POSITION TITLE	**Process Engineer: Nanofabrication**
JOB PROFILE ID	**CRF_HEO7_SJP_01**
JOB CATEGORY	**Professional**
JOB FAMILY	**Core Research Facilities / Infrastructure**
COMPENSATION GRADE	**HEO7**
MANAGEMENT LEVEL	**19 Individual Contributor**

POSITION DESCRIPTION SUMMARY

PRIMARY FUNCTION
Operates a range of specialised nanofabrication equipment in the Sydney Nano Foundry (including high performance electron beam lithography). Provides sound, expert technical support and advice to researchers using the facility, aiding the research and providing collaborative research input for projects being undertaken. Ensures that the facility is properly maintained, that all nanofabrication equipment is functioning correctly and that preventative work/maintenance protocols are in place for equipment. Ensures that the relevant Work, Health and Safety standards of the work area are met and are aligned to the University's WHS policy.

DECISION MAKING AND DELEGATIONS OF AUTHORITY
The Process Engineer: Nanofabrication works under broad direction and is expected to utilise their technical expertise, scientific knowledge and training/qualifications to resolve routine matters that arise across the facility. They determine and implement solutions for routine problems relating to the delivery of efficient and effective research services on a timely basis, escalating issues to supervisor when required. They will have discretion to design experiment protocols that meet the requirements of the research work being undertaken by the facility, and appropriately address issues that arise. Problems that cannot be resolved or are outside the scope of their key accountabilities are referred to more senior staff for guidance and/or resolution.

KEY RELATIONSHIPS

Relationships	Position Title
Supervisor	0094577 Facility and Program Manager, Sydney Nano Foundry - Mr Nelson Briones
Direct Reports	
Peer Relationships	Refer to the organisational charts in Workday to view peer relationships relevant to your role. Please Note- This option is only available to University staff.

THE UNIVERSITY OF SYDNEY

RESPONSIBILITY DESCRIPTION

1. Provides nanofabrication research support and assistance to researchers and other technical staff working in the laboratory.

- Provides expert advice and undertakes experiments for research projects being carried out in the facility. Works in collaboration with researchers and/or other technical staff in the SNF to meet the research requirements of stakeholders.
- Provides timely, effective, and highly specialized technical support and advice to researchers and staff using the SNF.
- Ensures nanofabrication equipment (including high-performance electron beam lithography) is prepared and maintained for experiments being carried out by researchers using the facility.
- Trains users and demonstrates use of nanofabrication equipment in the SNF. Evaluates user expertise, determines and records which researchers may have unsupervised access to the equipment.
- Provides assistance in the planning, execution and analysis of nanofabrication workflows. Assists users in investigating complex scientific problems related to device fabrication and performance by utilising micro/nano characterisation techniques to provide both qualitative and quantitative analysis and documentation relevant to user requirements.
- Maintains up to date knowledge of new and innovative fabrication and characterisation techniques which relate to nanofabrication.
- In collaboration with the Facility and Program Manager, manages requests for technical information on the facility and ensures that the requests are handled in a timely and professional manner, including requests related to the quotation of external fee-for-service and contract research work.

2. Maintains the facility workplace ensuring that the research requirements of the SNF are met effectively.

- Monitors technical equipment, reporting issues or faults as required, ensuring that repairs and/or preventative maintenance is undertaken appropriately in a timely manner.
- Operates specialised nanofabrication processing equipment (including high performance electron beam lithography) including overseeing development of new processes and protocols.
- Oversees and manages general daily cleanroom tasks to ensure needs of the facility are met, including but not limited to: inventory monitoring, purchasing of consumables, cleaning and waste management.
- Monitors and regularly evaluates processing quality to satisfy research requirements.
- Maintains a positive and productive laboratory environment to support effective and efficient delivery of research services aligned to stakeholder needs.

3. Ensures laboratory is compliant with Workplace Health and Safety requirements.

- Ensures that the cleanroom is always in a clean and safe condition, hazardous chemicals are stored and disposed of appropriately, ensuring that the facility is in compliance with workplace health and safety requirements.
- Oversees and maintains Workplace Health and Safety records, as per the University’s Workplace Health and Safety policy, ensuring that WHS matters requiring attention are addressed appropriately.
- Performs risk assessments and prepares safe work procedures for nanofabrication equipment
- Provides sound advice for the operation needs and appropriate upgrades of nanofabrication facilities and capabilities in the SNF, including recommendations for improvements to ensure continued safe work practices are in place in the cleanroom.
- Implements the University WHS Policy, by pro-actively engaging facility staff to develop a safe workplace environment for staff and researchers using the SNF, including an awareness of WHS requirements.
- Trains staff, visitors and researchers (where appropriate) in the safe operation of nanofabrication equipment.

