Australian Government

Department of Education, Employment and Workplace Relations

# SROSCB001A SCUBA dive in open water to a maximum depth of 18 metres

**Release: 1**

# SROSCB001A SCUBA dive in open water to a maximum depth of 18 metres

## Modification History

Not applicable.

## Unit Descriptor

**This unit has been developed for the Outdoor Recreation Industry Training Package. This unit covers the knowledge and skills to use and maintain scuba dive equipment, plan and perform scuba dives without direct supervision in open water to a maximum depth of 18 metres, and perform scuba dive rescues.**

## Application of the Unit

Not applicable.

## 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

Elements and Performance Criteria

| Element | Performance Criteria |
|---|---|
| 1 **Use and maintain scuba dive equipment** | 1.1 Select ***scuba dive equipment*** to match diver's build and experience |
| | 1.2 Use ***scuba dive equipment*** to ***industry technical and safety criteria*** |
| | 1.3 Explain and demonstrate maintenance required to meet manufacturer's recommendations |
| | 1.4 Calculate non-decompression times to ***industry technical and safety criteria*** |
| | 1.5 Demonstrate use of buoyancy control device (BCD) to establish positive, negative and neutral buoyancy |
| 2 **Perform scuba dives to a maximum depth of 18 metres** | 2.1 Describe correctly ***physics and physiology*** in relation to scuba diving and divers |
| | 2.2 ***Consider all factors effecting site selection and*** ensure selected scuba dive site meets safety criteria of industry |
| | 2.3 Perform ***entries to and exits from the water*** to meet ***industry technical and safety criteria*** |
| | 2.4 Maintain ***buddy system*** at all times |
| | 2.5 Demonstrate ***emergency out of air techniques*** |
| | 2.6 Give, recognise and respond to hand signals in accordance with ***industry technical and safety criteria*** |
| | 2.7 Complete dives within ***industry accepted dive safety limits*** |
| 3 **Perform scuba dive rescues** | 3.1 Explain and demonstrate ***first aid*** for potential scuba dive incidents to ***industry technical and safety criteria*** |
| | 3.2 Identify diving related ***hazards*** in relation to their causes, symptoms, effects and prevention |

3.3 Demonstrate emergency out-of-air techniques to meet ***industry technical and safety criteria***

3.4 Demonstrate ***self and buddy rescue techniques*** to meet ***industry technical and safety criteria***

## Required Skills and Knowledge

Not applicable.

# Evidence Guide

The Evidence Guide identifies the critical aspects, knowledge and skills to be demonstrated to confirm competence for this unit. This is an integral part of the assessment of competence and should be read in conjunction with the Range Statements

| | |
|---|---|
| **Critical aspects of evidence to be considered** | Assessment must confirm sufficient knowledge of diving theory, diving equipment and industry practices and safety criteria<br><br>Assessment of performance should be over a minimum of two (2) different dives covering the prescribed number of categories of the Range Statements that are applicable in the learners environment<br><br>In particular, assessment must confirm the ability to<br><br>apply knowledge of diving theory and practice to safely dive and perform dive rescues<br><br>plan and evaluate a safe diving activity<br><br>calculate repetitive diving activities using no-decompression tables<br><br>participate as part of a buddy pair/team in an open water dive at depths not less than 5 metres and not to exceed 18 metres for a period not less than 20 minutes<br><br>complete a safety stop at 5 metres for 3 - 5 minutes<br><br>not ascend at greater than 18 metres/mi |
| **Interdependent assessment of units** | This unit must be assessed after attainment of competency in the following unit(s)<br><br>SROOPS002B Plan for minimal environmental impact<br><br>SROODR002A Plan outdoor recreation activities<br><br>This unit must be assessed in conjunction with the following unit(s)<br><br>Nil<br><br>For the purpose of integrated assessment, |

this unit may be assessed in conjunction with the following unit(s)

Nil

**Required knowledge and skills**

Required knowledge

Physics and physiology

direct effects of pressure

buoyancy

pressure/volume relationships

air consumption

how pressure affects density

how pressure affects air spaces

indirect effects of pressure

ingassing and offgassing

decompression sickness

nitrogen narcosis

oxygen toxicity

carbon monoxide toxicity

hypo/hyperthermia

Decompression Illness (DCI)

ingassing/offgassing nitrogen

residual nitrogen

dive planning to avoid DCI

signs and symptoms of DCI

first aid

Effect of diving environment on scuba activities

tides

currents

waves and surf

water conditions

visibilities

entry and exit points

bottom conditions

marine life

Non-decompression dive tables

Selection and preventative maintenance of scuba equipment

Diver first aid, and missing diver procedures

Underwater communication systems

Factors affecting the planning of safe diving activities

Required skills

Select, check, assemble, and don equipment

Pre-dive gear check for self and buddy

Entries and exits

Remove and replace weight belt on surface

Remove and replace equipment on surface

Give, recognise and respond to underwater signals

Dive with minimal impact on environment

Ability to swim 100 metres on the surface wearing scuba equipment

Mask and regulator removal, recovery and replacement

Use of buddy system

Buoyancy control

Underwater navigation (natural and compass)

