HR191	**POSITION DESCRIPTION**	UNIVERSITY OF CAPE TOWN IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

NOTES

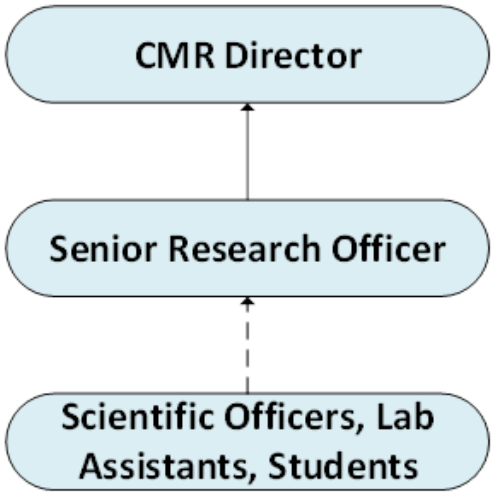
- Forms must be downloaded from the UCT website: https://forms.uct.ac.za/forms.htm
- This form serves as a template for the writing of position descriptions.
- A copy of this form is kept by the line manager and the position holder.

POSITION DETAILS

Position title	Senior Research Officer		
Job title (HR Business Partner to provide)			
Position grade (if known)		Date last graded (if known)	
Academic faculty / PASS department	Engineering and the Built Environment		
Academic department / PASS unit	Chemical Engineering		
Division / section	Centre for Minerals Research		
Date of compilation			

ORGANOGRAM

(Adjust as necessary. Include line manager, line manager's manager, all subordinates and colleagues. Include position grades)



PURPOSE

The main purpose of this position is two-fold: to conduct research activities with flotation optimization, modeling and simulation and contribute to the technology transfer activities within the Centre for Mineral Research (CMR).

CONTENT

Key performance areas		% of time spent	Inputs (Responsibilities / activities / processes/ methods used)	Outputs (Expected results)
E.g.	General and office administration	25%	Takes, types up and distributes minutes and agendas for monthly departmental meeting. Greets visitors, enquires as to the nature of their visit and directs them to the appropriate staff member.	All staff members receive an electronic copy of accurate minutes and agendas, in the departmental template/format, a week before the meeting. Visitors are directed to appropriate staff member in a professional and efficient manner.
1	Research	30	• Plan, oversee and lead relevant research studies, both laboratory- and plant-based, within the CMR. • Collect, organize, and manage research data effectively, including handling any generated samples and overseeing their appropriate processing and analysis. • Conduct independent data analysis using established best practices and methodologies. • Prepare progress and final reports for sponsors in contractual research agreements, as well as manuscripts for publication in scholarly journals. • Attend national and international conferences and, when required, prepare and deliver presentations and articles showcasing research findings.	• Contractual research activities conducted timeously. • Properly stored and curated datasets, including processed sample results and analytical reports. • Progress and final reports submitted to research sponsors in accordance with contractual obligations. • Manuscripts published in journals and conference proceedings. • Presentations and/or posters for conferences • Workshops with relevant parties on research outcomes.
2	Supervision of undergraduate and postgraduate students	20	• Supervision of postgraduate students (MSc and PhD). • Supervision of undergraduate students where applicable (for instance CHE4045Z). • Mentoring and training of students	• Successful MSc and PhD graduations of supervised students. • Successful completion of undergraduate research projects where applicable. • Co-authored journal papers, conference papers, or technical reports.
3	Administration	10	• Oversee laboratory staff, providing guidance, support, and ensuring efficient day-to-day operations. • Manage the contracting, budgeting, and administration of ongoing research and technology transfer projects. • Ensure compliance with institutional and funding body requirements for research administration and reporting. • Facilitate procurement and resource allocation to support research activities.	• Well-coordinated and supported laboratory staff, ensuring smooth day-to-day operation. • Contracts and administrative tasks completed within a timely manner. • Timely acquisition of research materials. • Research activities aligned with funding, and health and safety regulations. • Clear and timeous communication with collaborators, sponsors, and institutional departments regarding project status and administration.

4	Technology transfer activities	40	• Plan, perform and lead flotation survey campaigns. • Plan, perform and lead any laboratory based test work. • Develop flotation circuit mass balances, models and simulations using software packages, such as JKSimFloat, or Excel procedures • Collaborate with industry stakeholders to implement flotation circuit optimization (based on survey campaigns or research). • Design and deliver specialized training courses for industry partners (such as the AGDP).	• Successful survey campaigns with detailed datasets • Well-documented laboratory test work and detailed datasets • Mass balances, models, and simulations using JKSimFloat, Excel, or other tools. • Reports, presentations, or workshops based on experimental work for industrial partners focused on optimization opportunities. • Presentations, and training material developed and delivered for industry partners

MINIMUM REQUIREMENTS

Minimum qualifications	Master`s degree in Chemical or Metallurgical Engineering
Minimum experience (type and years)	3 years industrial experience in mineral processing 10 years experience in a flotation research environment
Skills	Good mathematical competency to analyse complex data. Good verbal, written and presentation skills Ability to analyse and mass balance survey data, model-fit and simulate flotation circuits using the following packages: JKSimMet, JKSimFloat, IES, Excel and Python. Ability to model complex flotation circuits Good communication skills
Knowledge	Extensive fundamental and industrial knowledge of flotation circuits and optimization thereof. Understanding of how to plan and execute flotation survey campaigns.
Professional registration or license requirements	N/A
Other requirements (If the position requires the handling of cash or finances, other requirements must include 'Ability to handle cash or finances'.)	N/A

Competencies (Refer to UCT Competency Framework)

Competence	Level	Competence	Level
Analytical thinking/Problem solving	2	Teamwork/collaboration	2
Conceptual thinking	2	Communication	2
Creativity and innovation	2	Client/student service and support	2
Planning and organizing/work management	2	Professional knowledge and skill	2

SCOPE OF RESPONSIBILITY

Functions responsible for	Research, Technology transfer, Postgraduate supervision, Administration and management
Amount and kind of supervision received	Oversight by the CMR director as necessary to perform required tasks
Amount and kind of supervision exercised	Oversight of students, laboratory staff and administration
Decisions which can be made	Day-to-day operation related to research and technology transfer activities
Decisions which must be referred	Long term strategic decisions (for example collaborators and sponsors)