4. Prepares reporting and documentation for the work area.

- Develops and implements procedures to meet the needs of the researchers and other more senior staff in the facility and ensures that procedures are duly documented and made available to staff.
- When appropriate, collaborates with researchers in order to provide high-quality outcomes such as publications or grant submissions.
- Ensures that adequate and appropriate records are maintained of the research work being undertaken, ensuring that results are captured in appropriate formats, accurate records of analytical results are maintained, analyses are conducted in accordance with required specifications, and identifies and reports errors arising during experiments and analyses.
- Develops and maintains best practice data management (including archiving) in accordance with the developing University policy for such, and provide input in to that policy development and implementation.

5. Provides effective leadership and management guidance and support to the staff in the facility.

RESPONSIBILITY DESCRIPTION

- Ensures effective collaboration takes place between staff in the laboratory and other groups across the University.
- Facilitates and develops a culture of technical best practice and collaborative knowledge transfer between users of the SNF, and assists researchers in navigating the procedures and systems in place in the cleanroom.
- Makes strategic recommendations to SNF leadership in relation to nanofabrication procurement priorities and participates in procurement working groups/committees

6. Undertakes ad-hoc projects and other activities.

- Performs work activities relevant to the role's key accountabilities as approved by the Facility Manager and commensurate to the role's classification level.

EDUCATION

Education
Bachelor's Degree - In a relevant field
Other - An equivalent combination of relevant training and experience

Only one Field of Study needs to apply. The Education requirements should be considered in conjunction with the Work Experience requirements.

CERTIFICATIONS

Certifications

SKILLS

Skills
Analytical and problem solving skills with the ability to make sound judgement.
Communications - excellent written and verbal communication skills including the ability to liaise effectively with both scientific/technical and non-technical colleagues. Able to write technical documents and user manuals relating to software and processes.
Problem solving and decision making skills.

WORK EXPERIENCE

Work Experience
Designing and participating in experiments and/or studies.
Knowledge and application of work, health and safety standards and regulations.
Supporting research and technical teams within research facilities and/or with specialised equipment.
Working with hazardous substances.

CAPABILITIES

Priority Core Capability	Behavioural Indicators *FOU – Foundational, *INT – Intermediate, *ADV – Advanced, *EXP – Expert	Level
Acts responsibly	Understands constraints and works to optimise value for the University by balancing safety, sustainability, risk, opportunity, and finite resources to deliver, directly or indirectly, on the objectives of the University.	INT
Collaborates with others	Builds networks, models collaboration and works effectively with others to encourage inclusivity and impact.	INT
Displays adaptability	Remains committed and persistent in the pursuit of goals, maintaining composure and professionalism, regardless of changing circumstances.	INT
Thinks and solves problems	Makes informed and considered decisions by thinking critically and comprehensively to progress and enhance outcomes for the University.	INT

Priority Professional Capability	Behavioural Indicators *FOU – Foundational, *INT – Intermediate, *ADV – Advanced, *EXP – Expert	Level
Actively manages opportunities, risks and issues	Actively manages opportunities, potential risks and uncertainties to achieving the strategic objectives of the University.	INT
Delivers service excellence	Understands customer needs and wants, both now and in the future, to agree, meet and manage service expectations and deliver an excellent service experience for University staff, students and the community.	INT
Optimises education and research delivery using digital technologies	Identifies, implements and uses digital tools and platforms to support staff in delivering education, research and student outcomes.	FOU

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Priority Professional Capability	Behavioural Indicators *FOU – Foundational, *INT – Intermediate, *ADV – Advanced, *EXP – Expert	Level
Seeks insights to inform decisions	Gathers, consolidates and evaluates a range of information to uncover key insights and inform business decisions across the University.	INT
Understands the nature of research	Understands the nature of research work, research timeframes, the legislative and funding environment and navigating this landscape to support staff to deliver on the research objectives of the University.	INT

Core Capability	Behavioural Indicators *FOU – Foundational, *INT – Intermediate, *ADV – Advanced, *EXP – Expert	Level
Acts with courage, respect and integrity	Acts with honesty, demonstrating ethical and professional behaviour, with the courage to speak up for respect and integrity.	INT
Communicates with impact	Interacts with others clearly and effectively, using respectful verbal and non-verbal communication for the benefit of our students, staff and the communities we serve	INT
Contributes to the University	Shows an appreciation of the higher education sector and role of the University in the local and international community, supporting the University's strategy of excellence in research, education, engagement and student experience.	INT
Displays cross-cultural understanding	Collaborates in an inclusive way demonstrating an understanding of cultural differences and how our views can shape the way we operate.	INT
Excels in discipline, field or profession	Strives to develop and improve own proficiency and profile in areas of focus, creating a positive impact for the University.	INT
Responds to changing contexts	Anticipates and monitors demand and develops considered responses to continually improve student, staff and community outcomes	INT
Strives to learn	Exhibits a commitment to continuously learn, having the courage to embrace new practices, behaviours and mindsets and be open to new ideas and perspective.	INT
Takes accountability	Takes accountability for own actions and contributes to an inclusive, psychologically safe and high performance culture where people are inspired to thrive and realise their potential.	INT
Takes action	Takes initiative, achieving results through a commitment to excellence and quality outcomes for the University, Australia and the wider world.	INT