

CIVIL ENGINEERING

WHAT IS CIVIL ENGINEERING?

BUILDINGS, ROADS, harbours, bridges, dams, airports, water and sewage systems are the result of the creativity and technical skills of people in civil engineering. All such significant contributions which make our communities better places to live and work in have been planned, designed and built by the civil engineering profession and industry.

CIVIL ENGINEERING

- examining of the site and the likely impact on the environment
- carrying out necessary calculations and computer analyses
- supervising the preparation of plans
- evaluating all financial requirements
- planning and executing construction
- ensuring standards of quality are met.

To achieve this, civil engineers draw on their technical knowledge, consult textbooks and journals, use computer programs and their judgement and skills to ensure that the most cost-effective project is completed.

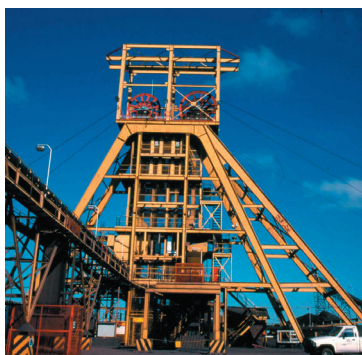
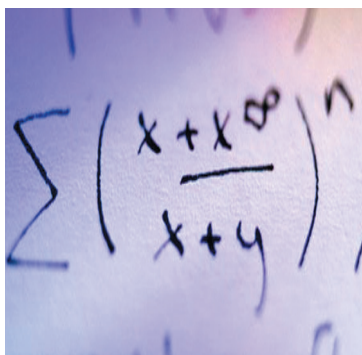
After initial training, the civil engineer specialises.

- **Geotechnical** engineers design and construct foundations for structures and buildings, earth embankments, tunnels and earth dams.
- **Transportation** engineers plan, design and construct airports, railway lines and roads.
- **Municipal** engineers provide and maintain services in towns and cities.
- **Construction** engineers plan, control and execute construction projects.
- **Project** managers are responsible for the management and administration of projects.
- **Structural** engineers design and construct structures such as bridges, towers, frames of skyscrapers, etc.
- **Hydraulic** engineers deal with flowing water, its storage, control and distribution.

HOW DO I KNOW THAT CIVIL ENGINEERING IS FOR ME?

Do you:

- want a career which makes extensive use of science and technology?
- want to make a contribution to protecting our natural environment?



- want to improve the quality of life for all South Africans?
- want to participate in projects which will contribute to the long term development in South Africa?

If so, then civil engineering is for you!

WHAT SUBJECTS SHOULD I TAKE AT SCHOOL?

Mathematics and Physical Science. Remember, the better your marks are, the greater the likelihood of being accepted and being awarded a bursary or scholarship.

HOW DO I BECOME A CIVIL ENGINEER?

At least 60% for Mathematics and Physical Science in matric. Certain universities in South Africa offer Civil Engineering as a four-year degree course. After graduation an engineer will be expected to work for about three years before being eligible to register as Professional Engineer with the Engineering Council of South Africa. Responsibilities include the building and maintaining of high technology infrastructure and providing services.

HOW DO I BECOME A CIVIL ENGINEERING TECHNICIAN?

If you have a Senior Certificate with passes in Mathematics and Physical Science, you may study at a university of technology, for the National Diploma in Civil Engineering. This is a three-year course of which one year comprises experiential training with an employer. This is followed by two years of practical training to qualify for registration with the Engineering Council of South Africa. Responsibilities include the building and maintaining of high technology infrastructure and providing services.

BECOMING A CIVIL ENGINEERING TECHNOLOGIST

After obtaining the National Diploma in Civil Engineering, further study for the BTech degree at a university of technology is required to obtain the status of technologist. A further three years of practical experience is necessary for professional registration. Responsibilities include the application and improvement of advanced technology in the civil engineering environment.