

Civil Engineering

About Civil Engineering



The word “Engineering” stands for the application of scientific, economic, social, and practical knowledge in order to design, build and maintain structures, machines, devices, systems, materials and processes. The field of Engineering is infinite, much like the multitudinous galaxies in space or the sand particles in a desert. Engineering is all around us; in fact, it lies beneath our own feet.

There are different branches of engineering and each specialized branch presents a significant impact on our surroundings, although all are linked to each other. Civil Engineering is considered the mother of all other forms of engineering. It has been practiced for many centuries. A Civil Engineer is someone who designs mega structures and carries out the execution of all work related to roads, bridges, dams, plants, and similar structures, by using his knowledge of the physical sciences and the principles of engineering. These are acquired by professional education and practical experience. A professional Engineer provides his services for public welfare, or for the safeguarding of life, health or property. Engineers use their knowledge of science and logic, as well as all appropriate experience to solve different problems.

Civil engineering is considered a pioneer subject in the field of engineering. Civil Engineers—in one form or another—have been around ever since humans started building major public structures such as roads, bridges, tunnels and large public buildings. The discipline includes the planning, design, construction, maintenance and operation of infrastructures that surround us, and which underpin our society. Civil engineering branches into environmental engineering, geotechnical engineering, structural engineering, transportation engineering, municipal or urban engineering, water resource engineering, materials engineering, coastal engineering, surveying and construction engineering, among others.

The planning, design, construction, operation and maintenance of a variety of structures and facilities such as water taps, roads, skyscrapers, hydropower projects, railways and harbors also fall under the tasks undertaken by Civil Engineers. All engineering requires civil work, and this is the job of a civil engineer. To produce safe, easy, economical, eco-friendly and sound infrastructure for the community is his/her major responsibility. In a way, civil engineers make this world a better place to live in by converting invisible complex ideas into visible form of infrastructures required for the enhancement and development of the world.

Career Scope



The scope of Civil Engineering is broad in our contemporary developing world. Civil engineers have many roles to play in the various sectors that are needed to cater to the needs of growing populations, deteriorating infrastructure, natural disasters and constantly-updating technologies. A civil engineer's career is very wide in terms of its horizon. It covers sectors such as planning, management, research, design, consulting and the construction of all development projects, as well as teaching. There are opportunities to work in government and semi-government sectors, as well as be selfemployed. The choice depends on one's individual interest.

Resources

The use of a modern teaching-learning method is the pride and beauty of the Department of Civil Engineering at KEC. It believes in the following when it comes to enhancing its academic activities:

- Use of Projector and Multimedia
- Advanced heavy and light labs
- Modern/Digital equipment
- Qualified and experienced academicians

KEC for Civil Engineering Education

With more than 16 full-time and more than 25 part-time and visiting faculties, which include Assistant Lecturers, Lecturers, Senior Lecturers, Professors as well as other professionals and experts, the Department of Civil Engineering at KEC is working vigorously to conduct all academic activities as excellently as possible.

The academic buildings and labs are all located within the city's commercial area, although they're situated at a safe distance from the Main Street to ensure that noise and air pollution, as well as other forms of disturbance do not affect our students. The department has the authority to arrange for guest lecturers, organize talk programs and seminars with the involvement of noted academicians, professionals and experts on all concerned matters to enhance the learning process among students.



Several academic field visits like survey camps, geology site visits, hydrology field work, irrigation field visits, hydropower field visits, transportation field visits, and the like are arranged by the department to help

inculcate practical knowledge, as well as to aid students in the process of synchronizing these skills with their theoretical knowledge they've gained. In addition to regular courses, students are also trained to use software related to the civil engineering sector. Departmental academicians are also empowered to take advantage of research activities and technical papers. The most powerful characteristic of the department is that it provides an all- and any-time learning environment to its students as and when required.

Participation

The Department of Civil Engineering at KEC believes in the enhancement of its human resources. Hence, it encourages the participation of both its students as well as its teachers in various seminars and trainings with reputed organizations. Some of our teachers have acted as noted resource-persons in national- and international-level trainings organized by various groups.

Elective Courses

KEC offers its students a choice of the most relevant subjects in the final year of their study as electives: Elective I, II and III are all topics of their choice. The subjects offered are:

- Solid Waste Management
- Structural Dynamics
- Suspension Bridge
- Advance Geotechnical Engineering
- Traffic and Transport Modeling
- Environmental Impact Assessment
- Rock Slope Engineering
- Finite Element Methods
- Hill Irrigation
- Traffic Engineering and Planning
- Design of R.C.C. Bridge
- Rock Engineering (for hydropower development)
- Urban Planning
- GIS and Remote Sensing
- Construction Safety Management
- Environmental Management System
- Design of Earthquake resistant structure

HOD Note

First of all congratulations for being enrolled into one of the best engineering school of the country. Welcome to the Department of Civil Engineering, as I would like to reiterate the fact that civil engineering is the most preferred and happening engineering course I the developing country like ours. I intend to present you with the general information on our vision, mission of undergraduate programs, research activities, facilities, and the special programs available to you only in this department.



Our vision is to be number one in civil engineering education measured on the basis of quality and reputation. Our mission is to educate individuals to become the leaders of the profession. The program emphasizes interdisciplinary team work, communication skills, tools and skills for professional ethics and the value of service to their profession and society through involvement in community, state and national organizations.

We offer a distinguished program of undergraduate study and creative research in selected areas of bridge, hydropower, rural water supply, structure and transportation engineering. Our research program also provides multidisciplinary collaborative research with other faculties a well.

Last but not the least, I would like to invite you to browse our website and feel free to contact me for any queries and information. I appreciate your interest, look forward to your involvement with us and we will certainly meet in the classroom.

Er. Arjun Poudel

HOD

Department of Civil Engineering

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