

OPEN WATER DIVER STANDARDS

ACUC - OPEN WATER DIVER STANDARDS

ACUC

Points of special consideration

- *This is the first mandatory level within the ACUC training system*
- *Open Water Divers must be advised not to dive deeper than 25 metres (80 feet) until they have gained experience*
- *This course is equivalent to the ISO Autonomous Diver.*



FOREWORD

The ACUC Open Water Diver course is the **first** mandatory diver level within the ACUC training ladder. This course can be taught by any ACUC Assistant Instructor or higher level but must be evaluated and certified by any ACUC Entry level Instructor or higher. The main characteristics of this course is that the students that successfully complete the course, will be properly trained and able to dive, without supervision, accompanied by divers of any level, to the maximum allowable depth for Scuba Diving, which is 40 meters (130 feet). **Nevertheless, students are not to exceed the depth of 25 meters (80 feet) until they have gained experience** (logged at least 20 dives - 10 hours bottom time - or taken the ACUC Deep Diving Specialty).

ACUC reminds Instructors and divers that those not wishing to be trained to this depth (25 meters / 80 feet) can opt for the ACUC Scuba Diver certification course (see Scuba Diver course standards)

This is an ACUC International standard and therefore is always subject to the different national or local legislations. In cases where legislations exist that differ from this standard, the ACUC country or area delegation if it exist, must request in writing to the ACUC main office (Canada or Spain) a “**Deviation**” from this standard to satisfy the legislation of the area, supporting their request with the appropriate documentation. Deviations, if requested, to be considered valid, must appear at the end of each specific standard document (Point 12)

In cases where the local or national legislations are more restrictive than the ACUC Standard, then the local legislation will prevail, but if the ACUC Standard is more restrictive, then the ACUC

Standard will prevail, because by complying with the more restrictive ACUC Standard, logically the local legislation will be also complied with. Updates to this standard, if any, are shown in point 13 of this document.

Regarding required training hours, none are specified because these could vary depending on many factors (number of students, diving environment, etc), therefore the training hours needed are dependant on the fulfilment of learning objectives. In the ACUC manuals and documents where hours are specified, these are only to be considered recommendations.

1. SCOPE

This Standard specifies safety related minimum competencies to be achieved in recreational scuba training at the ACUC Open Water diver level. This Standard applies only to contractual training and certification in recreational scuba diving.

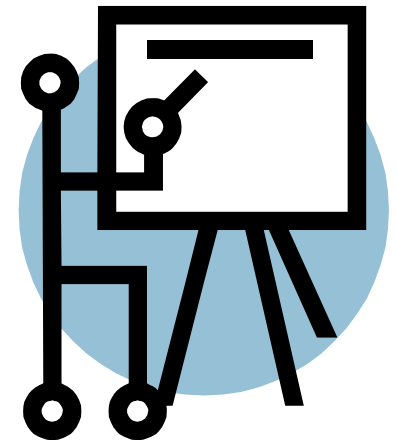
2. DEFINITIONS

For the purposes of this standard and any other standard referenced as acuc-st-xxx, the following definitions apply. Please note that not all terms shown next might appear in this specific standard.

2.1 ACUC: Entity providing recreational scuba diving training systems and certification.

2.2 Basic equipment: Equipment consisting of the following items:

- Mask
- Fins
- Snorkel

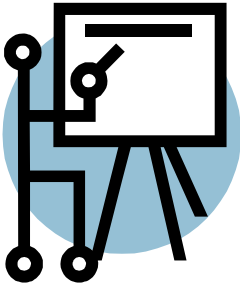


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2. Definitions (continued)



2.3 Breathing gas: Appropriate mixture of oxygen and nitrogen.

2.4 Certification: Confirmation that a student has completed all requirements of a course according to this Standard, as issued by ACUC. Note: Junior certifications issued to those between 12 and 16 years old mean that they must always dive with a certified adult and are restricted to a maximum depth of 25 meters (80 feet).

2.5 Cold water: Water less than 10°C from its highest average temperature or water of 10°C or less

2.6 Competencies: What a diver can do once certified

2.7 Confined spaces: condition that applies when there is no direct access to the surface, such inside a wreck, cave, etc.

