



Position Description

College/Division:	College of Science and Medicine
Faculty/School/Centre:	Research School of Astronomy and Astrophysics
Department/Unit:	Advanced Instrumentation and Technology Centre (AITC)
Position Title:	Mechanical Specialist
Classification:	ANU Officer 6/7 (Specialist)
Responsible to:	AITC Mechanical Discipline Lead
Number of positions that report to this role:	N/A
Delegation(s) Assigned:	N/A

PURPOSE STATEMENT:

The ANU College of Science and Medicine encompasses the following disciplines: Astronomy and Astrophysics, Biology, Chemistry, Earth Sciences, Physics, Medicine and Psychology, and Medical Research. It is also home to various cross-disciplinary and specialist institutes and centres. Staff and students within the ANU College of Science and Medicine conduct research and deliver research-led education programs spanning the entire breadth of the sciences, supported by extensive international networks and world-class facilities.

The Research School of Astronomy and Astrophysics' (RSAA) research program requires a high-level engineering team to develop innovative state-of-the-art instrumentation for observing the distant Universe, as well as for helping support existing RSAA telescopes at Siding Spring Observatory. The Mechanical Specialist provides specialist technical management skills in support of the program in the area of mechanical engineering.

KEY ACCOUNTABILITY AREAS:

Position Dimension & Relationships:

The Mechanical Specialist reports to the Mechanical Discipline Lead, providing design, development, validation, and maintenance expertise for approved RSAA technical projects and activities. A close working relationship is required with engineers in Optical, Electronics, Controls, Software, Detector, and Systems Engineering as well as the project/program management, scientists and external stakeholders

Role Statement:

Under the broad direction of the Mechanical Discipline Lead, the Mechanical Specialist will:

- Manage mechanical engineering assignments from concept through to implementation, entailing technical specifications, design, modelling, prototyping, alignment, testing, detailed planning and support documentation. The designer is expected to take the lead in subsequent assembly, integration and test.
- Contribute to the development of budgets and schedules for assigned project tasks, ensuring budget is achieved and risks are mitigated while ensuring that mechanical systems are delivered in a cost-effective manner within schedule and to technical requirements.
- Contribute to mechanical project proposals, applying engineering knowledge to develop work plans covering; cost, resource implications and test needs.
- Provide engineering advice to the RSAA project managers, facilitate interdisciplinary design solutions, and provide guidance and mentoring to designers, developers and technical support staff.
- Contribute to the commissioning, enhancement, and optimizing of instrumentation.
- Develop technical documentation and descriptive articles for general publication.
- Maintain a working knowledge both of best-practice procedures in the context of prototype and one-off constructions, and an awareness of relevant state-of-the-art technologies that might be applied to astronomical or space research within the context of Advanced Instrumentation and Technology Centre (AITC) operations management procedures.

- Undertake other duties as required from time to time consistent with the classification level of the position.
- Comply with all ANU policies and procedures, and in particular those relating to work health and safety and equal opportunity

SELECTION CRITERIA:

1. Degree in Science, Engineering or related discipline and a minimum of two years relevant experience. Professional experience in the context of astronomical or physics research will be highly regarded and experience working in structured system engineering and project managed environments is highly desirable.
2. Demonstrated experience in mechanical and opto-mechanical design, system validation techniques and maintenance of mechanical or opto-mechanical systems, including the use of modern concepts and approaches for integrating electronic and optical designs with mechanical constructions, preferably in the context of forefront astronomical research
3. Demonstrated experience in computer assisted design and modelling, including integration of optical, thermal, and mechanical (including FEA) design approaches and proficiency with solid modelling and the ASME Y14.5 Standard or equivalent. Experience in vacuum cryogenic design is highly desired.
4. Demonstrated proficiency in design, assembly and alignment of precision mechanical systems. Experience in successful test campaigns including; design, prototyping, assembly, alignment, integration, testing is highly valued.
5. Demonstrated ability to take responsibility for work outcomes and priorities workloads to deliver on challenging objectives timely and on budgets.
6. High level of interpersonal, liaison and negotiation skills with demonstrated effective communication skills and experience with demonstrated experience working with customers, industry partners, suppliers and contractors.
7. Proven high level of written communication skills with the ability to develop and contribute to material for publication in technical literature

ANU Officer Levels 6 and 7 are broadbanded in this stream. It is expected that at the higher levels within the broadband occupants, through experience, will have developed skills and expertise enabling them to more independently perform the full range of duties at a higher level, and that more time will be spent on the more complex functions of the position.

Employment in this position is conditional on satisfactory results in accordance with the [Background Checking Procedure](#) which sets out the types of checks required by each type of position. All appointments are required to make relevant declarations to comply with the [National Higher Education Code to Prevent and Respond to Gender-Based Violence](#).

Supervisor/Delegate Name:

Date:

References:

[Professional Staff Classification Descriptors](#)

[Minimum Standards for Academic Levels \(MSAL\)](#)



Pre-Employment Work Environment Report

Position Details

College/Div/Centre	CoSM	Dept/School/Section	RSAA – AITC
Position Title	Mechanical Specialist	Classification	ANU06/7 (Specialist)
Position No.		Reference No.	

In accordance with the Work Health and Safety Act 2011 (Cth) the University has a primary duty of care, so far as reasonably practicable, to ensure the health and safety of all staff while they are at work in the University.

- This form is used to advise potential applicants of work environment and health and safety hazards prior to application.
- This form must be completed by the supervisor of the position. Without this form jobs cannot be advertised.
- Once an applicant has been selected for the position they must familiarise themselves with the University [WHS Management System Handbook](#).
- The hazards identified below are of generic nature in relation to the position. It is not correlated directly to training required for the specific staff to be engaged. Identification of individual WHS training needs must be in accordance with WHS Local Training Plan and through the WHS induction programs and Performance Development Review Process.
- Information regarding reasonable workplace adjustments that may be required to enable an individual to fulfil the inherent requirements of their position is available at [2024_ANU Inherent Requirements Reference Table.pdf](#)

Potential Hazards

Please indicate whether the duties associated with appointment will result in exposure to any of the following potential hazards, either as a **regular** or **occasional** part of the duties.

TASK	regular	occasional	TASK	regular	occasional
key boarding	☒	☐	laboratory work	☐	☒
lifting, manual handling	☐	☐	work at heights	☐	☐
repetitive manual tasks	☐	☐	work in confined spaces	☐	☐
organizing events	☐	☐	noise / vibration	☐	☐
fieldwork & travel	☐	☐	electricity	☐	☐
driving a vehicle	☐	☐			
NON-IONIZING RADIATION			IONIZING RADIATION		
solar	☐	☐	gamma, x-rays	☐	☐
ultraviolet	☐	☐	beta particles	☐	☐
infra red	☐	☐	nuclear particles	☐	☐
laser	☐	☐			
radio frequency	☐	☐			
CHEMICALS			BIOLOGICAL MATERIALS		
hazardous substances	☐	☐	microbiological materials	☐	☐
allergens	☐	☐	potential biological allergens	☐	☐
cytotoxics	☐	☐	laboratory animals or insects	☐	☐
mutagens/teratogens/carcinogens	☐	☐	clinical specimens, including blood	☐	☐
pesticides / herbicides	☐	☐	genetically-manipulated specimens	☐	☐
			immunisations	☐	☐

PSYCHOSOCIAL HAZARDS (please specify):

OTHER POTENTIAL HAZARDS (please specify):