

**The University of Waikato  
Te Whare Wānanga o Waikato**

**POSITION DESCRIPTION**

**Advanced Technical Officer  
(SEM & XRD Facilities)**

**Vision**

We will

- deliver a world-class education and research portfolio
- provide a full and dynamic university experience which is distinctive in character
- pursue strong international linkages to advance knowledge

The over-arching themes of this *Vision* are:

- Excellence
- Distinctiveness
- International Connectedness

**Values**

Ko te mana o Te Whare Wānanga o Waikato ka herea ki tō tātou:

- Tu ngātahi me te Māori
- Mahi pono
- Whakanui i ngā huarahi hou
- Whakarewa i te hiringa i te mahara

The University of Waikato places a high value on:

- Partnership with Māori
- Acting with integrity
- Celebrating diversity
- Promoting creativity

**1. GENERAL**

The Waikato School of Engineering is one if not the only unified School of Engineering in New Zealand that offers comprehensive suite of BE (Hons) degree programs in chemical & biological engineering, civil engineering, electrical and electronic engineering, environmental engineering, materials & process engineering, mechatronics and mechanical engineering. Our emphasis is on problem solving through design that addresses societal, environmental and business needs by the clever application of applied science and mathematics. This approach culminates in an annual Engineering Design Show each October. This culture of solving real world problems has attracted approximately 600 fulltime students enrol on undergraduate and postgraduate degree courses taught by 38 high committed academic staff, 16 technical support staff and 3 administrative staff.

The emphasis on solving real world problems has created six strategic engineering research groups that has attracted approximately \$60 Million of external funding primarily from industry and MBIE. The strategic areas are: energy systems, robotics and sensors, urban resilience, advanced materials in the form of biopolymers and metal alloys, water and resilience, cold formed steel structures and sustainable construction.

## 2. POSITION PURPOSE

Manage the operation of the Electron Microscope and X-Ray Diffraction facilities, providing advanced technical support. Deliver high-quality research support for external contracts and clients, while supporting teaching, research, and commercial activities within the School of Engineering and across the wider Division/University as needed. Actively promote the facilities' services to drive engagement and growth.

## 3. ACCOUNTABILITY

The Advanced Technical Officer is responsible to the Technical Manager – Engineering.

## 4. FUNCTIONAL RELATIONSHIPS:

**Internal:** Dean of School of Engineering  
Technical Manager  
Academic staff/ Programme leaders  
Technical staff  
Postgraduate/graduate students  
Undergraduate students  
Services staff  
Administrative staff

**External:** Contractors and Suppliers  
External clients

## 5. KEY TASKS

Having regard to the aims, objectives and long-term strategic goals of the School and the University, the primary objectives required of an Advanced Technical Officer include the following:

- Provide high quality technical support for teaching and research activities.
- Provide expert technical support for analytical processes, instrumentation, facilities, and equipment, ensuring proper maintenance and calibration as needed.
- Assist in planned research programmes in the laboratory, including preparation, data collection, sample analysis and interpretation for researchers and research projects, as well as literature searches.
- Provide high quality training and supervision to staff and students in the correct use of instruments, equipment and resources.
- Support the creation of new processes and procedures as needed and oversee the implementation of quality assurance measures.
- Provide expert technical advice on the selection, use, and purchase of instruments and equipment.
- Participate in and help plan School, Division and University promotional activities including outreach programmes, marketing and events.
- Manage laboratory instrument/equipment bookings.
- Coordinate radiation training and ensure compliance with required standards as needed.
- Laboratory Safety Supervisor for laboratories and management of those areas as applicable.
- Ensure laboratory and storage areas are well organised.
- Update existing and develop new standard operating procedures (SOPs) for relevant equipment and processes.
- Participate in maintaining of a safe and healthy work environment for yourself and others including students. Comply with and undertake responsibilities as set out in the University's Health and Safety Policy.

Any other duties as required that are consistent with the position held, other than in exceptional circumstances such as rehabilitation after injury or sickness.

**NOTE:** Staff have annual objectives, development and reflection (ODR) meetings with their manager. New staff normally attend such a meeting approximately three months after taking up their appointment.

## 6. PERFORMANCE STANDARDS

The Advanced Technical Officer will be performing satisfactorily when:

- An effective and efficient technical support service is provided.
- Technical staff time and skills are utilised efficiently, and all work is carried out correctly and on time.
- Laboratory teaching programmes run smoothly and achieve high quality results.
- Timely and accurate advice, and assistance is received.
- All Instruments, equipment and materials are maintained to high operational and safety standards and is available for use when required.
- Equipment and techniques are utilised correctly, safely, and uniformly by other users.
- Laboratory and storage areas are safe, tidy and instrumentation and equipment accounted for
- SOP's completed to University and Division requirements.
- The School of Engineering, Division and the University is promoted.
- Safe and healthy work practices are followed and comply with University policies and procedures, relevant work standards and statutory obligations.

# PERSON SPECIFICATION

## EDUCATIONAL QUALIFICATIONS

### Essential

- A relevant Science or Engineering tertiary qualification

## TRAINING, SKILLS AND KNOWLEDGE

### Essential

- Demonstrated experience in the operation, maintenance, and troubleshooting of Scanning Electron Microscopy (SEM), Energy Dispersive Spectroscopy (EDS), Electron Backscatter Diffraction (EBSD), and X-Ray Diffraction (XRD) instrumentation.
- Proficient in ICT and data handling skills.
- High-level knowledge of health and safety requirements.
- Extensive experience in laboratory practice, including training and assisting users of analytical and testing instruments in an educational/research environment.
- Full New Zealand driver's licence or equivalent.

### Preferred

- First aid certificate
- Experience in writing technical report for external clients

## PERSONAL QUALITIES

- Builds and sustains positive and productive collegial working relationships. □
- Reliable, conscientious, adaptable and a positive attitude.
- Ability to work with a diverse group of people and to work as part of a team.
- A high level of independence, objectivity and sound judgement.
- Attention to detail.
- Willingness to learn new technical and management skills.
- Excellent time management skills and ability to work to deadlines.
- Commitment to a culture of openness, flexibility and co-operation to achieve excellence in academic programmes, research and service.
- Commitment to equal opportunity and to the University's partnership with Māori as intended by the Treaty of Waitangi.

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