



Ocean Diver

Beyond the basics

Module objectives

This module will consolidate scuba skills practised in previous modules to achieve finesse in buoyancy control and to continue to build students' confidence. A further potential problem and how to resolve it is introduced in this sheltered water environment – the loss of a mask. Mobility skills are extended to include unusual attitudes and entry/exit techniques relevant to diving from small boats are introduced.

Achievement targets

At the end of this module students should:

- Be able to assemble and check their equipment with minimal supervision
- Be able to perform a backward roll entry in full scuba kit
- Be able to swim underwater without a mask while breathing from a demand valve
- Have developed the ability to manoeuvre in unusual attitudes
- Be able to remove the scuba unit at the surface and exit the water as for diving from a small boat
- Be able to wash/dismantle their equipment with minimal supervision

Equipment needed

The instructor and each student will need:

- Basic equipment (mask, fins and snorkel)
- A scuba set comprising a single cylinder, BC (ensure that a student's BC is a good fit) and regulator fitted with an AS configured to comfortably provide an effective gas supply to an out-of-gas recipient
- Weight belt and weights if necessary
- Pool suit or shorty wetsuit and boots (optional appropriate to conditions)

Note: Initial training is best completed with simple, standard equipment styles. Avoid the use of specialised or unusual equipment for Ocean Diver modules if possible.

Module contents

Students should now be showing some finesse when controlling their buoyancy. They will experience swimming without a mask, and learn some entry/exit techniques relevant to diving from small boats.

Some time will be spent on mobility skills to provide a basis for different finning techniques and as an introduction to the moves necessary for recovery from a drysuit inversion.

All practical Ocean Diver modules can either be delivered as a single session or broken down into two or more separate sessions, depending on students' progress and the time available.

The following sections are intended as a guide on how to deliver the skills. The sequence can be varied to suit local conditions and the needs of individual students. However, each session should begin with a briefing and a buddy check, and end with a debrief.



Using the principle of teaching by demonstrating a practical skill and then asking students to do it (demo/do), you will demonstrate each element of a skill first before asking students to copy your demo. Correct any errors by repeating the demo-do sequence emphasising the correct action. As each progressive step builds on the previous demonstration it is appropriate to repeat the previous steps when adding a new step so that you build towards the complete skill.

SEEDS brief

Cover all elements of a SEEDS brief in a logical sequence appropriate to the local conditions. Reassure students that less haste at this point in training will mean more speed overall.

- **Safety**

Remind students of the importance of ear clearing, mask equalisation, checking gas consumption and breathing normally at all times when using scuba, taking particular care on ascent. Ask about contact lenses for swimming without a mask exercise. Also point out any relevant hazards of the venue.

- **Equipment**

List the equipment required for the lesson: basic equipment, scuba and weight belt.



- **Exercise**

Very briefly outline the main elements of the lesson as stated in the lesson objectives: finesse in buoyancy control, swimming without a mask, mobility skills in unusual attitudes and entry/exit techniques relevant to diving from small boats. Do not talk through each skill in detail, this will be covered by demonstrating in the water.

- **Discipline**

Ensure students understand the importance of watching each of your demonstrations and only attempting to repeat a skill when prompted by you. Emphasise the importance of keeping close together while practicing skills, and adopting a one-up-all-up policy when practicing ascents.

- **Signals**

Remind students of the basic diving signals 'OK', 'stop', 'up', 'down', and introduce a 'squeezed-hand' signal to indicate stop while swimming without mask. Ensure all students understand these and can repeat them. Introduce any new teaching signals needed, such as 'faster', 'slower', 'do it again'.



Kit up and buddy check, backward-roll entry

By this stage students should be competent to assemble and check their own equipment with minimal supervision. Ensure that students continue with the routines taught in earlier lessons and don't lapse into bad habits, before introducing another deep-water entry.

- **Assemble scuba**
 - Fit BC to cylinder.
 - Fit regulator to cylinder.
 - Connect BC direct feed, secure contents gauge and AS. Stress the need to keep hoses tidy and out of the way.
- **Carry out functionality checks**
 - Physical check: Check that all hoses are free from damage. Check that the mouthpieces of both main and AS demand valves are firmly attached and are free from splits or tears that could allow water in.
 - Contents check: Turn cylinder valve on slowly, holding the contents gauge facing the cylinder. Check gauge to ensure cylinder has adequate contents.
 - Operational check: Take several breaths from both main and AS demand valves, while observing the contents gauge. Ensure valves breathe smoothly and contents gauge operates correctly (no fluctuations).
 - Leak check: Turn cylinder valve off and check for leaks by both listening and observing the contents gauge (leave for a few minutes).
 - Breathe down: Purge the air pressure, while cylinder valve is closed, and attempt to breathe from both main and AS demand valves to check for inward leaks. Before use, open cylinder valve, slowly as usual.



