



Australian Government

Department of Education, Employment and Workplace Relations

CPPSIS5025A Plan and conduct major survey expeditions

Release: 1

CPPSIS5025A Plan and conduct major survey expeditions

Modification History

Not Applicable

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to plan, organise and conduct successful major remote area survey expeditions. It requires a highly developed ability to plan and apply survival techniques for expeditions while leading a group and focusing on project objectives. It also requires the ability to anticipate technical problems and management requirements. Functions would be carried out within organisational guidelines.

Application of the Unit

Application of the unit

This unit of competency supports the application of sound communication, planning, organisational, problem-solving, time-management, team-management and survival skills; the ability to implement safety procedures for a team in remote locations; and a sound understanding of technology. The skills and knowledge acquired upon completion of this unit would support the needs of employees in surveying.

Licensing, legislative, regulatory and certification requirements may impact on this unit. Incorporate these requirements according to state, territory and federal legislation.

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Prerequisite units Nil

Employability Skills Information

Employability skills The required outcomes described in this unit of competency contain applicable facets of employability skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged, will assist in identifying employability skills requirements.

Elements and Performance Criteria Pre-Content

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

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1 Plan a survey expedition.

- 1.1 Maps, photos and other available data are used to plan survey expeditions.
- 1.2 **Objectives** and **principal work activities** are defined.
- 1.3 **Equipment** preparation is designated to **relevant personnel** according to **organisational policy**.
- 1.4 Logistical considerations are incorporated into the expedition planning to ensure that supplies support the location, duration and size of the survey expedition and anticipate the material needs of the team.
- 1.5 Information is included in the plan relating to identified risks and **contingencies**, resources, technology details and techniques to be used to collect data in the specified format.
- 1.6 Supplies are obtained according to inventory and securely stowed for a survey expedition.
- 1.7 Emergency supplies and equipment are prepared.
- 1.8 **OHS** requirements are planned and adhered to.
- 1.9 Skills and knowledge are updated to accommodate changes in expedition and equipment.

2 Organise the survey expedition.

- 2.1 Survey camp site is prepared and maintained in line with OHS requirements.
- 2.2 Processes are put in place to ensure all personnel observe OHS practices.
- 2.3 Environmental impact from camp activities is minimised.
- 2.4 Tasks are allocated to appropriate personnel and **supervisory processes**, checks and measures are implemented.

3 Apply remote safety and survival skills.

- 3.1 **Emergency requirements** for survival are discussed to ensure that they are available when required.
- 3.2 **Emergency survival and search and rescue techniques** are applied.
- 3.3 Safety procedures are followed whenever helicopters are in the vicinity.
- 3.4 OHS requirements for emergency situations are applied, if required.
- 3.5 Management mechanisms are implemented to measure, record and report progress of activities in relation to the agreed schedule and plans.
- 3.6 Contingencies and constraints are managed to ensure

ELEMENT**PERFORMANCE CRITERIA**

expedition meets specifications.

3.7 **Quality assurance** processes are implemented based on the project plan.

4 Conduct follow-up activity.

4.1 On return, equipment is unloaded and stored in prescribed storage area according to organisational guidelines.

4.2 **Required documentation** is completed.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the essential skills and knowledge and their level, required for this unit.

Required skills:

- ability to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities
- analytical skills
- communication skills to:
 - consult effectively with clients and colleagues
 - impart knowledge and ideas through oral, written and visual means
- computer skills (high technical user level) to complete business documentation
- conducting navigation operations (high level)
- expedition planning (high level)
- literacy skills to:
 - assess and use workplace information
 - locate and interpret legislation and other written documentation
 - prepare and manage documentation
 - read and write technical reports
 - research and evaluate
- numeracy skills to:
 - conduct image analysis
 - interpret and analyse statistics
 - perform mental calculations
 - record with accuracy and precision
 - undertake high level computations
- operate four-wheel drives

REQUIRED SKILLS AND KNOWLEDGE

- organisational skills to:
 - coordinate technical and human resource inputs to research activities
 - prioritise activities to meet contractual requirements
- managerial skills
- spatial skills to:
 - display proficiency in the operation of spatial data capture equipment
 - exercise precision and accuracy in relation to spatial and aspatial data acquisition using electronic equipment
 - solve problems relating to height, depth, breadth, dimension, direction and position in actual operational activity and virtual representation
 - understand implications of height, depth, breadth, dimension and position to actual operational activity and virtual representation
- team leadership.

