The engineering team is inviting you to study engineering to make our future happen!!

For centuries, across continents, engineering team members are making a difference to:

- The lives of people
- The environment
- The economy

Early ingeniums, conceptualisers of ingenious (clever) devices developed over the past 2500 years into the engineering team we know today:

- Engineering Researchers
- Engineers
- Engineering Technologists
- Certified Engineers
- Engineering Technicians
- Engineering Draftsmen
- Supervisors
- Inspectors and Artisans

Each of these team members has a specific role to fulfill in shaping the environment and improving the lives of people. The Engineer, for example, is the science-based problem solver, developer of new technology and pioneer of innovative applications.

The Engineering Technologist is responsible for applying established technologies when solving problems while the Engineering Technician performs established procedures in the support of engineering applications.

All engineering professionals:
1. examine problems
2. investigate
3. apply scientific, mathematical and engineering knowledge
4. design
5. produce solutions to problems
6. assess and lessen the impact of engineering solutions to the environment

7. behave ethically
8. manage engineering activities such as using natural resources, harnessing forces of nature, using or providing materials, using machinery or equipment, optimising information, maintaining infrastructure and organising or controlling systems.

While these activities support economic growth, each has associated risks to the health and safety of people or the environment. Because of these risks, any person who is doing engineering work has to be registered with the Engineering Council of South Africa (ECSA) to ensure that they perform their work competently and responsibly. For more information visit: www.ecsa.co.za

Although all engineering professionals have the same competencies such as solving problems, their roles are set apart by the level of fundamental and specialist knowledge as well as the level at which their competencies are practiced.
Each of the team members therefore has a specific purpose-designed qualification that best develop their roles and responsibilities. Further to the qualification engineering team members also need to gain workplace experience of usually a minimum of three years before they can be registered/licensed and be accountable for their engineering work.

Another way in which the team members differ is the area (discipline) in which they can apply their engineering competencies:

- Aeronautical
- Agricultural
- Civil
- Chemical
- Electrical/Electronics
- Industrial
- Mechanical
- Mining/Metallurgy
- Or combinations/specialisations of the above

Engineering professionals throughout their career can potentially work as team members in a variety of multidisciplined projects and economic sectors such as:

- Agriculture
- Construction
- Chemical Industries
- Electricity & Energy
- Food & Beverages
- Health & Welfare
- Local Government
- Manufacturing
- Media & IT
- Mining
- Safety & Security
- Transportation
- Water

www.engenius.org.za

Engenius is a nationally coordinated programme, initiated and supported by ECSA in collaboration with engineering voluntary associations and other partner organisations, in order to promote the engineering profession to primary & high school learners. Contact details: engenius@ecsa.co.za

Do you want to shape our future?
Then you need to discover how the engineering team makes our future happen!