2.8 Confined water: Swimming pool with a depth appropriate to the activity, or body of water that offers similar conditions (maximum depth 6 meters)

2.9 Diving equipment: Equipment consisting of the following items:

- Mask,
- Fins,
- Snorkel,
- Cylinder,
- Regulator,
- Alternative breathing gas system, which could range from a simple octopus system to a duplicate breathing system with a separate breathing gas supply,
- Cylinder-support-system and buoyancy control device including (if appropriate) a quick release weight system,
- Submersible pressure gauge (breathing gas pressure monitor),
- Means to measure depth and time and to safely limit exposure to inert gas,
- Diving suit (if appropriate).

Note: Specific environments may require appropriate additional equipment (e.g. an underwater navigational aid, knife/cutting device).

2.10 Dry specialty: Specialty course where no water training takes place, such as for example, First Aid, Oxygen Administration, etc.

2.11 Knowledge levels:

- Basic: knows how...
- Intermediate: knows how and why...
- Advanced: knows how, why and also, knows how to teach it...

2.12 Non certification scuba course: Scuba course where the participants do not receive an ACUC certification at the end of the course, such as for example, scuba introduction, scuba refreshment, scuba buoyancy, etc

2.13 Open water: Body of water significantly larger than a swimming pool offering conditions typical of a natural body of water encountered in the region where training takes place.

2.14 Prerequisites for training: What a diver needs or conditions to be met prior to start training.

2.15 Reduced visibility: condition that applies when diving at night or when visibility is less than an arm's length, for whatever the reason.

2.16 Scuba: Self-contained under-water breathing apparatus.

2.17 Scuba instructor: A qualified individual, sanctioned by ACUC to teach, evaluate and certify divers.

2.18 Theoretical knowledge: knowledge imparted in a dry environment (classroom, pool deck, etc).

2.19 Training open water dive: open water training experience under direct supervision of a qualified instructor, comprising at least the following activities:

- briefing
- preparation to dive
- pre-dive checks
- entry into water
- descent procedures
- under-water activity
- ascent and surfacing procedures
- exit from water
- debriefing
- post dive procedures
- recording the dive.

2.20 Water skills: knowledge imparted inside a wet environment (pool water, sea water, etc)

3. COMPETENCIES

An ACUC Open Water diver shall be trained to have sufficient competencies by knowledge, skill and experience to dive in open water with other scuba divers of any level. ACUC Open Water Divers shall dive within the following parameters

- Dive to a maximum depth of 40 meters / 130 feet (maximum of 25 meters / 80 feet until the diver has gained experience - 20 dives - 10 hours bottom time - or take the Deep Diving ACUC specialty)
- Dive only when appropriate support is available at the surface,
- Dive under conditions that are equal or better than the conditions where they were trained.



3. Competencies (continued)

If accompanied by an ACUC instructor, certified ACUC Open Water divers may gain progressive experience beyond these parameters (except depth) and develop competency in managing more challenging diving conditions designed to lead to higher qualifications.

Where further instruction is required this can only be provided by a suitably qualified ACUC instructor. Where only further experience is required, this may be supervised by an ACUC Divemaster or similar.

4. PREREQUISITES FOR TRAINING

In order to qualify for enrolment in a course according to this Standard the student shall meet the following prerequisites:

4.1 Minimum age: 12 years old. Parental or legal guardian consent is required when the applicant is a minor. ("minor" definition will be according to each country's legislation). Students of less than 16 years old that successfully pass this course will be given an Open Water Diver Junior certification.

4.2 Health requirements: Students shall be medically screened as suitable for recreational diving by means of an appropriate medical examination, or if the country's legislation where the course is taken allows it, an appropriate questionnaire. In any case of doubt, students shall be referred to proper medical resources. If the student is not examined by a physician, the student should be obliged to confirm by signature a written information given by the instructor on diseases or physical conditions which may be a diving related risk. Students shall be advised of the importance of appropriate regular medical examinations.

4.3 To know how to swim.

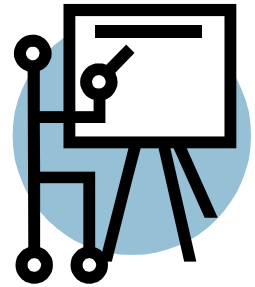
5. TRAINING RATIOS

- **Theory (classroom or pool):** No limit
- **Confined Water:** 8 students per Instructor, with an additional 4 students per Assistant Instructor or Divemaster, with an absolute maximum of 16 students.
- **Open Water:** 4 students per Instructor, with an additional 2 students per Assistant Instructor or Divemaster, with an absolute maximum of 8 students.

