Civil Engineering

Vidyasagar Setu, Kolkata

What is Engineering ?

- The word engineer originates from the Latin term ingeniare , meaning to invent, to create or to regulate.

- Engineering is thus the professional art of applying scientific principles to every day things to help make life easier.

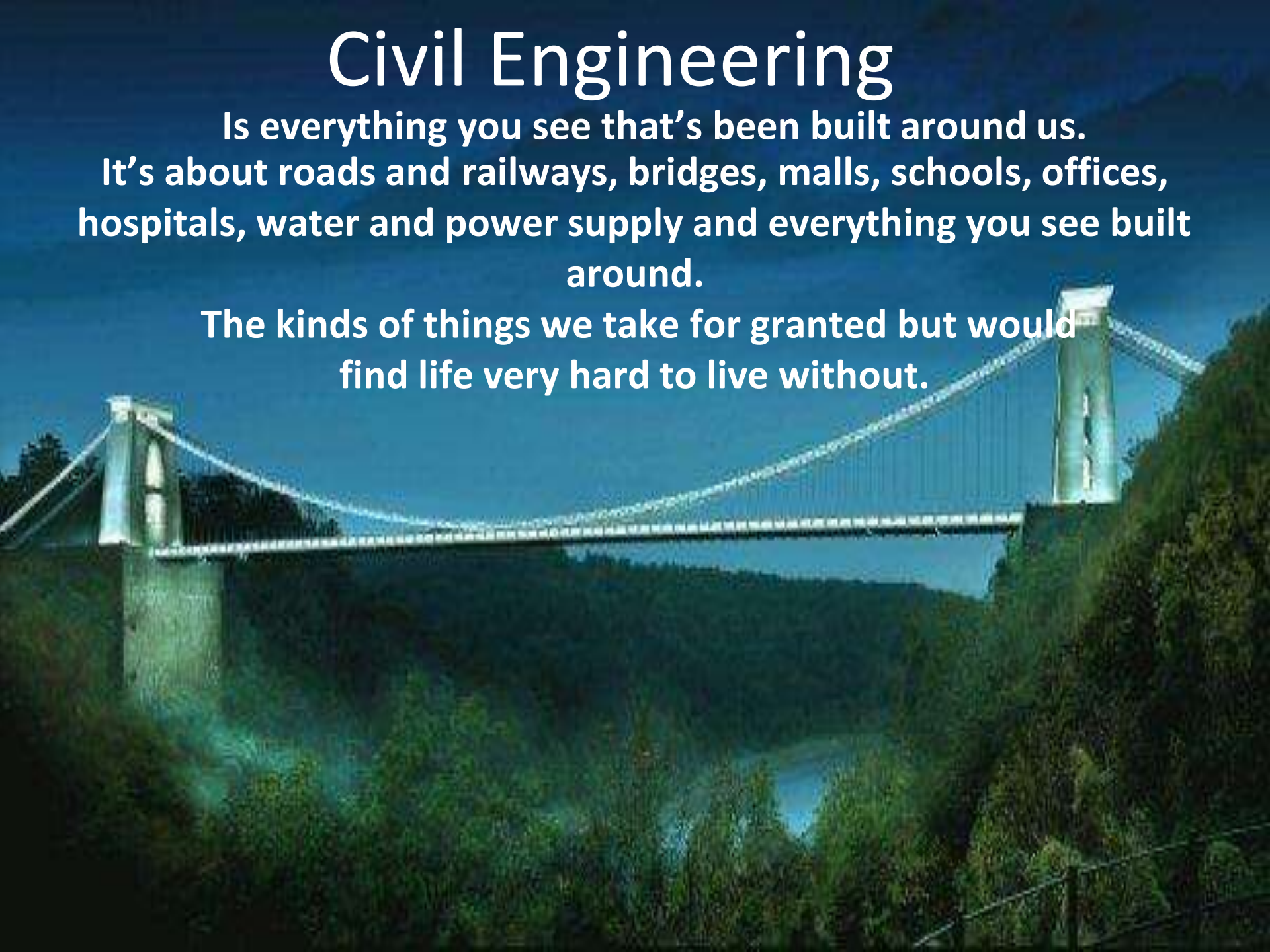
Engineer vs. Scientist

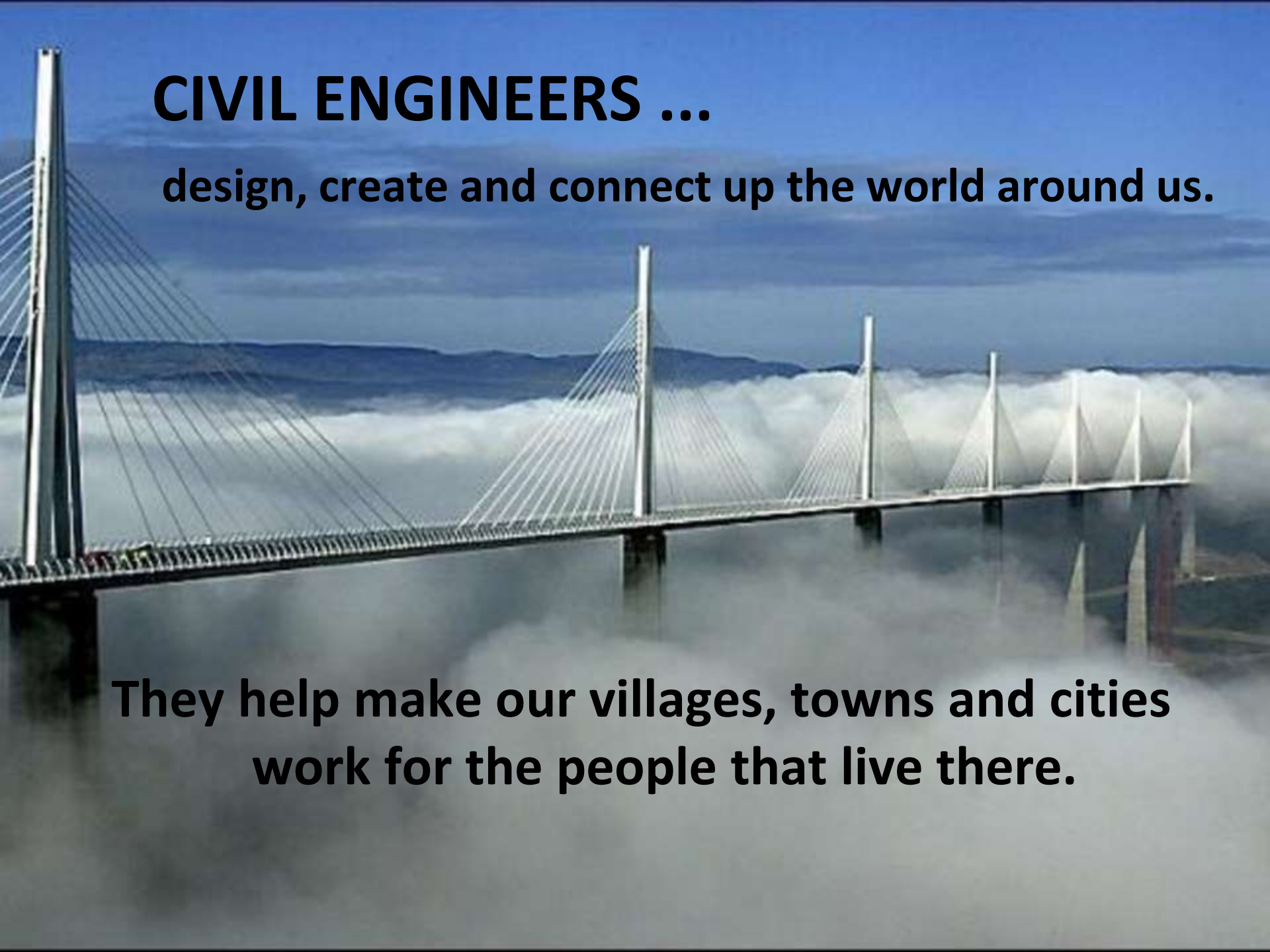
Deviations between engineers and scientist arise through the differences in the ways both apply their educations in mathematical and natural sciences to their work.


