saice
YOUNG MEMBERS

Career in Structural Engineering

1. What is Structural Engineering?

Structural engineering is the branch of civil engineering that utilizes the laws of physics, mathematics and empirical knowledge to safely design the load bearing elements of the built environment.

2. What does a Structural Engineers/ Planners do?

Structural engineers are generally involved with the design of new buildings. They also inspect structures both during and after construction to ensure that they are properly constructed. In addition, they are also sometimes involved in ensuring the safe demolition or dismantling of a structure after its useful life or when repair it.

3. What are the challenges in Structural Engineering?

Humans have been building structures as a shelter since moving out of caves. Since then, the basic principles of design have become well established, however climatic changes due to global warming are starting to affect structures in increasingly different ways than was originally designed. Our design procedures for strong wind loads are evolving constantly and this opens a research topic for adventurous students.

4. What does the future of Structural Engineering entail?

As long are there are humans, there will always be a need for structural engineers, not only here on earth: Humankind is actively looking at relocating to Mars! New developments in technology, like 3D printing of structural components, has the potential to make its entry into normative design practices. This presents an opportunity for the role of structural engineers to significantly expand beyond their traditional expertise.

5. Can you list a few typical projects that I might work on as a Structural Engineer?

Structural engineers are known for traditional structures such as buildings, bridges and dams. However, their expertise are critical in the aerospace, ship building and entertainment industries (think rollercoaster design)

6. How do I become a Structural Engineer?

To become a Structural Engineer, you will require a bachelor's degree. To be come a really good structural engineer, post graduate studies specializing in the field and continuing professional development combined with peer networking will set you on the right path to success.

7. I do not have a degree in Civil Engineering.

What next, if I'm interested in Structural Engineering? It is not uncommon for people with prior career prospects transitioning into civil engineering. If you have identified this field as your passion, pursue it. In the long term, the satisfaction you receive from this profession will be well worth the change.

8. Contact details of the division.

chair@saice-sd.org.za