6. INTRODUCTORY INFORMATION

The following information shall be made available to the students prior to, or during the first class meeting.

- Prerequisites according to 4,
- Limitations of eventual qualification,
- Scope of course,
- Course procedures,
- Costs, insurance and contractual issues according to national regulations,
- Equipment requirements,
- Certification requirements according to 10,
- Diving related legislation and legal requirements.



7. THEORY KNOWLEDGE

The course content, related to theory knowledge is:

7.1 Equipment: Students shall have an intermediate level of knowledge concerning the use and handling of diving equipment items.

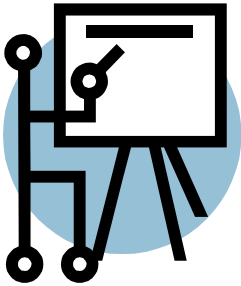
7.2 Physics of diving: Students shall have an intermediate level of knowledge regarding:

- Matter
- Buoyancy
- Light
- Sound
- Hand Signals
- Air Components
- Pressure
- Gas Laws
 - Boyle's
 - Dalton's
 - Henry's
 - Charles's

7.3 Physiology of diving: Students shall have an intermediate level of knowledge of:

- Barotraumas
- Basic Anatomy
 - The Human Body
 - Abdomen
 - Thorax
 - Ears
 - Sinuses
 - Decongestants
 - Tooth Squeeze
 - Mask Squeeze

“Minimum age for ACUC is 12 years old.”



7. Theory knowledge (continued)

- Descent Physiology
 - Nitrogen Narcosis
 - Oxygen Poisoning
 - Carbon Dioxide Poisoning
 - Carbon Monoxide Poisoning
- Ascent Physiology
 - Air Embolism
 - Emphysema
 - Pneumothorax
 - Gas Expansion in Stomach and Intestines
 - Dizziness
 - Decompression Sickness
- Related Physiology
 - Lipoid Pneumonia
 - Hypothermia
 - Drugs and Alcohol

7.4 Dive environment: Students shall have a basic level of knowledge concerning the local and general conditions of the diving environment and their possible effects on the diver and the diver's impact on the environment, including:

- The Marine Environment
 - Salt Water
 - Sun
 - Currents
 - Waves
 - Shore Topography
 - Navigation
 - Marine Life
 - Considerations and Interaction
- Marine Conservation
 - Wrecks
 - Fish
- Freshwater Environment
 - Fresh Water
 - Lakes
 - Rivers
 - Quarries
 - Natural Caves
 - Siphons and Springs
 - Mines
 - Common Fresh Water Animals
- Ecology
 - Sources of Problems
 - Coastal Problems

- Industry
- Recreational Diving Impact
- Inland Water Problems
- Solutions

7.5 First Aid: Students shall have a basic level of knowledge concerning First Aid, with emphasis in accident prevention and including:

- Accident Prevention
- General First Aid
- Barotraumas
- Decompression Sickness
- Other Problems related to Diving
- Cardiac Arrest

7.6 Rescue: Students shall have a basic level of knowledge concerning Rescue, with emphasis in accident prevention and including:

- Underwater Rescue
 - Causes of Diving Problems
 - Recognition of Problems
 - Rescue Techniques
 - Self Help
 - Buddy Help
 - Diver Rescue
 - Panic
 - Fatigue

7.7 Dive Planning: Students shall have an intermediate level of knowledge concerning Dive Planning and Preparation, including:

- Conditioning
- Pre-Dive Planning
- Pre-Dive Preparation
- Preparation on Site
- Dive Plan
- Full Decompression Tables and Procedures
- Air Consumption
- Descending
- On the Bottom
- Ascending
- Altitude Diving
- Diving in Tides
- Flying and Diving
- Dive Log

7.8 Labour Opportunities: Students shall have a basic level of knowledge concerning work opportunities, including:

- Recreational Diving
- Light Commercial
- Heavy Commercial
- Sciences

7.9 ACUC: Students shall have a basic level of knowledge concerning ACUC, including:

“Divers must know which are the limitations of their certification”



7. Theory Knowledge (continued)

- What is ACUC
- Specialties Available to Open Water Divers
- Information on other ACUC courses
- Brief History of Diving (this topic can be given also at the beginning of the course)

8. SCUBA SKILLS

The course content, related to Scuba skills is:

8.1 Confined water scuba skills: Students shall be able to perform the following skills. Each skill shall be mastered in confined water before that skill is performed in open water.

