

DYPCOE Blog 2:

Jobs & Career Opportunities after Civil Engineering

Civil Engineering and its importance

Civil engineering is said to be amongst the earliest disciplines of various branches of engineering and one of the oldest engineering professions. It's an amalgamation of planning, scheduling, construction, execution, supervision, and maintenance of various infrastructures ranging in various magnitudes such as highways, bridges, airports, railroads, buildings, sewage systems, canals, dams, reservoirs, and several other facilities that have a huge impact on human life. This requires a thorough knowledge of engineering along with financial, social and environmental knowledge.

Civil engineering impacts our day-to-day lives much more than we comprehend. Right from the beginning of our day the water we need to brush our teeth or take a bath comes to us because a civil engineer built an efficient water supply system. The roads that we use, the houses that we live in, the spaces that we use to work, study, exercise, the parks that we go in, etc. exist because of civil engineering. The simplest of jobs wouldn't get done had it not been there. Civil engineering has played a significant role in improving people's health and quality of life. That's how civil engineers are responsible for the technological development, infrastructural advancement and the common good of the public.

Nature has created civil engineers to make enjoy living species its fruits of creation and preserving the same. When you go against nature it punishes, no pardon. When we have so many avenues open, it is revealed that we are jack of all trades but master of none. This factor of choosing one field out of all these and excel in it. He who survives who cares nature, most economical, durable, swift and speedy results and foresight to adapt future changes before being obsolete and perish. There is no life on earth, and no true service to living species, without civil engineer, they are gift to mankind provided one is honest to profession.

Top 18 Jobs & Career Opportunities after Civil engineering

Civil Engineering is the mother of all engineering fields, is considered to be the oldest, broadest, and highly impactful engineering discipline. As Civil Engineering is related to every aspect of human life, it has a tremendous scope of work. This also means the availability of multiple job opportunities. Let us take a look at some of the subfields in Civil engineering and various job and career opportunities that it has to offer.

1. Civil Engineering technologist

Civil engineering technologists assist civil engineers in the research, design, construction and maintenance of various civil engineering projects. Some jobs that a civil engineering

technologist might have are estimating costs and requirements of material and labor for a particular project. Establishing detailed design and construction processing programs. Establishing communication with project managers and workers, etc.

2. Structural Engineering

Structural engineers are responsible for designing and assessing all projects, to ensure their strength and durability. Structural engineering is a specialized field in Civil Engineering. It includes structural framework, keeping a check on its durability with respect to withstanding the stress and pressures of the environment and making sure that it remains safe, stable and secure throughout its use. In other words, structural engineers make sure that buildings and bridges don't collapse. History has witnessed, how people have been designing and building increasingly larger and more sophisticated structures, ranging from primitive huts to airports and stadiums. In a nutshell, the structural engineer is a skeleton of any civil engineering project.

3. Construction engineering

Construction engineers manage construction sites and are responsible for the design and safety of temporary structures used during construction along with overseeing budgetary, time-management, and communications aspects of a project at times. They overlook the working sites and are the managers there. They need to have a thorough knowledge of the most basic things, like weather, costs, team and time management, etc. for the smooth functioning of the project. They need to ensure the smooth functioning of a particular project concerning the working conditions, labors, budgets, equipment, etc.

4. Geotechnical engineering

Geotechnical engineers' job includes making sure that the foundation for any structure in a project is solid. They are responsible for all the nature-related factors that might interact with the ongoing project. They also need to know how to manage situations like waste disposal, flood control, the correct location to build a dam or a bridge, and so on. They are primarily responsible for all the construction processes.

5. Transportation engineering

Transportation engineers as the name suggests, are responsible for planning, designing, operating and maintaining routine systems that are used every day. All the subways, trams, roads, highways, etc. exist because of transportation engineers. They are the builders of everything transport related.

6. Environmental Engineering

Environmental engineers take care of the planet by preserving it. They restore landscapes and nature that are ruined by people, explain to other people what a healthy

indoor and outdoor environment is, and what to do in the future to stop damaging our planet any more.

7. Water Resource Engineering

Water resources engineering is a specialty of civil engineering that focuses on water supplies, irrigation, canal development and waste disposal. It also addresses methods for controlling water to avoid water-related damage and catastrophes. Water resources engineering is the study and management of equipment, facilities and techniques that are used to manage and preserve water. They are also responsible for water management for ensuring a healthy public life. They are also responsible for water treatment and improving the quality of the available water. They are concerned with the structures and processes related to water supplies for human consumption and the removal of water for human safety.

8. Foundation engineering

Foundation engineering is the application of soil mechanics and rock mechanics (Geotechnical engineering) in the design of foundation elements of structures.

The foundation is the lowest part of the building structure. It is the engineering field of study devoted to the design of those structures which support other structures. It runs into various disciplines like Civil, Structural and Geotechnical Engineering and has a distinct focus on soil-structure interaction.

9. Hydraulic engineering

Hydraulic engineering as a sub-discipline of civil engineering is concerned with the flow and conveyance of fluids, principally water and sewage. Hydraulic engineering is the application of the principles of fluid mechanics to problems dealing with the collection, storage, control, transport, regulation, measurement, and use of water. One feature of these systems is the extensive use of gravity as the motive force to cause the movement of the fluids. This area of civil engineering is closely related to the design of bridges, dams, channels, canals, and levees, and both sanitary and environmental engineering.