- **Kit up and buddy check**

- Supervise buddies helping each other to kit up, and their buddy check.
- Encourage the use of BAR or another appropriate acronym.

Note: minimal supervision should be needed. Draw the elements of the buddy check from the students and closely monitoring their performance as they check each other and you.

- **Backward-roll entry, into deeper water**

This teaches an entry from a small boat which, where necessary, can be simulated by rolling backwards from the pool side or jetty.

- Partly inflate BC. Crouch, back to the water, at edge of entry point breathing from demand valve.
- With one hand press mask and regulator against head, to secure.
- Collect up other hoses and gauges with other hand, to secure.
- Roll/sit backward into the water, looking straight ahead.
- Once on surface, turn to face other divers, and signal 'OK' (or 'not OK').



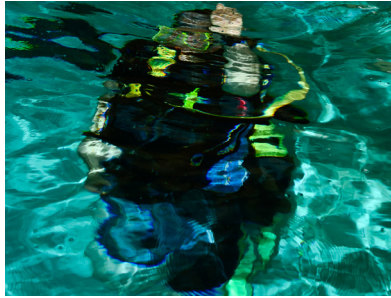
Master basic skills

This element of the module re-enforces the student's grasp of basic skills with a focus on buoyancy, buddy-diving techniques, finning and mask clearing.

- **Controlled descent into deeper water**

- Signal to all to descend together as a group, buddy pairs face each other and exchange signals.
- Hold BC hose above shoulder and vent gas in small bursts to begin descent.

- Ensure students actively control their rate of descent by inflating their BC in small bursts.



- Hold a hover in mid descent, using a visual reference as a guide.
- Use breathing control to feather buoyancy in the final stage of the descent and stop descent just clear of the bottom.
- Rapid descents and heavy landings should be corrected.
- **Adjust for neutral buoyancy**
 - Confirm neutral buoyancy with a hover in horizontal position.



- **Buddy-diving techniques and monitor instruments**
At this stage, students should be developing the habit of routine time and gas checks. Also they should be beginning to learn how to dive as a buddy pair.
- Conduct regular gas checks throughout lesson.
- Check in with buddy. Exchange 'OK' signals, to confirm OK to proceed. Use 'something wrong' signal if there are any problems, such as leaky mask or gas leaks, bubbles from hoses.



- **Efficient underwater swimming (changing depth)**
 - Swim approximately 25m in deep water without touching bottom.
 - Check buoyancy control and finning action.
- **Remove and replace mask, in deeper water**

This exercise provides not only further consolidation of this skill but also provides a lead in to the following exercise of finning without a mask.

 - Flood and remove mask.
 - Identify nose pocket to check mask is correct way up.
 - Place strap in front of mask lens.
 - Clear hair from face and replace mask on face.
 - Gently press top of mask frame against forehead, breathe out steadily (but not forcibly) through nose to clear mask of water while simultaneously tilting head backwards. (Smiling so there is a small gap either side of the nose to allow water out may help.)
 - Once the mask is completely clear, pull the mask strap over the head to secure the mask in place.

Note: The above technique may need adapting depending on the style of mask used although the progressive sequence will remain the same. Masks fitted with drain valves will require the head to be tilted forward rather than back.



- **Remove and replace mask, place it down**

Repeat remove and replace mask exercise above, this time placing mask on floor and letting go before locating nose pocket and refitting mask, to build students' confidence in breathing without a mask.

- **Finning without mask**

This exercise is a confidence booster so that, in the rare event that a mask is lost underwater, the student will be able to continue breathing while swimming to the surface. It also develops buddy responsibilities.

At each stage, following demo ask students to repeat the exercise with each other, one by one. Indicate who should be the guided and guiding buddy. If a student is especially nervous with this exercise they may initially prefer to be guided by the instructor in order to build confidence before being guided by a buddy.

- Practise breathing without a mask. Flood and remove mask (hold securely in one hand), and establish breathing rhythm over a period of about 15-30 seconds, remaining static. Refit and clear mask.

Note: Avoid stressing the students, but ensure that they are in control of their breathing.

