Australian Government

MSL913002A Plan and conduct laboratory/field work

Revision Number: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MSL913002A Plan and conduct laboratory/field work

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the ability to plan and complete tasks individually or in a team context. The tasks involve established routines and procedures using allocated resources with access to readily available guidelines and advice. Work plans may need to be modified with supervisor agreement to suit changing conditions and priorities.

Application of the Unit

Application of the unit	This unit of competency is applicable to instrument operators, laboratory assistants and technical assistants working in all industry sectors. Industry representatives have provided case studies to illustrate the practical application of this unit of competency and to show its relevance in a workplace setting. These are found at the end of this unit of competency under the section 'This competency in practice'.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and organise daily work activities	1.1. Clarify allocated work activities and required resources if necessary 1.2. Prioritise work activities as directed 1.3. Break down work activities into small achievable components and efficient sequences 1.4. Review work plan in response to new information, urgent requests, changed situations or instructions from appropriate personnel 1.5. Update work plan and communicate changes to appropriate personnel
2. Complete allocated work	2.1. Locate relevant workplace procedures for required tasks 2.2. Undertake tasks following prescribed and routine work related sequences 2.3. Seek assistance from relevant personnel when difficulties cannot be handled 2.4. Record completion of activities to confirm outputs in accordance with plan
3. Identify and resolve work problems	3.1. Recognise problems or opportunities for improved work performance 3.2. Apply agreed problem solving strategies to consider possible causes and solutions 3.3. Identify and access appropriate sources of help 3.4. Consider available alternatives and keep them open before agreeing on the most appropriate action
4. Work in a team environment	4.1. Cooperate with team members to negotiate and achieve agreed outcomes, timelines and priorities 4.2. Recognise personal abilities and limitations when undertaking team tasks 4.3. Confirm personal role and responsibility within the team for particular outputs 4.4. Demonstrate sensitivity to the diversity of other team members' backgrounds and beliefs
5. Update knowledge and skills as required	5.1. Recognise own strengths and weaknesses and take advantage of skill development opportunities

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- conducting work based on ethical values and principles
- clarifying tasks and recognising resource needs
- following relevant procedures consistently
- recognising potential disruptions or changed circumstances and modifying work plan in conjunction with relevant personnel
- ability to adjust to a variety of working environments (indoor, outdoor and night)
- seeking assistance from relevant personnel when difficulties arise
- achieving quality outcomes within timelines
- working effectively with team members who may have diverse work styles, cultures and perspectives
- promoting cooperation and good relations in the team
- assisting team members to organise and manage its workload

Required knowledge

Required knowledge includes:

- enterprise procedures:
  - customer service
  - quality
  - occupational health and safety (OHS) and environmental legislative requirements
  - technical work that the candidate routinely performs
- workplace agreements and employment conditions:
  - workers compensation
  - industrial awards enterprise agreements
  - equal employment opportunity
  - anti-discrimination and anti-harassment
- ethical background relevant to the nature of the work:
  - use of animals for research
  - genetic modification, gene therapy, cloning and stem cells
  - invitro fertilisation
  - forensic testing of populations
  - importance of commercial confidentiality
- problem solving strategies

REQUIRED SKILLS AND KNOWLEDGE
• interpersonal communication and conflict resolution techniques • relevant health, safety and environment requirements

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors should ensure that candidates can: • follow workplace procedures to achieve quality outcomes within timelines • identify and resolve work problems • work effectively with team members and promote cooperation and good relations • prioritise activities and recognise potential disruptions or changed circumstances and modify the work plan in conjunction with relevant personnel.
Context of and specific resources for assessment	This unit of competency is to be assessed in the workplace or simulated workplace environment. This unit of competency may be assessed with: • *MSL913001A Communicate with other people* • *MSL943002A Participate in laboratory/field workplace safety* • technical units related to the tasks undertaken. Resources may include: • enterprise procedures, equipment and materials for relevant technical tasks.
Method of assessment	The following assessment methods are suggested: • review of a flowchart prepared by the candidate to show efficient sequencing of tasks • observation of the candidate performing a range of technical tasks over sufficient time to demonstrate their handling of a variety of contingencies • review of documents detailing completed tasks, such as completed job cards, a report or suggestions for quality improvement • feedback from peers and team members • feedback from supervisors • written or oral questions to partly assess the candidate's ability to handle a range of contingencies and work in a team environment.