Scientist investigate that which already is; Engineers create that which has never been.
- Albert Einstein -

Civil Engineering

Is everything you see that's been built around us.
It's about roads and railways, bridges, malls, schools, offices, hospitals, water and power supply and everything you see built around.
The kinds of things we take for granted but would find life very hard to live without.




CIVIL ENGINEERS ...
design, create and connect up the world around us.
They help make our villages, towns and cities work for the people that live there.

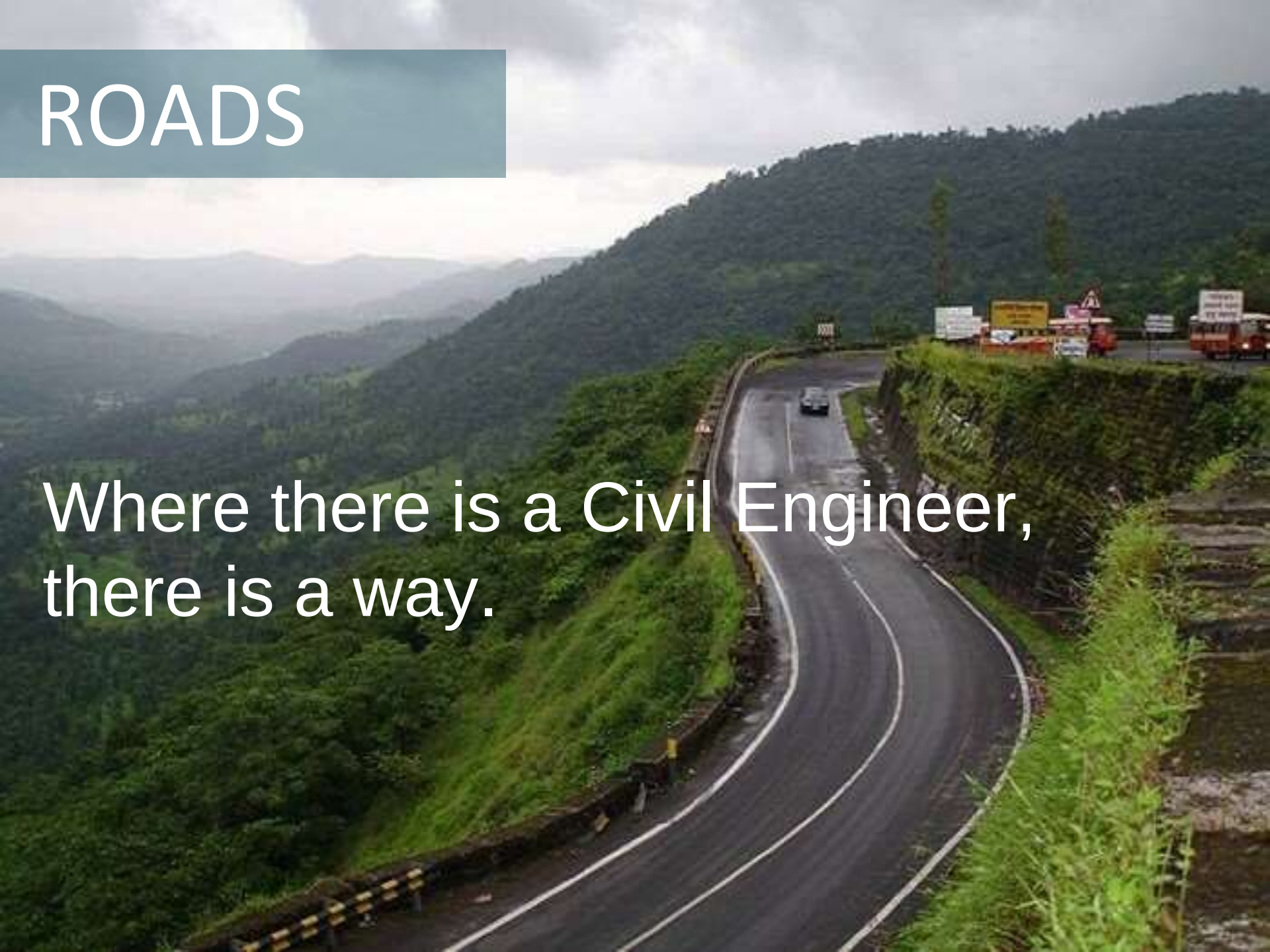
The indispensable role which the Civil Engineers play for the survival of mankind is evident from the things we see around us.

