluid Mechanics
- Surveying I
- Civil Engineering Materials

4th Semester

- Hydraulics
- Surveying II
- Soil Mechanics
- Probability and Statistics

- Building Drawing
- Engineering Geology II
- Theory of Structure I

5th Semester

- Numerical Methods
- Theory of Structure II
- Foundation Engineering
- Survey Camp
- Engineering Hydrology
- Water Supply Engineering
- Concert Technology and Masonry Structures

6th Semester

- Design of Steel and Timber Structure
- Communication English
- Building Technology
- Engineering Economics
- Sanitary Engineering
- Transportation Engineering I
- Irrigation and Drainage Engineering

7th Semester

- Project Engineering
- Design Of RCC Structure
- Transportation Engineering II
- Hydropower Engineering
- Estimating and Costing
- Elective I
- Project (Part I)

8th Semester

- Computational Techniques in Civil Engineering
- Engineering Professional Practice
- Technology Environment and Society
- Construction Management
- Project (Part II)
- Elective II
- Elective III

Elective Courses

- Structure Dynamics
- Seismic Resistant Design of Masonry Structure
- Earthquake Resistance Design of Structure
- Vulnerability Assessment and Retrofitting Techniques
- Seismic Risk Assessment
- GIS & Remote Sensing
- Construction Safety Management
- Procurement Management
- Environment Impact Assessment
- Disaster Risk Management
- Bio-Engineering
- Rock Engineering
- Transportation Planning & Engineering
- Community Development and PRA

- Traffic Transport Modeling
- Advanced Geo-Technical Engineering
- Traffic Engineering & Management
- Hill Irrigation Engineering
- Introduction to Prestressed Concrete Analysis and Design of Suspension Bridge

Practical

- Surveying
- Fluid Mechanics
- Strength of Material
- Engineering Materials
- Hydraulics
- Concrete Technology
- Theory of Structure
- Soil Mechanics
- Engineering Geology
- Hydropower Engineering
- Transportation Engineering
- RCC structures

Field Visits

- Engineering Geology (3 days)
- Foundation Engineering (1 days)
- Surveying (10 days Closed Camp)
- Hydrology (1 day)
- Irrigation and Drainage Structure (3 days)
- Hydropower Engineering (1 day)
- Construction Management (2 days)