The Senior Technical Officer provides independent management and development of several of the School’s teaching and research laboratories, which house a range of sophisticated equipment and related infrastructure.

The Senior Technical Officer supports teaching through direct demonstration as well as both training and organising of demonstrators. This role also has a strong Work Health and Safety (WHS) focus and is required to take a leading role with compliance and WHS requirements.

The Senior Technical Officer may be required to provide dedicated research and/or teaching support to specialised areas within the School, including but not limited to:

- Gleeble and Physical Metallurgy Laboratories
- Biomaterials Laboratories
- First-year Undergraduate Teaching Laboratories

The position reports to the School Manager and supports the lead academics in the relevant labs.

**Accountabilities**

Specific accountabilities for this role include:

- Independent management of teaching and research laboratories including, but not limited to, the Gleeble Laboratory, Physical Metallurgy Laboratories and Biomaterials Laboratories, and the coordination of efficient day-to-day management of equipment, infrastructure and services as well as the planning, maintenance, authorisation of access and scheduling of operations.

- Provide expert specialist technical advice and support for best practice of teaching and/or research in the laboratories.
Independent management of demonstration and/or experiments, training and organisation including, design, organisation and operation of teaching/research laboratory experiments and demonstrations.

Provide specialist technical knowledge and advice relevant to long-term strategic planning for laboratories in relation to current and future trends in teaching and/or research infrastructure and methods.

Develop and implement policies and procedures in purchasing, asset management, stock control, and safe disposal of equipment and laboratory consumables ensuring effective relationships with vendors and other stakeholders.

Drive a culture of continuous improvement, evaluating existing equipment, infrastructure, service delivery and training, as well as systems, procedures and protocols, and maintaining knowledge of current and future trends and technologies, to identify opportunities for improvement. Provide recommendations for new methodologies and solutions to the academics and implement change.

Conduct and/or coordinate complex maintenance, troubleshooting and repairs of equipment and infrastructure.

Produce a range of alloys by melting and casting and carry out thermomechanical processing use the Gleeble 3500. Provide specialist technical input into the design of experimental research protocols and in the interpretation of complex research data.

Take a leading role in the implementations of WHS for research and teaching laboratories including, develop and implement risk management protocols and monitoring compliance.

Ensure compliance by laboratory users with School and University policies on WHS requirements. Provision of policy advice and collaboration with School and Faculty WHS Officers and laboratory supervisors and staff to this end.

Management of and training in safety requirement for users of the teaching and research laboratories, ensuring compliance.

Align with and actively demonstrate the UNSW Values in Action: Our Behaviours and the UNSW Code of Conduct.

Cooperate with all health and safety policies and procedures of the university and take all reasonable care to ensure that your actions or omissions do not impact on the health and safety of yourself or others.

**Skills and Experience**

- A masters degree (MSc/MEng) or doctoral degree (PhD) in Materials Science and Engineering or related discipline, with the capacity to assist postgraduate students at all levels in research planning, data acquisition, and data analysis.

- Extensive experience in the technical management of teaching and research facilities.

- Extensive experience in the policy, planning, operation, and maintenance of teaching and research laboratories.

- Demonstrated experience in advanced experimental techniques such as operating and maintaining a Gleeble 3500 thermal and mechanical simulator and input into designing experiments, arc and induction melting and casting techniques, and structural analysis techniques.
• Demonstrated expertise in the operation and maintenance of equipment and infrastructure used in the laboratories.

• Excellent communication and teamwork skills, with a focus on understanding and communicating concepts and policies to staff, postgraduate students, undergraduate students, and visitors.

• Demonstrated ability to support and advise researchers and students on the technical aspects of laboratories and the design, development, and conduct of experiments.

• High level of analytical and problem-solving skills, with a demonstrated ability to consider and make informed decisions regarding experimentation issues.

• Experience in developing, implementing and managing Work WHS and risk management systems and processes in a laboratory environment. Demonstrated dedication to continuous improvement through long-term planning and expansion of laboratory policy and facilities.

• An understanding of and commitment to UNSW’s aims, objectives and values in action, together with relevant policies and guidelines.

• Knowledge of health and safety responsibilities and commitment to attending relevant health and safety training, with the ability and capacity to implement required UNSW health and safety policies and procedures.

About this document

This Position Description outlines the objectives, desired outcomes, key responsibilities, accountabilities, required skills, experience and desired behaviours required to successfully perform the role.

This template is not intended to limit the scope or accountabilities of the position. Characteristics of the position may be altered in accordance with the changing requirements of the role.