- Use of equipment (light equipment first, then scuba equipment)
- Tank inspection
- Diving equipment assembly and disassembly (at water's edge)
- Putting the equipment on and taking it off (light equipment first, then scuba equipment)
- Methods to enter the water (light equipment first, then scuba equipment)
- Surface entries and exits (light equipment first, then scuba equipment)
- Mouthpiece clearing - snorkel and regulator
- Regulator/snorkel exchanges, swimming at the surface
- Proper descent and ascent procedures (e.g. equalising pressure in ears and mask) (light equipment first, then scuba equipment)
- Swim under-water (finning methods) (light equipment first, then scuba equipment)
- Swim on the surface, with face in the water - no mask (light equipment first, then scuba equipment)
- Mask-clearing, including removal and replacement (please note: scuba equipment first, then light equipment)
- Under-water and surface buoyancy control
- Descending and ascending with a buoyancy compensator
- Simulated emergency ascents
- Under-water regulator recovery
- Basic but often instrument monitoring
- Surface and underwater operation of the quick release of the weight ballast system

- Act as donor and receiver of an alternative breathing gas source
- Equipment care
- Basic hand signals
- Buddy system
- Basic rescue exercises involving tows and victims assistance

8.2 Open water scuba skills: Students shall be able to perform the following skills in conditions typical of the local environment.

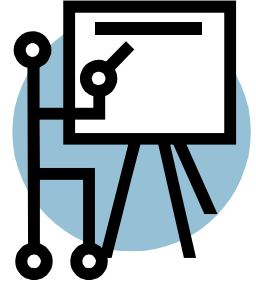
- Use of equipment
- Tank inspection
- Diving equipment assembly and disassembly (at water's edge)
- Putting the equipment on and taking it off
- Methods to enter the water
- Surface entries and exits
- Mouthpiece clearing - snorkel and regulator
- Regulator/snorkel exchanges, swimming at the surface
- Proper descent and ascent procedures (e.g. equalising pressure in ears and mask)
- Swim under-water (finning methods)
- Mask-clearing, including removal and replacement

Note: Special safety precautions are to be taken during the removal and replacement of mask in open water, specifically in those areas with cold water

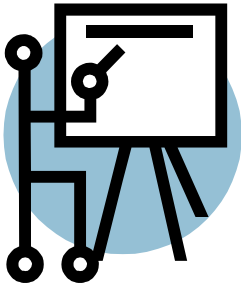
- Under-water and surface buoyancy control
- Descending and ascending with a buoyancy compensator
- Under-water regulator recovery
- Basic but often instrument monitoring
- Act as donor and receiver of an alternative breathing gas source
- Equipment care
- Basic hand signals
- Buddy system

9. PRACTICAL TRAINING PARAMETERS

9.1 All under-water skills in confined water shall be introduced, directly supervised and evaluated by an ACUC instructor, who shall be in the water during each ses-



“All skills must be evaluated by an ACUC Instructor, who must be in the water in each session”



Note regarding assessment and evaluations:

If for some reason, the student can not do a written test, then the Instructor can do an oral examination to the student based on the written test provided by ACUC and if this is the case, the Instructor will transfer the student's oral answers to the written test. Whatever the case, the written test must be completed, either directly by the student or indirectly by the Instructor, using the student's oral answers.

9. Practical training parameters (continued)

sion. The scuba instructor shall be in direct control of students throughout all sessions.

9.2 Prior to the first open water dive the student shall effectively show proof of, or demonstrate, to a scuba instructor the following watermanship skills, without the use of mask, fins, snorkel, or other swimming aids:

- 50 m distance swimming,
- 5 minutes survival swim/float.

9.3 Before participating in open water dives a student shall have demonstrated sufficient theoretical knowledge and scuba skills in confined water to be able to perform the open water dives in the prevailing conditions.

9.4 The maximum depth during training dives shall not exceed 25 meters / 80 feet

9.5 All open water dives shall be conducted during daylight hours in water that allows direct vertical access to the surface. Open water dives therefore shall not be conducted in under-water caves or below ice.