Required knowledge and understanding:

- emergency survival techniques
- expedition planning processes
- industry requirements and standards
- operations of camping equipment
- organisational policies and guidelines
- principles of leadership
- safe work practices
- statutory requirements for the operation of vehicles
- survey technical skills.

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, the range statement and the Assessment Guidelines for this Training Package.

Overview of assessment

This unit of competency could be assessed on its own or in combination with other units relevant to the job function, for example unit CPPSIS5024A Perform geodetic surveying computations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of matching objectives with resources to ensure expeditions proceed in a safe, organised and timely manner, particularly in:

- applying known solutions to a range of immediate site problems
- accessing and interpreting design information to identify the components to be measured and monitored
- displaying ability to function effectively and take care of others in emergency situations
- displaying survival skills
- planning resources
- leading a team.

Specific resources for assessment

Resource implications for assessment include access to:

- assessment instruments, including personal planner and assessment record book
- assignment instructions, work plans and schedules, policy documents and duty statements
- registered training provider of assessment services
- relevant guidelines, regulations and codes of practice
- suitable venue and equipment.

Access must be provided to appropriate learning and assessment support when required.

Where applicable, physical resources should include equipment modified for people with disabilities.

Context of assessment

Holistic: based on the performance criteria, evidence guide, range statement, and required skills and knowledge.

Method of assessment

Demonstrated over a period of time and observed by the assessor (or assessment team working together to conduct the assessment).

Demonstrated competency in a range of situations, that may include customer/workplace interruptions and involvement in related activities normally experienced in the workplace.

Obtained by observing activities in the field and reviewing induction information. If this is not practicable, observation in realistic simulated environments may be substituted.

Guidance information for assessment

Assessment requires that the clients' objectives and industry expectations are met. If the clients' objectives are narrowly defined or not representative of industry needs, it may be necessary to refer to portfolio case studies of a variety of spatial information services requirements to assess competency.

Oral questioning or written assessment and hypothetical

situations (scenarios) may be used to assess underpinning knowledge (in assessment situations where the candidate is offered a preference between oral questioning or written assessment, questions are to be identical).

Supplementary evidence may be obtained from relevant authenticated correspondence from existing supervisors, team leaders or specialist training staff.

All practical demonstration must adhere to the safety and environmental regulations relevant to each State or Territory.

Where assessment is for the purpose of recognition (recognition of current competencies [RCC] or recognition of prior learning [RPL]), the evidence provided will need to be authenticated and show that it represents competency demonstrated over a period of time.

In all cases where practical assessment is used it will be combined with targeted questioning to assess the underpinning knowledge.

Assessment processes will be appropriate to the language and literacy levels of the candidate and any cultural issues that may affect responses to the questions, and will reflect the requirements of the competency and the work being performed.

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 in the performance criteria is detailed below. Add any 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.

Objectives may include:

- agreed client requirements
- written survey specifications.
- focus on the expedition's survey activities.

Principal work activities may:

Equipment may include:

- camp equipment
- surveying instruments
- vehicles.

Relevant personnel may include:

- colleagues
- staff or employee representatives
- expedition team members
- surveyors.

Organisational policy may include:

- code of ethics
- company standards
- legislation relevant to the work or service function, including equal employment opportunity (EEO)
- manuals
- OHS policies and procedures
- personnel practices and guidelines outlining work roles, teamwork responsibilities and delegations
- remote area operations, such as catering and camping requirements.

Contingencies may include:

- equipment failure
- injury to personnel
- personnel turnover
- observation errors
- obstructions to project plan
- weather.

OHS may include:

- Australian standards
- development of site safety plan
- guidelines for survival in remote areas
- guidelines for hygienic food preparation and storage

- identification of potential hazards
 - inspection of equipment and supplies
 - safe operation of gas and electric appliances
 - training staff in OHS requirements
 - use of personal protective clothing
 - use of safety equipment and signage.
- Supervisory*** processes may include:
- delegating
 - implementing activity
 - monitoring
 - overseeing practices
 - reviewing
 - setting objectives
 - targeting.
- Emergency requirements*** may include:
- food
 - fire
 - shelter
 - water.
- Emergency survival and search and rescue techniques*** may include:
- detection and use of emergency food and water supplies
 - maintenance of positive mental attitudes
 - map reading
 - navigation
 - principles of emergency search and rescue operations
 - special vehicle operation.
- Quality assurance*** may include:
- internal and external
 - product or service measurement against set criteria
 - standard verification
 - target monitoring.
- Required documentation*** may include:
- expedition report
 - field records
 - survey plots.

Unit Sector(s)

Unit sector Spatial information services