Australian Government

Band 4

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Senior Mechanical CAD Designer
Cluster / Business Unit / Division	Clayton Campus
Section or Unit:	Engineering - Mechanical
Classification:	BAND 4/5 Linked Role
Position Description Number:	PD-1848
Work Contract Type:	Technical

POSITION PURPOSE

The Senior CAD Designer is responsible for supporting the Mechanical Engineering Team by providing design detailing / drafting support to others in the team and their own design work as assigned. The CAD Designer is also required to provide in house support in the use of the CAD software and maintain all aspects of the CAD software including library and template management and software licensing and update issues.

ORGANISATIONAL ENVIRONMENT

ANSTO is the national organisation for nuclear science and technology. We focus on undertaking leading edge research, delivering innovative scientific services and providing specialised advice to government, industry, academia and other research organisations.

The Australian Synchrotron (AS) is a division within the Australian Nuclear Science and Technology Organisation (ANSTO) and one of the nation's premier science facilities that provides a vibrant focal point for researchers from Australia, NZ and further afield. The facility provides world-leading technical capability that delivers better and faster experimental techniques that enhance current fundamental and applied research. The facility promotes international collaboration to enable leading-edge R&D that will greatly benefit Australia and our regional neighbours.

The Engineering Group at the Synchrotron provides comprehensive engineering, technical, safety, reliability, design, build and maintenance services, delivering engineering solutions to the Beamline Science Group including supporting the delivery of major capital programs and engineering upgrades. The Engineering Group comprises of the Mechanical Engineering Team, Mechanical Technicians Team, Electrical Engineering Team and the Facilities Team including Plant maintenance.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities – Senior Mechanical CAD Designer - Band 5

- Produce CAD drawings for the facility's mechanical systems infrastructure and supporting services.
- Support the facilities mechanical drafting requirements by maintaining up-to-date 3D CAD models and drafts of machine and beamlines, which enables new designs and modifications to be implemented and to aide in troubleshooting technical issues.
- Support the project work of other engineers which involves design detail finalization and drafting responsibilities.
- Design one off mechanical hardware to support machine and beamline development and operations.

- Coaching of internal staff in use of and troubleshooting, CAD software issues. Provide leadership and coaching of internal staff in use of and troubleshooting, CAD software issues.
- Manage and maintain CAD system parts/templates libraries, licensing and software updates which will ensure engineers and technicians have confidence that the software operates as expected.
- Maintain and promote the Design Office Procedure that defines how the data and information created by the Mechanical Engineering Team is to be tracked, identified, archived and maintained.
- Undertake additional duties as required and during period of leave of other staff.

Key Accountabilities – CAD Designer Band 4

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Decision Making

This role makes decisions related to:

- Changes and updates to the Design Office Procedure
- Prioritization of design tasks
- Design concept of assigned tasks or projects where the expectation is made for CAD Designer to run autonomously
- Updates and corrections to drafting templates used by the Mechanical Team.
- The timing and implementation to changes/updates of the CAD software.
- The levels of authority delegated to this position are those approved and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced).

Key Challenges

- Ensuring successful project completion whilst managing conflicting priorities and deadlines for different stakeholders including short lead times.
- Keeping abreast of recent developments in field, ensuring continual improvement and implementation of best practise
- Providing acceptable solutions to sometimes complex technical problems within an environment in which problems are affected by and impact on other systems.
- Improving customer service, response times and delivery efficiencies