EVIDENCE GUIDE	
	In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. Access must be provided to appropriate learning and/or assessment support when required. The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work like environment.
This competency in practice	Industry representatives have provided the case studies below to illustrate the practical application of this unit of competency and show its relevance in a workplace setting. **Manufacturing** A plastic processing plant had to halt production because of a suspect raw material. The plant manager immediately requested the polymer testing laboratory to test and identify all batches of polypropylene additives and colouring agents. The laboratory team of three assistants and one technical officer allocated the workload amongst themselves to conduct the twelve different tests within a period of four hours to identify the 'out of specification' materials and report them to the production supervisor. All laboratory assistants had to reschedule their workplan, perform the required tests and assist each other to solve the production problem. **Biomedical** As part of a routine sequence, a technical officer is required to perform a series of tasks, including the calibration of instruments required for testing of blood samples. These tasks are to be completed within a specified timeframe to meet the output requirements of the enterprise. During the calibration of one of the instruments, the technician experiences difficulties that require expert technical assistance. The problem is referred to the appropriate person and is quickly resolved. Consequently, the officer is able to complete all

EVIDENCE GUIDE	
	necessary tasks within the prescribed timeframe and the required output is maintained. **Food processing** Each of the technical assistants working in the laboratory of a food processing company was dedicated to performing specific analyses. As a result, they often alternated between periods of inactivity and excessive workload (the latter case had the potential to compromise their health and safety and the accuracy of their food analyses). One of the contributing factors to the periods of intense activity was the need to quickly prepare standard solutions and reagents. The team discussed this problem and agreed that while it was not appropriate for each assistant to become competent to perform every analytical procedure, it was feasible for each person to be able to prepare solutions and reagents used by others. The team developed a central register in which impending shortages of these materials was noted. Each assistant referred to this register when no other work was due and prepared the materials on a 'first in, first out' basis unless a task was given a priority rating. The team found that this strategy more evenly distributed the workload over their shift, improved safety in the laboratory and reduced the risk of error.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Codes of practice	Where reference is made to industry codes of practice, and/or Australian/international standards, it is expected the latest version will be used

Standards, codes, procedures and/or enterprise requirements	Standards, codes, procedures and/or enterprise requirements may include:
	• Australian and international standards such as:
	  • AS/NZS 2243 Set:2006 Safety in laboratories set
	  • AS/NZS ISO 14000 Set:2005 Environmental management standards set
	  • AS/NZS ISO 9000 Set:2008 Quality management systems set
	• OHS national standards and codes of practice

Ethical and professional work performance	Ethical and professional work performance includes: • following enterprise policy and procedures, regulations and legislation • behaving honestly and openly • respecting others and treating them with courtesy and impartiality • working diligently and responsibly • ensuring confidentiality of information, including client identification and test results • ensuring proprietary rights, intellectual property and copyright are protected • clarifying personal values and ethics and analysing how they impinge on actions in the workplace
Workplace activities	Workplace activities may include: • setup and pre-use checks of laboratory equipment • calibration status checks

RANGE STATEMENT	
	• sampling and testing following standard procedures • maintenance and cleaning tasks
Workplace procedures	Workplace procedures may include: • standard operating procedures (SOPs) • job cards, batch cards and production schedules • job descriptions • methods, recipes, procedures and protocols
Problem solving	Problem solving may include: • accessing relevant documentation • identifying inputs and outputs • sequencing a process • identifying and rectifying a problem step • obtaining timely help • implementing preventative strategies wherever possible
Teams	Teams may: • be ongoing with responsibility for particular services or functions • be project based • have a mixture of full and part-time employees and contractors, laboratory, construction and production personnel • be separated by distance and work at sites outside laboratory facilities
Team operation	Team operation may occur within: • small, medium and large contexts • internal and external environments • enterprise guidelines covering access and equity principles and practices, licensing requirements, industrial awards, enterprise bargaining agreements and codes of practice • agreed responsibility and accountability requirements • appropriate goals, objectives • given resource parameters
Team tasks	Team tasks may vary according to:

RANGE STATEMENT	
	• the size of enterprise • the scope of the laboratory • their level of responsibility
Strategies to maintain work flow	Strategies to maintain work flow may include: • communicating critical events on shift • recognising shortages in reagents and problems with equipment • communicating quality breakdowns • recognising urgent and abnormal results to be processed • communicating and behaving in a courteous manner • being punctual
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements: • all operations must comply with enterprise OHS and environmental management requirements, which may be imposed through state/territory or federal legislation - these requirements must not be compromised at any time • all operations assume the potentially hazardous nature of samples and require standard precautions to be applied • where relevant, users should access and apply current industry understanding of infection control issued by the National Health and Medical Research Council (NHMRC) and State and Territory Departments of Health

Unit Sector(s)

Unit sector	Communication/organisation

Competency field

Competency field	

Co-requisite units

Co-requisite units		