10. Coastal and ocean engineering

Coastal engineering is a branch of civil engineering concerned with the specific demands posed by constructing at or near the coast, as well as the development of the coast itself. Coastal Engineering is combining practical applications with modern technological and scientific approaches on aspects of coastal, harbor and offshore engineering: waves, currents and sediment transport; coastal, estuarine and offshore morphology; technical and functional design of coastal and harbor structures; morphological and environmental impact of coastal, harbor and offshore structures.

11. Forensic engineering

Forensic engineering is applying engineering principles to the investigation of failures or other performance problems. Forensic engineering also involves testimony on the findings of these investigations before the law. The purpose of this field is to develop practices to reduce the number of failures, collect information on failures and their causes, provide guidelines for conducting failure investigations and provide guidelines for ethical conduct in forensic engineering.

12. Municipal or urban engineering

Municipal or urban engineering applies the tools of science, art and engineering in an urban environment. It is concerned with municipal infrastructure. Which involves designing, constructing, and maintaining streets, sidewalks, water supply networks, sewers, street lighting systems, municipal waste management and disposal, storage depots for various bulk materials used for maintenance and public works, public parks, etc. Optimizing of garbage collection and bus service networks may also fall under this.

13. Control engineering

Control engineering or control systems engineering is an engineering discipline that applies automatic control theory to design systems with desired behaviour to control environment. The discipline of controls overlaps and is usually taught along with electrical engineering at many institutions around the world. The practice uses sensors and detectors to measure the output performance of the process being controlled; these measurements are used to provide corrective feedback helping to achieve the desired performance. Multi-disciplinary in nature, control systems engineering activities focus on implementation of control systems mainly derived by mathematical modelling of various systems.

14. Building control surveyor

Building control surveyors are also known as building control officers (BCOs), building inspectors or approved inspectors. They ensure that new buildings, alterations, installations and extensions meet the regulatory standards of safety, sustainability, accessibility and design. One of the main ways they do this is by making sure that building surveyors are fulfilling their responsibilities of maintaining, altering, repairing, refurbishing and restoring buildings. They start on a project once applications for new buildings or structural alterations have been given the green light by the local planning authority.

15. CAD technician

Computer-Aided Design (CAD) Technicians create electronic design plans for buildings and machinery using computer software. They work together with architects and professional draftsmen to turn blueprints and technical drawings into 2D and 3D computer models. These models are further used to demonstrate the end result of the project.

16. Public Health Engineer

As the name suggests, a Public Health Engineer takes care of people in towns and villages, making sure they have healthy living conditions by controlling the water supply, sewage system and making sure the water is clean and disease-free.

17. Urban planning engineer

Typically, the role of an urban planning engineer is to decide where to construct a building, or largely an infrastructure, where a road should be, how to circle a park with a fence, how not to put a school next to a prison, and so on. To plan the town and structures in it by applying technical knowledge and scientific approach.

18. Other sub-fields of Civil Engineering

There are some other sub-fields of Civil Engineering like Fire protection engineering, Bridge Engineering, Irrigation Engineering, Land development, Materials Engineering, etc.

19. Disaster management

Central And state pollution control Board and Civil Engineers play a major role in the disaster management sector. In case of the natural or manmade calamity, Civil engineers are required in all the four phases i.e. Prevention, preparedness, response and recovery. They accept the challenges in the pre construction and post construction stages where the planning and design to mitigate the effects of disasters is very important. After the occurrence of calamities, Civil Engineers help the society by giving temporary shelters, water supply and sanitation services

Job opportunity in Public Sector Undertakings (PSUs)

Civil Engineering is one of the few available fields in the market that has numerous job opportunities in both the public and private sectors. It is a thriving field in the public sector as well and following are the Public Sector Companies that you can try for after completing your degree in Civil Engineering: -

1. Indian Oil Corporation(IOCL)
2. Bharat Sanchar Nigam Limited(BSNL)
3. Gas Authority of India Limited(GAIL)
4. Steel Authority of India Limited(SAIL)
5. Indian Space Research Organization(ISRO)
6. National Thermal Power Corporation Limited(NTPC)
7. Bharat Heavy Electricals Limited(BHEL)
8. Oil and Natural Gas Corporation Limited(ONGC)
9. Hindustan Aeronautics Limited (HAL)

Conclusion

In conclusion we can see how a career in [Civil Engineering](#) can be extremely rewarding with a myriad of job opportunities to choose from. It has diverse job profiles that continue to widen its scope in the market. Also, not just in the private sector, it proves to be a very successful career option in the public sector as well. Taking into consideration advancements in science and technology and the resulting increase in demand for advanced infrastructure, Civil Engineering can be considered to be an excellent career choice that one can have.

Build your civil career with just a click

If you are interested to build a successful career in Civil Engineering, Dr. D. Y. Patil Prathishthan's, [D.Y. Patil College of Engineering](#), Akurdi, offers a 4 years full time [B.E. program in Civil Engineering](#). It also offers a 2 years full time [M.E. program in Civil Engineering](#) with specializations in Environmental Engineering and Construction and Management. These programs are approved by AICTE, New Delhi and are affiliated to Savitribai Phule Pune University. With a distinguished faculty and a dual approach of theoretical knowledge and practical training, these programs create extremely proficient Civil Engineers that are capable of entering and conquering the global market with their skills. Know more about these programs along with courses offered, admission process, fee structure, etc. You can also fill up a form there to get all the additional details. Register now and take the first step towards your successful career today!

Title:

Civil Engineering: Jobs & Career Opportunities After Civil Engineering

Meta Description:

Check out the best career options and job opportunities after Civil Engineering in India. Job opportunities in Public sector Undertakings (PSUs), Government, private sector, Civil Engineering and Construction Business in India.