Requirements for transition from Band 4 to Band 5

- In addition to the relevant qualification a minimum of 3 years performing Band X accountabilities.
- Demonstrated leadership capabilities through successful delivery of project based work.
- Demonstrated capability to independently and responsibly deliver design and drafting work by exercising sound technical judgement.
- Ability to apply extensive knowledge and experience relevant to the mechanical discipline.
- Demonstrated ability to effectively and efficiently supervise less experienced staff.
- Demonstrated ability to conform to all ANSTO business management policies and procedures and guide others in their application.
- Demonstrated commitment to provide feedback and contributions to the process of continual improvement.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Group Leader Mechanical Engineering	• Regularly or as required to discuss 'beyond the norm' needs to complete a project or task, priorities where higher level input is required and to provide advice on technical feasibility/practicality on challenges relevant to their area of responsibility
Other engineers/engineering groups	• Regularly or as required, to understand design concept provided, offer advice and/or seek clarification or intent of some design aspects, arrange for drafting reviews, provide advice in use of 3D CAD software and disseminate this knowledge as required; to seek advice, discuss options etc, if working on own task or project; provide advice and guidance in the use of the Design Office Procedure
Beamline scientists	• As required, mainly in the context of gaining information on requirements and intent of an assigned project or task, provide updates on progress, seek clarification as required
External	
Suppliers	• As required to discuss manufacturing options or quotes, lead times with external workshops or suppliers

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Manager, Mechanical Engineer
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2015/2016)	
Revenue / Grants	Nil
Operating Budget	Nil
Staffing Budget	Nil
Capital Budget	Nil
Assets	Nil

Special / Physical Requirements	
Location:	Clayton Working in different areas of designated site/campus as needed
Travel:	May be required to travel to ANSTO sites interstates May be required internationally
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Labour intensive physical requirements (sitting, standing, frequent manual handling up to 20kg) Working in a loud environment Public speaking Industrial facility physical requirements (lifting, standing for long periods, operating machinery, equipment and manipulators) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	May be required to work in radiation areas under tightly regulated conditions Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions
Hours:	Willingness to work extended and varied hours based on operational requirements After hours work may be required for short and infrequent periods
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements Obtain and maintain appropriate federal government clearance

Workplace Health & Safety	
Specific role/s as specified in AG-2362 of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix 1 of AG-2362) Group Executive / General Manager Managers / Leaders / Supervisors Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Ref published Organisation Chart.

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 5 – Essential – Senior Mechanical CAD Designer

1. Degree or Diploma in Mechanical Engineering or similar discipline with demonstrated substantial relevant industry experience.
2. Demonstrated working knowledge in the use of 3D CAD software packages.
3. At least 5 years working knowledge in mechanical drafting Australian standards (e.g. AS 3000) and appropriate tolerancing, GD&T etc., and be able produce clear and accurate models and drawings suitable for their intended use.
4. Demonstrated working knowledge of a broad range of engineering materials and their use which are commonly used in the design of precision instrumentation.

5. Broad knowledge in machining and assembly techniques commonly used in mechanical workshops.
6. The ability to communicate effectively across the organisation in order to gather information, understand requirements and be able to explain information contained in a 3D model or drawing.
7. The ability to work autonomously

Band 5 – Desirable – Senior Mechanical CAD Designer

1. Degree in Mechanical Engineering or similar discipline.
2. Project management skills suitable to run small to medium projects.

Band 4 – Essential – CAD Designer

1. Degree or Diploma in Mechanical Engineering or similar discipline.
2. Demonstrated working knowledge in the use of 3D CAD software packages.
3. Familiarity with drafting Australian standards (e.g. AS 3000) and appropriate tolerancing, GD&T etc., and be able produce clear and accurate models and drawings suitable for their intended use.
4. Strong problem solving skills.
5. Knowledge in machining and assembly techniques commonly used in mechanical workshops.
6. The ability to communicate effectively across the organisation in order to gather information, understand requirements and be able to explain information contained in a 3D model or drawing.

Band 4 – Desirable – CAD Designer

7. Degree in Mechanical Engineering or similar discipline.

VERIFICATION

This section verifies that the line manager and appropriate senior manager/executive confirm that this is a true and accurate reflection of the position.

Line Manager		**Delegated Authority**	
Name:	Brad Mountford	Name:	Dean Morris
Title:	Senior Manager, Engineering	Title:	Senior Manager, Operations
Signature:		Signature:	
Date:		Date:	