- Practise guided swim, with masks on. Start exercise with simulated mask-loser signalling 'OK'. Buddy takes other hand and guides mask-loser on a swim of approximately 25m, at a relaxed pace. Buddy signals 'stop' by gentle squeeze of the hand.
- Flood and remove mask. When ready to begin, student without mask signals 'OK' and guiding buddy leads a 25m swim.

Note: Concentrate on seeing their breathing rhythm is maintained.

Extend mobility skills

This element of the module introduces students to techniques they will encounter when open-water diving and develops mobility skills while wearing scuba.

- **Surface snorkel swim in scuba kit**

A surface swim using a snorkel may be used either to preserve gas on a shore dive that requires a swim before descending, or on the return trip.

- Swim approximately 25m on front, breathing from snorkel, BC partly inflated for comfort.



- **Controlled descent into deeper water**

This provides further practice at controlled descents starting with surface swim breathing from a snorkel.

- Leader gives stop signal to end swim, makes snorkel/demand valve exchange followed by 'OK' signal. Buddy follows suit.
- Signal to all to descend together as a group, buddy pairs face each other and exchange signals.
- Hold BC hose above shoulder and vent gas in small bursts to begin descent.
- Ensure students actively control their rate of descent by inflating their BC in small bursts.
- Use breathing control to feather buoyancy in the final stage of the descent.
- Rapid descents and heavy landings should be corrected.

- **Frog kick**

Develop student's mobility skills by introducing them an alternative finning method. The frog kick is a useful technique when it's important to avoid disturbing silt or fine sediment or when fine control is required.

- Start in a horizontal position clear of the bottom, bend the knees so that the fin blades are pointing upwards on a steep diagonal.
- Develop frog kick by twisting the ankle/lower leg at a right angle and pushing back with the feet. Keep the upper legs horizontal throughout the action.
- Extend distance of swim, once students have achieved the basic action.

- **Forward rolls in deeper water**

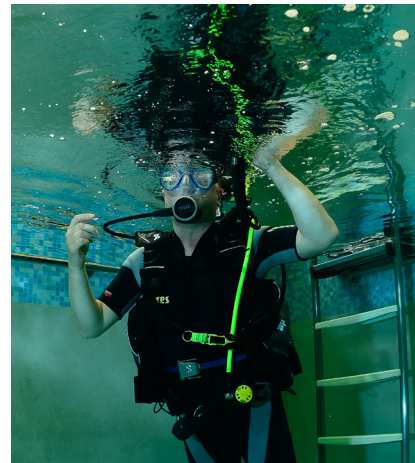
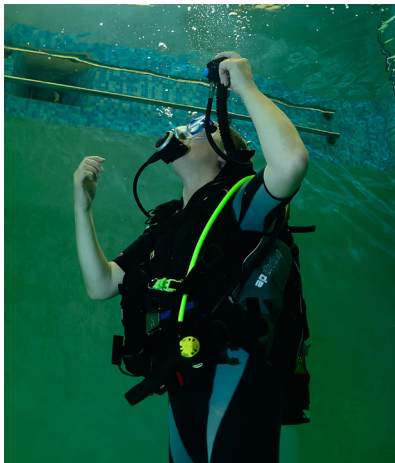
This exercise teaches students to control their movements when in unusual attitudes and is an introduction to corrective action for dry suit skills. Check that students have achieved neutral buoyancy before beginning.

- Start to ascend from kneeling position, by breathing in and straightening legs to move upwards and forwards.
- Once clear of the bottom control the ascent by breathing out.
- Place both arms straight out in front, sweep them around to rotate the body forward while bending at the waist.
- Complete forward roll by keeping the arms rotating, breathing in on the 'downward' side of the roll to control buoyancy.

- **Ascent in buddy pairs from deeper water**

This exercise provides further consolidation of maintaining buddy pair contact during the ascent and surfacing drill.

- Buddy pairs face each other, hold BC controls above shoulder, inflate in short bursts until slight positive buoyancy achieved to initiate ascent.
- Vent in bursts to maintain controlled rate of ascent.
- Look up towards surface above/behind buddy's head.
- Raise free hand above head when nearing surface.
- Fully inflate BC at surface
- Exchange 'OK' signals.



