



Ex Mente has a position available for a Mechanical Engineer in the Multiphysics team.

We are an owner-managed private entity, which has been in operation for 20 years. The company offers specialist consulting and new technology development services to local and international clients, operating pyrometallurgical reactors such as electric smelting furnaces, converters and rotary kilns.

Job Objectives:

- To assist clients in improving their understanding of their materials, processes and equipment by analysing their operations, processes and performing process calculations, with the level of calculations depending on the purpose of each assignment.
- To communicate clearly with internal and external stakeholders, where the main deliverables are often reports and presentations. It is therefore important to convey important results of the company's work accurately, briefly and clearly.
- To help sustain the company's image as a competent, professional team, by providing high-quality work for our clients.
- Help develop tools and methods by identifying opportunities for improvement.

Qualifications:

Masters in Mechanical Engineering, Applied Mathematics or similar.

Formal course work in the following fields will be advantageous:

- Solid mechanics, fluid mechanics and thermodynamics.



- Computational and applied mechanics - covering topics such as continuum mechanics, material mechanics and approximating differential equations using either finite differences, finite volume or finite element methods.
- Numerical methods - covering topics such as constructing and solving large linear systems, iterative methods and solving nonlinear equations.

Technical Requirements:

- A strong background in mathematics.
- A strong background in programming. Experience using Python and/or C++ will be advantageous.
- Experience using computational fluid/structural dynamics packages. Using, modifying or writing custom solvers in OpenFOAM or Fenics will be especially advantageous.

Personal Attribute Requirements:

- Team player
- Versatile and adaptable
- Willingness to learn
- Good time and focus management
- Problem solver

Please submit your CV with ID, matric certificate and academic records to bernard.vanvuuren@ex-mente.co.za