From the endless list, have a look at some of them ....

HOSPITALS


HOSPITAL
HOSPITAL
BEACON INTERNATIONAL SPECIALIST CENTRE SDN BHD
BEACON HOSPITAL

ROADS



Where there is a Civil Engineer, there is a way.

BRIDGES

The Signature Bridge, Delhi


HOUSES

SCHOOLS

UNIVERSITIES

OFFICE BUILDINGS

DAMS

MONUMENTS

The Taj Mahal, Agra

BRIDGES

Vidyasagar Setu, Kolkata.

TEMPLES

The Lotus Temple, New Delhi, India

AIRPORTS


METROS

FLYOVERS

HOW CAN I BECOME A CIVIL ENGINEER?

If you want to be a civil engineer, have the right academic subjects and attitude, you can start making your career choices right here.

You might be a future civil engineer if…

- You figure things out.
- You like to lead.
- You're strong in your concepts.
- You're Imaginative & Creative

Civil Engineering …

What Lies Ahead ?

Specialisations in Civil Engineering

- Construction Engineering
- Structural Engineering
- Geotechnical Engineering
- Transportation Engineering
- Environmental Engineering
- Water Resources Engineering

Job Profiles...

You can work in Field

You can work from office

You can be a “Project Manager/supervisor”

Job Profiles...