De-kit, in water, exit suitable for small boat

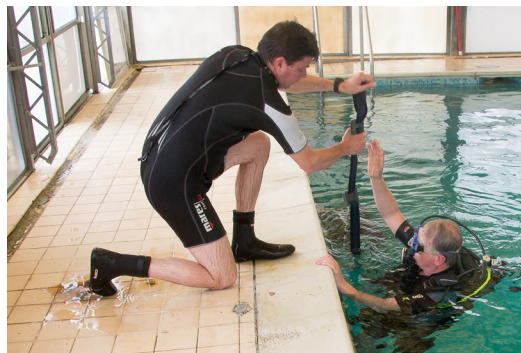
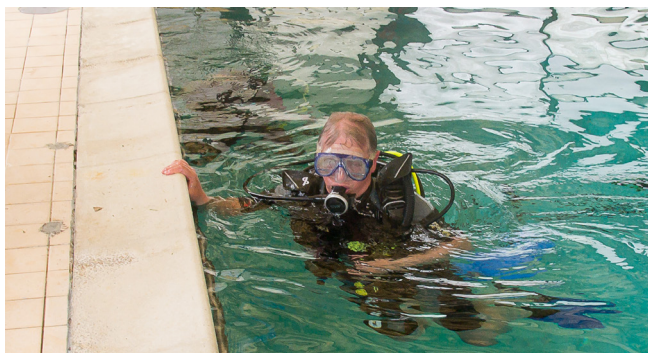
This teaches an exit into a small boat, which can be simulated at a pool side or jetty. An assistant to act as boat crew will be needed.

- **Swim to 'boat'**

- Breathing from demand valve, surface swim to boat.
- Take secure hold of boat.
- Maintain hold throughout the following steps.

- **Remove weights in water**

- Remove weight belt, holding the free end to prevent weights sliding off, or remove integral weights
- Hand up to boat crew, checking they have a firm hold before letting go.



- **Remove scuba in water**

- Release BC waist and chest connections.
- Swing around for crew to hold BC and release BC shoulder connection on opposite side to demand-valve hose. Then release BC and demand valve as surface crew removes scuba from water.



- **Enter boat**

- Grip suitable handholds with hands.
- Duck down in water.
- Pull with hands/fin hard to lift torso out of water and over edge.
- Swing legs round, and remove fins.

Note: If students are unable to achieve this due to configuration of facilities (such as a high-sided pool) then the skill should be adapted to make use of a ladder.



- **Equipment care**

- Rinse all dive kit in fresh water.
- Turn off gas, purge regulator and disassemble scuba.
- Fit regulator dust caps.
- Store items in a way that they can dry out.



REAP debrief

Conduct a brief but thorough debrief using the REAP format, making sure that everyone has enjoyed their lesson and highlighting the areas of progress that they have made. Offer constructive feedback and explain how they will further develop their skills in the next module.

- **Review**
 - Briefly playback the skills covered in the lesson and remind students of the lesson objectives.
 - Ensure that the students note the configuration of equipment that they have used, particularly the amount and location of any additional weight required, when preparing their equipment for future lessons. This should also include cylinder size, BC size and position of BC straps.
- **Encourage**
 - Praise good performance.
 - Provide support and comfort if things haven't gone so well.
- **Assess**
 - Offer constructive feedback to enable students to identify areas for improvement.
- **Preview**
 - Explain how students will further develop their skills in the next module. Answer any questions that the students have.

Skills Performance Standards

At the end of this module, students should be sufficiently competent to achieve the following skill performance standards without supervision, in the water conditions that they have experienced.

Deep-water entry Students should be able to safely enter the water with a suitable deep-water entry technique such as a backward roll. They should check for potential obstructions, and ensure that they will be positively buoyant by adding gas into their BC. On surfacing they should give an 'OK' signal to their buddy and instructor.

Mobility skills Students should have good control of their movements underwater. This includes maintaining good buoyancy control and horizontal trim while task-loaded by exercises such as alternative finning techniques (frog kick) or underwater rolls.

Buddy-monitoring skills Students should be demonstrating good buddy diving practice, including giving support during kitting-up, carrying out buddy checks, gas checks and giving support during de-kitting.

Swim without a mask while breathing from demand valve Students should be able to swim approximately 25m in deep water without a mask. They should be able to do this without any signs of panic, while maintaining good trim, buoyancy control and finning action.

Deep-water (boat) exit Students should be able to de-kit in water while holding the poolside. Equipment including weights should be offered up to the surface cover without dropping it. Students should then be able to exit directly from the deep water, using the ladder if required.

Equipment disassembly Students should be able to take apart their equipment, with the support of their buddy to lift heavy items. They should be able to correctly wash and vent pressure from their scuba unit (without allowing water ingress in the demand valve), disassemble the regulator from the cylinder, and remove the BC.