

THE POST

College:	College Operations - Technical Services
Post:	Mineral Processing Laboratory Technician
Reference number:	P69033
Grade:	E
Reporting To:	Dr Gavyn Rollinson

Job Description

The main purpose of the job is to provide technical support in the mineral processing laboratory at CEMPS-CSM Penryn Campus. You will be expected to play an active role in research and teaching activities in the mineral processing laboratory. You will assume responsibility for the administration of the laboratory and for championing an environmentally sustainable, safe working environment, which includes health & safety management and implementation. The role will involve close collaboration with academic staff in the Camborne School of Mines and other members of the University Technical Services team. This post will be based at the University of Exeter Penryn Campus within the Camborne School of Mines. The post is available immediately on a fixed-term basis for 12 months.

Main purpose of the job:

1. Provide technical support for research and teaching activities in the CSM mineral processing laboratories on the Penryn Campus (CEMPS).
2. Plan, prepare and carry out practical experiments for teaching and research projects on a number of mineral processing techniques (see details below).
3. Act as health & safety coordinator, including providing induction, training and completion of standard operating procedures, risk assessments and COSHH assessments.
4. Promote good laboratory practice for all users of the related Mineral Processing lab areas.
5. Work effectively with academic staff, students and external companies to balance demands on space to meet University objectives.

Main duties and accountabilities

You will be expected to:

- Act as H&S coordinator for all activities carried out by staff and students in the mineral processing laboratory. This will include the completion of Standard operating procedures, safe systems of works, risk assessments and COSHH assessments in line with relevant legislation including PUWER, as well as maintaining a safe work environment and training of lab users.
- Maintain the day to day cleanliness and organisation of the lab areas.
- Assist in teaching by the demonstration of processing techniques and equipment to students as required in the furthering of their study.
- Provide adequate training and support to staff and students undertaking project work related to mineral processing; including help in the analysis and interpretation of results.
- Work closely with academic and technical services staff to complete research and teaching objectives.
- Set up and undertake experimental test-work using a variety of specialist mineral processing equipment with limited guidance from academic staff.

- Set up and undertake experimental test-work using a variety of specialist geomechanical equipment with guidance from academic staff.
- Prepare test material for downstream analytical techniques. This will include: crushing and grinding as well as specialist preparation stages with guidance where required from the CSM lab team and appropriate academics.
- Act as a green champion for the mineral processing laboratory. Ensuring procedures and practices in the lab are aligned with the environmentally sustainable ethos of the university.
- Maintain and update inventories of equipment, mineral samples and chemicals used in the mineral processing laboratory.
- Arrange for the purchasing and where appropriate maintenance of equipment and consumables and liaise with contractors and clients as appropriate.
- Keep accurate records of experiments and data and effectively interpret results and outcomes of test work as required.
- Undertake all of the above in accordance with University health and safety procedures and regulatory guidelines.

Service Delivery (Teaching and Research Support)

- Deal with internal or external stakeholders creating a positive image of Technical Services by being prompt in responding to requests, and referring the user to the right person if necessary.
- Initiate improvements to the service within their degree of influence.
- Ensure that overall standards of the service including H&S, compliance and regulatory standards are adhered to by all users within their degree of influence
- Ensure others have the support they need to fulfil their role.
- Provide regular and routine introductions/inductions – demonstrating the use of laboratory/workshop facilities and equipment to staff, students and visitors.
- Consider the needs of service users and make recommendations about the most appropriate equipment or resources to use and access to achieve required outcomes.
- Provide assistance and advice on an independent basis.
- Provide mentoring, training, instruction and give feedback to learners as part of the support provision.
- Provide technical guidance to service users with the use and application of resources and equipment and information about risk assessments and best practice.
- Demonstrate the use of equipment and resources, taking time to prepare the script and order of presentation to ensure the user fully understands all health and safety considerations. Take responsibility for observing and monitoring use in the absence of academic staff.
- Provide support to service users in workshops, laboratories and other specialist teaching/research facilities.
- Provide support to service users in fieldwork sessions (if applicable) taking into account necessary accommodations to safe and best working practice and providing guidance to suit.

Communications

- Receive, understand and convey information needing careful explanation or interpretation to help others understand taking into account the level of knowledge of the recipient.
- Able to judge what to communicate and how best to convey the information to others.

Teamwork and motivation

- Be supportive and encouraging of others, clarify the requirements of team members, agree clear task objectives, organise and delegate work fairly according to individual abilities, help the team focus their efforts on the task in hand and motivate individual team members.
- Provide guidance to others in the absence of more senior team members as a more experienced team member, team leader or supervisor.
- Act as a role model to others within the team.
- Work closely with academic and technical service colleagues to deliver complex research projects effectively and achieve multi-disciplinary objectives.

Liaison and Networking

- Build and develop on-going relationships to ensure effective communications and effective working.
- Be a member of cross-functional or technical service-wide working teams or groups where the main purpose is to build and develop ongoing relationships to ensure effective communications and effective working.

Decision Making, Processes and Outcomes

- Work in partnership with academic colleagues to make local decisions regarding the allocation of resources such as space and purchase of equipment/consumables.
- Implement decisions made by a project team/working group such as initiating projects and updating and amending procedures.
- Advise on a choice of operational options which will have an impact on the work area and/or workflow.

Leadership, Planning and Organising Resources

- Plan, prioritise and organise the work and resources of themselves and others within your area.
- Accountable to ensure effective use of resources within their area.
- Receive information from, and provide information to, others to achieve effective service delivery.
- Monitor progress against action plans and/or objectives for their area.