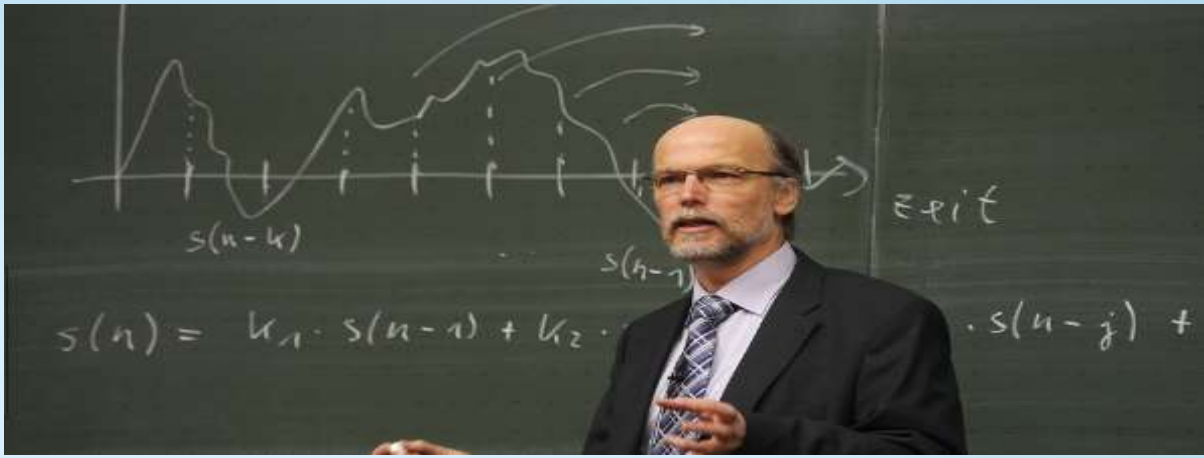
You can be a Planner

You can be a surveyor

You can be a Quality Engineer

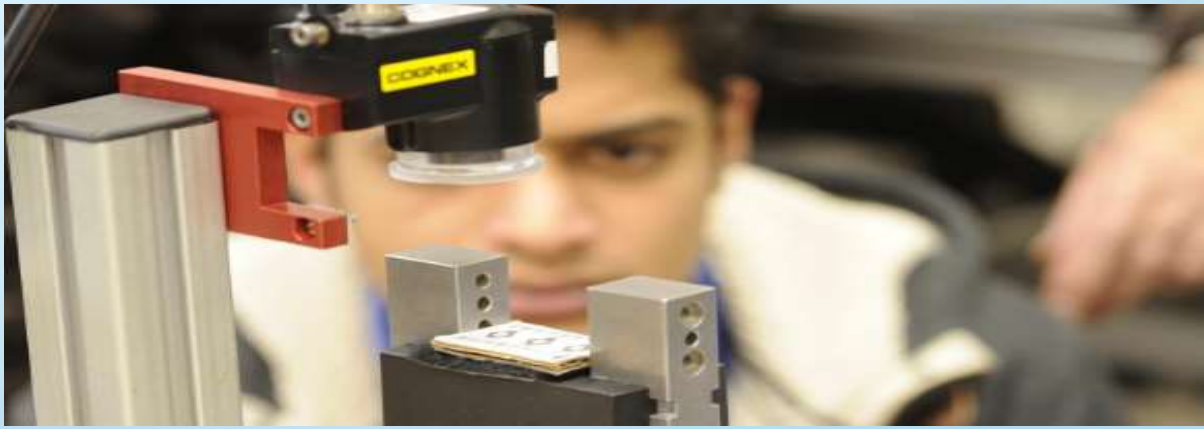
Job Profiles...

You can become a Professor



You can become an officer (IES, MES, SE, CE etc.)

You can be a research scholar



You can turn Dreams into Reality !

Future of Higher Education

While graduating with a bachelor's degree in civil engineering gives you quality knowledge about the field and how to work with projects, hence opening up numerous doors to pursue but a master's degree in the subject will get you to the core roots of the subject and give you knowledge about even the minutest of details that the subject has to offer.

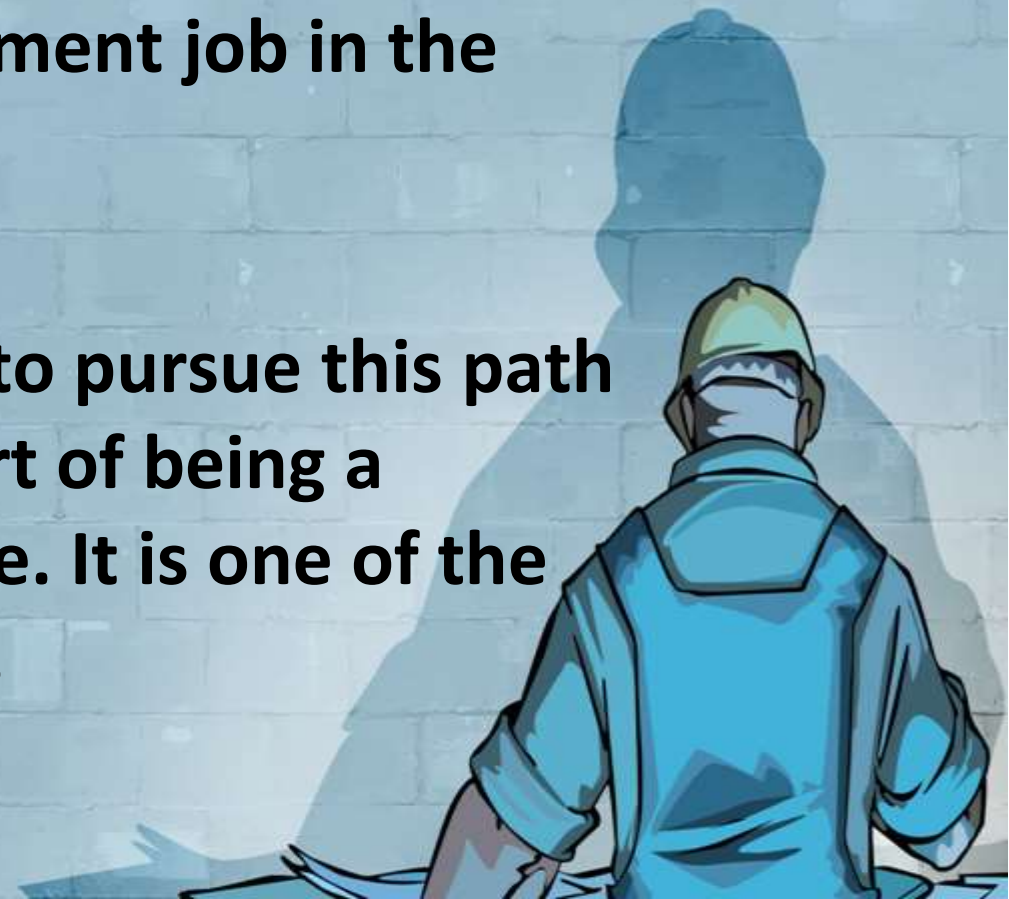
This is a good option for anyone who wishes to pursue research and development in the field and work on a groundbreaking issue.

