

IMPORTANT FUNCTIONS OF CIVIL ENGINEER

Civil engineers design and build bridges, roads, railways, and tunnels. They design and build complicated structures and large buildings such as multi-storey car parks, train stations, stadiums, hospitals and airports.

As a civil engineer you would need planning and designing skills as well as the ability to manage a variety of construction projects. You could work on everything from bridges and tall buildings to transport links and sports stadiums. If you are interested in designing and building things then civil engineering could be the perfect job for you.

To become a civil engineer you will need excellent maths and IT skills. You'll also need to be able to explain design ideas clearly and be well organised. Ideally, you would need to complete a degree or postgraduate master's degree in civil engineering.

IMPORTANCE OF CIVIL ENGINEERING

1. Civil Engineering is a rewarding career choice

Civil engineering is one of the top five in-demand engineering jobs of the future and one of the most lucrative career options.

2. Civil Engineering is one of the creative career options

If you think that creativity can only be found in art, think again! The vast number of different designs for bridges, buildings and other structures illustrate how civil engineers need to be creative and innovative.

3. Civil Engineers make the world look beautiful

Civil engineers make the world more liveable by building bridges, road, airports, homes, hospitals, parks, tunnels, stadiums and pretty much everything else one can think of! They strive towards building a developed community.

4. Civil Engineering promotes team spirit

Civil engineering fosters cooperation and team spirit among engineers. Engineers work in teams to solve real-world problems, so if you're a team player, it's the perfect career for you.

5. Civil engineering is so diverse

Civil engineering encompasses within its fold many job roles, sectors, skills, and people from varied fields such as Railway Engineering, Structural Mechanics, Geotechnical Engineering, Building Materials, Project Management, and Structural Design and Hydraulics.

The Importance of Civil Engineering to Society

Without the existence of Civil Engineering, society wouldn't function properly. There would be no treated water to drink, no safe buildings and structures, no transportation infrastructure for travelling and no drainage and irrigation channel.

Variety of Specializations and Career Options

There are multiple sub-division and specializations in Civil Engineering which are in need of applications in various sectors.

- **Architecture engineering:** Architecture engineering deals with the technological aspects to planning, design, construction and operation of buildings. Architecture engineering is closely related to Civil engineering.
- **Coastal engineering:** Coastal engineering is alarmed with the specific construction issues in the adjacent area of the coast, as well as at the coast itself.
- **Construction engineering:** Construction engineering is concerned with review of contracts, logistic operations, and prices of supplied products.
- **Structural engineering:** Structural engineering deals with the analysis of structures, as well as design of structures.
- **Earthquake engineering:** Earthquake engineering is a sub-section of structural engineering. The main objectives of earthquake engineering are to analysis, design and construct structures to perform at earthquake.
- **Environment engineering:** Environment engineering deals with the issues related to environmental pollution and control of waste due to various activities.
- **Geotechnical engineering:** Geotechnical engineering is concerned with the minerals, rock and soil. It's applications are in military, mining, petroleum engineering other than Civil Engineering disciplines.
- **Transportation engineering:** Transportation engineering is focused on the planning, functional designing, operation of any sort of mode of transportation.
- **Hydraulic and water resource engineering:** Hydraulic and water resource engineering is concerned with the flow parameters of fluids like water and gas. It's applications are in designing of bridges, dams, canals and also design of pipes.
- **Materials science and engineering:** Materials science and engineering deals with characteristics of materials, such as cement, concrete, paint, and metals such as aluminum, bronze and steel, and polymers and carbon and steel fibers.
- **Nano science and nanotechnology:** Nanoscience and nanotechnology is a sub-discipline of Materials science and engineering. It studies systems and manipulates matter on atomic, molecular and supramolecular scales.

- **Urban engineering:** Urban engineering deals with the infrastructure, services, environmental and land-use issues generally encountered in urban areas.

With the knowledge in various domains, Civil Engineers can cope with many job. In a nutshell,

- Civil Engineers are welcomed at every field of engineering, which opens up lots of scope for job.
- Every government organization from I.S.R.O to Nirman Sahayak needs civil engineers.
- Great Opportunity for own start-up business like design consultancy.
- All non-core and IT companies also recruit civil engineers for their own demand. Civil Engineering students have the distinguishing option to choose a career in core and non-core companies.
- Over the years, civil engineers have a constant demand unaffected by the market fluctuations.

Being a Civil Engineer opens lot of job opportunity, lot of scope of career. There are plenty of opportunities in Govt. Sectors. If you are focused and passionate, you can lead a bright career.