

# Introduction to Civil Engineering

Why? Who?  
What? Where?



## Why Civil Engineering?

Civil engineers work in a fast-moving, challenging and a rewarding profession. It involves and is concerned with the improvement and care of a building and its natural environments. It also deals with the planning, design, construction, operation, and maintenance of buildings, dams, bridges, harbours, power facilities, water supply, and transportation systems.

## Who should be a Civil Engineer?

Any student who:

- Is creative and has an innovative approach in problem solving
- Can manage time with resources
- Has critical thinking ability

## Specialisations within Civil Engineering:

- Geotechnical Engineering
- Mining Engineering
- Structural Engineering
- Earthquake Engineering
- Wind Engineering
- Architectural Engineering
- Ocean Engineering
- Transportation Engineering
- Traffic Engineering



**Did you know?** The 'Leaning tower of Pisa' leans because it is built only about 6 feet above sea level and the layers of clay are not even. Therefore, it has sunk more in some places than others.

## Upcoming Specialisations within Civil Engineering:

- Environmental Engineering
- Fire Protection Engineering
- Sanitary Engineering

## Best colleges for Civil Engineering in:

### India

- IITs'-Mumbai, Chennai
- BITS-Pilani
- College of Engineering-Chennai

### USA

- Massachusetts Institute of Technology
- University of California-Berkeley
- Stanford University

### UK

- University of Cambridge
- Imperial College of London
- University of Oxford

### Singapore

- National University of Singapore
- Nanyang Technological University
- Queen's University

### Canada

- McGill University
- University of British Columbia
- University of Toronto

# Discover the Career Options Right for You

## 1 Initial Options



### What are your career ideas?

If you haven't already given it a thought, then base it on influences from:

- Parents, family and friends
- Passion towards a subject
- Personal experiences
- Media and internet

Univariety probes and provides answers

### Initial Options

Go to step 2

### Instructions

- Follow this process, one at a time, to finalise career choices
- If the answer is 'No' 'at any stage then start from stage 1
- Do in-depth self research
- Complete details of this process and the questions around a 'Typical Day' Test are at [www.univariety.com/courses](http://www.univariety.com/courses)

## 2 Hypothesis



### Do you like it?

Remember the activities from the past which gave you joy and happiness. Does this career option similarly excite you?

### Initial Hypothesis



### Can you do it?

- Do you know how long it takes to get the degree?
- Do you like the subjects which you will study?
- Can you perform to get through to good colleges?
- Do you have the financial resources to support the degree?

### Final Hypothesis

Go to step 3

## 3 Validation



### Do you want it?

Do you like the:

- Nature of work you will do?
- Type of people you will deal with?
- Physical and mental effort required?
- The challenge it poses?



### Will it fulfill your and your family's ambitions?

Will this give you a good:

- Lifestyle?
- Time with family and friends?
- Salary and money potential?
- Possibility of being famous?

### Validated Hypothesis

Go to step 4

## 4 Finalisation



### 'Typical Day' Test?

*"If you want to know the road ahead, then ask someone who has travelled it."*

- Ancient Chinese Proverb

Here, we ask you to identify 2 - 3 people who have the same career that you have chosen and brought to this stage. Observe and ask questions to understand the 'typical life' in that career



## Decision

### Tools

- Discussion within the family and friends
- Univariety Website – Career Section
- Sessions with Univariety Counsellors
- Internet, books and other media