HIGHER EDUCATION
A QUEST FOR EXCELLENCE!

Public sector/Government job opportunities

Despite the competition hard work, persistence and knowledge can get you a good paying government job in the department.

Many people choose to pursue this path as it offers the comfort of being a government employee. It is one of the most popular choices.



Class 1 Engineering services posts in Central governments – Railways, CPWD, Central Water Commission, Military Engineering Services, Border Roads Organisation etc.

Graduate Trainee and Management Trainee positions with central PSUs – ONGC, HPCL, GAIL, BPCL, BHEL, BEL, SAIL, AAI, NHAI, Department of Atomic Energy, Research institutes like CSIR

Few positions with Central Government run Financial Institutions like RBI, IDBI, IFCI, NABARD, SBI, PSU Banks, PSU Insurers etc.

Class I positions with State Government – In PWD, Highways, Irrigation and many more.....

Start up ...

This is the road less taken and a lot of people work for years to gain experience before setting up their own business.

But, with the advancement of the economic strata and easy availability of loans, a few people go ahead and set up their own civil engineering company to bid on projects and make good money.

Civil Engineering Benefits

- Solve societal problems
- Allows indoor and outdoor work
- Responsible and highly respected job
- Challenging technical career
- Utilize modern technology
- Work with people of various backgrounds
- Well paid

ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਇੰਜੀਨੀਅਰਿੰਗ ਕਾਲਿਜ, ਲੁਧਿਆਣਾ

Guru Nanak Dev Engineering College, Ludhiana

An Autonomous College U/s UGC Act - 1956 [2(f) and 12(B)]

AICTE Approved, ISO 9001:2000 CERTIFIED

Affliated to I. K. Gujral Punjab Technical University, Jalandhar

IEI ACCREDITED UG PROGRAMMES

Institute Accredited by NAAC (A Grade) & TCS.

(Punjab Govt. Aided Status)

Department of Civil Engineering

Guru Nanak Dev Engineering College, Ludhiana

www.gndec.ac.in

Department of Civil Engineering

Since 1956

Salient features…

- Accredited twice by National Board of Accreditation (NBA)
- Strong faculty strength of about 35 consisting of 10 PhDs and 25 post-graduates with varied specialisation and vast experience.
- Well equipped Laboratories.
- QIP center for AICTE for pursuing PhD research
- Supported under TEQIP and FIST funding by the World Bank and DST, GOI respectively
- 35th chapter of Indian Geotechnical Society New Delhi

Courses offered by Department of Civil Engineering

Undergraduate Programme:

B.Tech (Civil Engineering) - since 1956

Four Postgraduate Programmes

Doctoral Programme

Well Equipped Laboratories

Structure Lab

Strength of Materials Lab

Concrete Technology Lab

Transportation Lab

Survey Lab

Geotechnical Lab

Computational Lab

Model & Geology Lab

Environment Lab

Prominent Alumni

Well placed alumni in various Govt. Departments and private sector at rank of chief engineer, DGM, DIG, Director/Principal, Olympian, Design Consultants.

