



Australian Government

Department of Education, Employment and Workplace Relations

MSS024011A Navigate in urban, regional and remote areas

Release: 1

MSS024011A Navigate in urban, regional and remote areas

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers the ability to read and interpret maps, plans and photos to locate position and navigate safe and efficient routes to urban and regional/remote destinations. This unit does not cover conducting field work in remote locations.

Application of the Unit

This unit of competency is applicable to environmental technicians working in all industry sectors as well as a wide range of other technicians, paraprofessionals, operators and drivers.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

1	Navigate in urban areas	1.1	Access relevant street directories and road maps
		1.2	Recognise and interpret map symbols
		1.3	Use the directory index to locate departure and destination points on map
		1.4	Trace the pre-determined or most efficient route

- on map and estimate distance and duration of journey
- 1.5 Identify significant intersections/landmarks along route to assist with navigation
 - 1.6 Identify alternate routes in case of emergencies or significant traffic delays
 - 1.7 Follow selected route correctly
- 2 Plan routes in regional/remote areas
- 2.1 Locate and review relevant legislative/regulatory, enterprise requirements and background information for site/project
 - 2.2 Select suitable maps, aerial photos, guides and/or charts and check their currency and accuracy
 - 2.3 Select navigational equipment, check that it is fit for purpose and service or replace, as necessary
 - 2.4 Interpret map symbols and navigation data to identify departure/destination points, potential hazards and select an appropriate traverse route
 - 2.5 Estimate distance and duration of journey using map scale and available information about the terrain and vehicle
- 3 Navigate in regional/remote areas
- 3.1 Correctly orientate map with surroundings
 - 3.2 Identify field position and destination on map using landforms, landmarks and/or navigation equipment
 - 3.3 Correctly use navigation aids, equipment and maps to follow planned route and schedule
 - 3.4 Use alternate routes to avoid hazards, safely bypass obstacles or improve efficiency of route
 - 3.5 Maintain communication in accordance with enterprise procedures

Required Skills and Knowledge

Required skills

Required skills include:

- applying legislative/regulatory and enterprise procedures (e.g. access, permits, environmental protection and safety)
- using literacy skills to interpret maps, manuals and procedures
- using mathematical skills to estimate distance, measure angles, average speed and time
- recognising potential hazards, surroundings and navigational aids
- solving problems, such as determining alternate routes
- closely attending to details, such as the timely reading/interpreting of maps and rapid recognition of landforms/landmarks
- seeking advice when issues/problems are beyond scope of competence/responsibility
- working safely for the protection of self and others

Required knowledge

Required knowledge includes:

- types of maps, charts, aerial photos and advantages/disadvantages of their use
- use and manipulation of scales used on maps and plans
- symbols and representation of topographical features on maps and plans
- functional components of a compass/global positioning system (GPS) and factors affecting compass/GPS accuracy
- techniques for estimating distance and taking bearings

Evidence Guide

Overview of assessment	Competency must be demonstrated in the ability to perform consistently at the required standard.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include:

	<ul style="list-style-type: none"> • locating, interpreting and applying relevant maps, route requirements and site/project information • interpreting surroundings, maps and navigation data in a timely manner • identifying and safely following a pre-determined route • developing safe, alternative routes in response to unforeseen/changed circumstances • working safely.
Context of and specific resources for assessment	<p>This unit of competency is to be assessed in the workplace or a simulated workplace environment.</p> <p>Assessment should emphasise a workplace context and procedures found in the candidate's workplace.</p> <p>This unit of competency may be assessed with any field-based monitoring/survey unit, such as:</p> <ul style="list-style-type: none"> • <i>MSS024008A Recognise common geological landforms and samples</i> • <i>MSL974007A Undertake environmental field-based monitoring</i> • <i>MSL974009A Undertake field-based, remote sensing.</i> <p>The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> • site/project history and reports • relevant enterprise procedures (e.g. safety and travel) • physical resources required for navigation task, such as maps, laptop computer/internet, GPS, compass and photos.
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • review of field work/transport records prepared by the candidate • feedback from peers and supervisors that the candidate can navigate accurately and consistently, follows enterprise procedures and works safely • oral/written questioning associated with planning routes and use of maps and navigation data • observation of the candidate navigating a variety of routes. <p>In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess</p>

	<p>directly.</p> <p>Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.</p> <p>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.</p>
Guidance information for assessment	

Range Statement

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
Legislation, standards, codes, procedures and/or enterprise requirements	<p>Legislation, standards, codes, procedures and/or enterprise requirements may include:</p> <ul style="list-style-type: none"> • federal legislation, such as: <ul style="list-style-type: none"> • Environment Protection and Biodiversity Conservation Act 1999 • Australian Heritage Council Act 2003 • Native Title Act 1993 • state/territory government legislation and regulations and local government by-laws, policies, and plans dealing with: <ul style="list-style-type: none"> • land use, acquisition, planning and protection • environmental protection • cultural/heritage protection • vegetation management • nature conservation and wildlife/plant protection • water and water management • soil conservation • pollution and contaminated sites • fisheries, forestry and mining operations • Australian and international standards, such as: <ul style="list-style-type: none"> • AS/NZS ISO 14000 Set:2005 Environmental management standards set • enterprise or regulator procedures for sampling,

	<p>monitoring and in-field testing</p> <ul style="list-style-type: none"> • material safety data sheets (MSDS) • vehicle and equipment manuals • safe work procedures
Background information	<p>Background information may include:</p> <ul style="list-style-type: none"> • site or project history, and project reports • client history • records of consultations with stakeholders and current issues • details of local inhabitants, landowners • site access protocols and permits • site access and exit routes • maps, guide books and aerial photos • information about terrain, significant features, natural protection or shelter, and cultural heritage sites • existing databases (e.g. vegetation, topography, soils and regional ecosystem maps) • safe work procedures • communication protocols when working in remote/regional areas • emergency plan and response procedures
Maps	<p>Maps may include:</p> <ul style="list-style-type: none"> • cadastral maps showing land tenure/ownership • topographical maps • charts and guidebooks • aerial photos, sketch maps and diagrams • web-based maps and directories • street directories
Navigational equipment and aids	<p>Navigational equipment and aids may include:</p> <ul style="list-style-type: none"> • GPS units • compass • track and survey markers, cairns, signs and arrows • navigation beacons
Map symbols and navigation data	<p>Map symbols and navigation data may include:</p> <ul style="list-style-type: none"> • map legend and scale • entry and exit routes • distances and estimated travel times • grid lines and numbers, and grid reference points • contour lines, gradient and altitude gain/loss • magnetic variation/declination, grid and magnetic

	bearings <ul style="list-style-type: none"> • identifiable features (natural and built) • navigation/survey markers, beacons and water depth
Surroundings	Surroundings may include: <ul style="list-style-type: none"> • terrain, such as hills, mountains, ridges and valleys • natural landforms/landmarks, such as caves, observation towers, trig stations, bridges, buildings, and track and creek junctions/crossings • water bodies, such as creeks, rivers, dams and lakes
Hazards and obstacles	Hazards and obstacles may include: <ul style="list-style-type: none"> • extreme weather, such as wind, rain, fog and snow • damage to roads and tracks • thick/impenetrable vegetation • unsafe gradients • marshes, soft sand or bogs • impassable water crossings
Occupational health and safety (OHS) and environmental management requirements	OHS and environmental management requirements: <ul style="list-style-type: none"> • 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)

Environmental

Custom Content Section

Not applicable.