Emergency procedures

tired diver assist

sharing air

controlled emergency swimming ascent

unconscious diver rescue

**Resource implications**

Physical resources - assessment of this competency requires access to

suitable scuba dive locations with open water

scuba equipment

mask

fins

| | |
|---|---|
| | snorkel |
| | gas cylinders |
| | regulator |
| | buoyancy control device (BCD) |
| | weights |
| | exposure suit |
| | Human resources - assessment of this unit of competency will require human resources consistent with those outlined in the Assessment Guidelines. That is, assessors (or persons within the assessment team) must |
| | be competent in this unit but preferably be competent in the unit at the level above, i.e., SROSCB002A |
| | be competent, as a minimum, in the units SRXFAD001A, SRXRIK001A and SRXEMR001A to ensure adequate risk management during the assessment |
| | be current in their knowledge and understanding of the industry through provision of evidence of professional activity in the relevant area |
| | have attained the mandatory competency requirements for assessors under the Australian Quality Training Framework (AQTF) as specified in Standard 7.3 of the *Standards for Registered Training Organisations* |
| **Consistency in performance** | Due to issues such as covering all the safety and rescue implications, this unit must be assessed over a minimum of two (2) different occasions in order to ensure consistency of performance over the complete Range Statements and contexts applicable to scuba diving |
| **Context for assessment** | Competency must be demonstrated in an actual/real scuba dive activity and all relevant aspects of equipment use, dives and rescues should be assessed in an underwater environment (that is, dry land demonstration of competence is insufficient) |
| | Assessment of this unit of competence will |

usually include observation of processes and procedures, oral and/or written questioning on required knowledge and skills and consideration of required attitudes

Where performance is not directly observed and/or is required to be demonstrated over a 'period of time' and/or in a 'number of locations', any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons

**KEY COMPETENCIES**

| Collect, Analyse&Organise Information | Communicate Ideas&Information | Plan&Organise Activities | Work with Others&in Teams | Use Mathematical Ideas&Techniques | Solve Problems | Use Technology |
|---|---|---|---|---|---|---|
| 2 | 2 | 2 | 2 | 3 | 2 | 3 |

These levels do not relate to the Australian Qualifications Framework. They relate to the seven areas of generic competency that underpin effective workplace practices.

The three levels of performance (1, 2 and 3) denote

| | |
|---|---|
| the level of competency required to perform the task: | |
| Use routine approaches | |
| Select from routine approaches | |
| Establish new approaches | |
| **Collecting, analysing and organising information** - | Collecting information on duration and depth of dive(s) and organising it in a log book |
| **Communicating ideas and information** - | Communicating with dive buddy during dive |
| **Planning and organising activities** - | Planning number of dives, depths and |

duration

**Working with teams and others** - Diving with a buddy

**Using mathematical ideas and techniques** - Calculating no-decompression limits

**Solving problems** - Dealing with out-of-air situations

**Using technology** - Using dive computers to record details of dive

Please refer to the Assessment Guidelines for advice on how to use the Key Competencies.

# Range Statement

## Range Statements

The Range Statements provide advice to interpret the scope and context of this unit of competence, allowing for differences between enterprises and workplaces. The Range Statements relate to the unit as a whole and helps facilitate holistic assessment. In addition, the following variables may be present for this particular unit of competency

| RANGE STATEMENT | CATEGORIES |
|---|---|
| **Buddy system** | system where scuba divers dive in pairs, maintaining physical or visual contact at all times |
| **Emergency out of air techniques** | [all categories]<br>alternative air source assisted ascent<br>controlled emergency swimming ascent |
| **Entry and exit from water** | [all categories]<br>off-shore<br>off dive boats |
| **Factors affecting site selection** | [all categories]<br>environmental conditions<br>hazards<br>access<br>level of skill |
| **First aid** | [all categories]<br>near drowning<br>hypothermia<br>hyperthermia<br>barotrauma<br>cramps<br>exhaustion<br>stings or bites from marine creatures |
| **Hazards** | [all categories]<br>squeezes |

| | |
|---|---|
| | barotrauma |
| | panic |
| | nitrogen narcosis |
| | decompression illnesses |
| | contaminated scuba air |
| | hypothermia |
| | hyperthermia |
| **Industry accepted dive safety limits** | [all categories] |
| | include factors such as |
| | ascents |
| | descents |
| | safety stop |
| | bearings or reciprocal bearings |
| | dive calculations and planning |
| | time |
| | depth |
| | air supply monitoring |
| | monitoring equipment |
| **Industry technical and safety criteria** | [knowledge of at least one category] |
| | as documented in the standards and procedures of accredited training agencies such as |
| | Professional Association of Diving Instructors (PADI) |
| | National Association of Underwater Instructors (NAUI) |
| | Scuba Schools International (SSI) |
| | National Association of Scuba Diving Schools (NASDS) |
| | Australian Underwater Scuba Instructors (AUSI) |
| | British Sub-Aqua Club (BSAC) |
| **Physics and physiology** | [all categories] |
| | include concepts relevant to |

| | |
|---|---|
| | pressure/volume/density relationships |
| | temperature |
| | buoyancy |
| | respiration |
| **Scuba dive equipment** | [all categories] |
| | fins, mask and snorkel |
| | adequate exposure protection appropriate for the local diving conditions, eg, wetsuit/drysuits) |
| | compressed air cylinder and valve appropriate for the dive |
| | buoyancy control device (BCD) with low pressure inflator |
| | regulator, alternate air source, submersible pressure gauge, compass, timing device and depth gauge (or computer which indicates depth, time and air supply) |
| | weight belt and weights (the weight system may be built into the buoyancy control device (BCD)) |
| | knife or diver's tool |
| | dive flag where appropriate |
| | emergency signalling device |
| | slates |
| **Self and buddy rescue techniques** | [all categories] |
| | surface swimming |
| | relieving cramps |
| | equipment removal |
| | establishing buoyancy |
| | calling for assistance |
| | buddy secured and towed 15 metres |
| | in-water expired air resuscitation (EAR) |

# Unit Sector(s)

Not applicable.