Name	Batch	Designation	organization
Er. Sanpreet Singh Gill	2008	Environmental Scientist	Applied Environmental Inc.
Dr. Kamaljit Singh	1996	Research Associate	Department of Earth Science and Engineering Imperial College London, UK
Er. Sanjay Bhalla	1988	Vice President at Mapei	Past: SIKA as a Country Head
Er. Girdhari Lal Goel	1982	Chief Engineer	Indian Railways

Er. T.S. Chahal	1981	Chief Engineer, PWD, B&R	Punjab
Er. Jagmohan Syal	1979	CEO, M/S IUP Jindal Metals and Alloys Ltd	New Delhi
Er. Sukh Dhaliwal	1979	Member of Parliament	Canada
Er. Nazar Singh Manshahia	1978	Former Senior Environmental Engineer	Punjab Pollution Control Board
			MLA From Mansa, Punjab
Er. Manjit Singh Saini	1977	Ex.Chief Engineer, Indian Railways	Indus Consultants Pvt. Ltd.Gurgaon
		Owner/ Managing Director	
Er. Rajnish Calay	1975	Professor, University of Tromso	Norway

Recent Student's Achievement

Akashdeep Singh
IES (AIR-12) - 2019

Shubham Sharma
IES (AIR-26) - 2018

Vishal Bhola
IES (AIR-69) - 2018

Surbhi Anand
IIM (MBA: 2017-19)

Nirbhay Chauhan
(Structural Engineer)

& many more .....


You Dream It We Build It, We Build Your Dreams
Civil Engineering

For more information.....

Visit :

www.gndec.ac.in

www.ce.gndec.ac.in

or write us at:

civil@gndec.ac.in

Guru Nanak Dev Engineering College, Ludhiana

Civil Engineering Department

Subject Code: HSMCE-101

Subject Name: Civil Engineering- Introduction, Societal & Global Impact

Programme: B.Tech. (CE)	**L:** 3 **T:** 0 **P:** 0
Semester: 3	**Teaching Hours:** 40
Theory/Practical: Theory	**Credits:** 3
Internal Marks: 40	**Percentage of Numerical/Design/Programming Problems:** 0%
External Marks: 60	**Duration of End Semester Exam (ESE):** 3hr
Total Marks: 100	**Elective Status:** Compulsory

On completion of the course, the student will have:

CO#	Course Outcomes (CO)
1	Introduction to what constitutes Civil Engineering
2	**Understanding the vast interface of this field with the society at large**
3	Inspiration for doing creative and innovative work for the benefit of the society
4	**Need to think innovatively to ensure sustainability**
5	Depth of engagement possible within civil engineering and exploration of various possibilities of a career in this field
6	Introduction and overview to Futuristic engineering systems

Detailed Contents:

Part-A

Civil Engineering and its historical developments; Understanding the importance of Civil Engineering in shaping and impacting the world; the ancient and modern Marvels and Wonders in the field of Civil Engineering; Scope of work involved in various branches of Civil Engineering and future vision; Recent Civil Engineering breakthroughs and innovations; Avenues for entrepreneurial working.

Understanding the past to look into the future; Pre-industrial revolution days, Agricultural revolution, first and second industrial revolutions, IT revolution and how these eras helped the civil engineering to grow; Concept of sustainability and the steady erosion of the environment due to haphazard developments; Global warming, its impact and possible causes; Atmospheric pollution; Pollution Mitigation measures; Health & Safety aspects for stakeholders; Environmental Impact Analysis: Concept and procedures; Innovations and methodologies for ensuring Sustainability.

Part-B

Infrastructure development and growth of the Nation; its effects on the GDP, employment, living standards of the people, etc.; Introduction and overview to Futuristic systems: Megacities, Smart Cities, Stadia; Roads, Railways, Metros, Hyper Loop, Airports, Seaports, River ways, Sea canals, Tunnels, bridges; Energy generation: Hydro, Solar, Wind, Wave, Tidal, Geothermal, Thermal energy; Telecommunication needs: towers, above-ground and underground cabling; Flood control: Dams, Canals, River interlinking; Energy efficient built-environments and LEED ratings; Awareness of various Codes & Standards governing Infrastructure development.