Initiative and Problem Solving.

- Use initiative to resolve problems where the optimal solution may not be immediately apparent – this may include weighing up the pros and cons of different approaches to identify and assess practical options.
- Has a certain amount of autonomy within an identified area, as such provides feedback, guidance and advice to staff and students.
- Helps others to problem solve by posing questions and encouraging others to think and develop ideas.

Analysis and Research

- Identify an appropriate existing method of analysis or investigation according to the data and objectives.
- Recognise and interpret trends or patterns in data, and identify or source additional information that could potentially help the investigation as the analysis progresses.

Sensory and Physical Demands

- Routinely demonstrate dexterity, co-ordination using materials, tools, equipment and machinery in accordance with their work.
- Use physical and sensory abilities and skills to perform complex tasks at a level which would require either knowledge of relevant methods or routines.

Working Environment

- Manage the safety of others in their area of responsibility.
- Implement and monitor progress against health and safety standards where applicable.
- Carry out risk assessments and COSHH assessments.
- This may take place in a high risk laboratory/workshop environment where you will be required to follow and enforce safety procedures.
- There may be the requirement to wear personal protective equipment.
- Actively contribute to continuous improvement strategies.
- Implement, adhere to and promote relevant Work Health and Safety policies/guidelines, University Environmental Sustainability and waste management guidelines/policy and carry out any responsibilities outlined in Safety Management Plans and H&S audit recommendations.
- Take responsibility for ensuring risk assessment documentation is completed correctly and reference copies are available to all those affected.

- Provide guidance to others regarding safe use and conduct in line with H&S guidelines.
- Act as a recognised source of information or guidance in the event of an accident or emergency situation.
- Able to operate, maintain and repair specialist machinery or equipment as an experienced and proficient user.
- Train and supervise less experienced users and colleagues.
- Use a range of specialist tools and instruments after undergoing training to a recognised level of accuracy and proficiency.

Pastoral Care and Welfare

- Show sensitivity to those who may need help or, in extreme circumstances are showing signs of obvious distress – initiating appropriate action by involving relevant people.
- Give pastoral care and guidance on commonly occurring welfare issues/queries; following standard welfare procedures for the University; recognising when an individual should be referred elsewhere for professional help; at all times respecting confidentiality.
- Encourage and promote behaviour consistent with University's values and standards, equality and diversity standards and guidance, and create a positive work environment.

Personal and Team Development

- Proactive personal and professional development including completion of mandatory training, skills courses and specialist training.
- Provide training and guide others on specific tasks, issues or activities; give advice; guidance and feedback on the basis of their own knowledge or experience; and deliver in house training where appropriate.
- This will occasionally involve coaching and mentoring members of the work team formally or informally.
- Keep up-to-date technically and apply new knowledge.

Knowledge and Experience

- Apply a working knowledge of theory and practice, sharing this knowledge with others as appropriate.
- Demonstrate continuous specialist development by acquiring relevant skill and competencies.

This job description summarises the main duties and accountabilities of the post and is not comprehensive. There is a clear expectation that the post-holder will support other areas of Technical Services and will undertake other duties of similar level and responsibility.

Person Specification

The role requires good knowledge of mineral processing equipment and techniques. Suitable candidates should ideally have experience in the use comminution, classification, gravity, magnetic, electrostatic, flotation and automated sorting equipment/techniques.

You will ideally be capable of mass balancing processing circuits and have an understanding of the links between mineralogy and processing (Geometalurgy). You will be expected to work with mineral processing academics and other staff to help design and then independently undertake experimentation as a part of research and consultancy project work.

You should be able to complete technical reports to a high standard based on such experimentation.

Essential	Desirable
Attainments/ Qualifications	
An undergraduate degree (or equivalent experience) in a relevant discipline (e.g. Minerals Processing Engineering, Geochemistry, Chemical Engineering or similar).	Professional registration or willingness to work towards registration with a relevant professional body.
Skills and Understanding	
Ability to communicate effectively in English, both orally and in writing	Ability to operate and maintain mineral processing equipment.
Ability to perform standard experimental scientific procedures.	Ability to operate and maintain Geomechanical equipment.
Ability to maintain accurate and detailed records.	Understanding of mineralogy and the role of liberation in mineral separation.
Good laboratory housekeeping skills	
Competence with Microsoft Excel, Access, and Word (or equivalent).	
Prior Experience	
Demonstrable experience of working in the relevant scientific field.	Experience in the preparation of samples for: X-ray fluorescence (XRF); X-Ray diffraction (XRD); and quantitative scanning electron microscopy (e.g. QEMSCAN).
Demonstrable experience working in a mineral processing laboratory or in a laboratory in a related field of study.	Experience operating portable XRF analysers.
Experience of health and safety procedures.	Experience in using mineral processing equipment. Including the: Wilfley shaking table; Knelson Separator; Mozley lab Separator; flotation and magnetic separators.
Experience in writing technical reports.	
Experience of conducting risk assessments and understanding of health and safety legislation	Experience of teaching mineral processing to students with mixed experience and backgrounds.
Behavioural Characteristics	
Ability to work independently with some supervision and to use initiative.	Ability to work under pressure and to tight deadlines
Ability to work as part of a team.	
Willingness to undertake training.	Ability to use initiative to solve problems and overcome difficulties.
Able to maintain accurate research records.	

Terms & Conditions

Our Terms and Conditions of Employment can be viewed [here](#).

Further Information

Please see our [website](#) for further information on working at the University of Exeter.