9.6 During open water dives the student shall at least be equipped with diving equipment according to 2.9.

9.7 All under-water skills in open water shall be introduced, directly supervised and evaluated by an ACUC instructor. The scuba instructor shall be in the water and in charge of each open water dive. During the first 4 open water dives the scuba instructor shall be in direct control of students throughout the dives. During subsequent open water dives students may be supervised by a qualified assistant except when skills are being performed or evaluated.

9.8 As per clause 5, the absolute maximum number of students per scuba instructor in ideal conditions for supervision and escorting under water is four. The maximum number of students per qualified assistant for supervision and escorting under water is two. At no time shall a student in or under water be left without supervision. Under no circumstances certified divers and students in an OWD course can participate in the same dive, under the supervision of the same Instructor.

9.9 Prior to open water dives the scuba instructor shall prepare an "emergency plan". In the immediate vicinity of the dive site there shall be:

- A suitable first aid kit
- An emergency oxygen unit with a capacity of delivering at least 15 l/min. for at least 20 min.
- Communication system suitable for alerting emergency services.

9.10 The scuba instructor shall cancel or abort the open water dive if environmental conditions or a student's physical or mental condition make this necessary.

9.11 A maximum of 3 daily training dives will be allowed

10. ASSESTMENT

The assessment and evaluation will consider the following:

10.1 Knowledge: The student shall demonstrate, by means of the written test supplied by ACUC, knowledge of scuba diving theory according to 7 and knowledge of skills according to 8.

10.2 Scuba Skills: The student shall satisfactorily demonstrate to an ACUC instructor, the scuba skills according to 8.

Instructors can, if they wish, offer additional tests to the student, however, the ACUC provided test must be done.

11. TRAINING DIVES

To be certified students shall complete at least **four** qualifying training open water dives under the direct supervision of an ACUC instructor. The underwater (bottom time) total duration of these qualifying open water dives shall be at least 90 min, except in cases of cold water where 70 minutes will suffice (see annex for more information on training dives).

12. DEVIATIONS

None requested

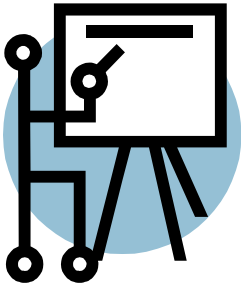
13. UPDATES

DATE	TYPE OF UPDATE	POINTS UPDATED	IMPORTANCE
March, 1 st 2008	Addition to existing point	2.4	High
March 1 st 2008	Addition to existing point	4.1	High



ANNEX I

PRACTICAL TRAINING PARAMETERS DURING OPEN WATER CHECKOUT DIVES



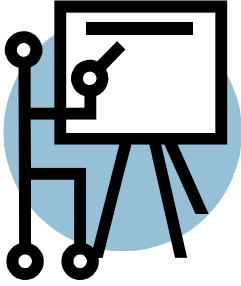
The following training parameters, according to ACUC Standards, must be met while skill testing ACUC divers in open water dives.

1. Prior to the first open water dive the student shall effectively show proof of, or demonstrate, to a scuba instructor the following watermanship skills, without the use of mask, fins, snorkel, or other swimming aids:
 - 50 m distance swimming,
 - 5 minutes survival swim/float.
2. The maximum depth during training dives shall not exceed the parameters indicated for each dive and in any case they should not exceed 25 meters / 80 feet (If conditions allow it)
3. All open water dives shall be conducted during daylight hours in water that allows direct vertical access to the surface. Open water dives therefore shall not be conducted in underwater caves or below ice.
4. Minimum underwater visibility should be at least 3 meters / 10 feet.
5. Waves no higher than 50cm / 2 feet
6. During open water dives the student shall at least be equipped with the following diving equipment:
 - Mask,
 - Fins,
 - Snorkel,
 - Cylinder,
 - Regulator,
 - Alternative breathing gas system, which could range from a simple octopus system to a duplicate breathing system with a separate breathing gas supply,
 - Cylinder-support-system and buoyancy control device including (if appropriate) a quick release weight system,
 - Submersible pressure gauge (breathing gas pressure monitor),
 - Means to measure depth and time and to safely limit exposure to inert gas,
 - Diving suit (if appropriate).
7. All under-water skills in open water shall be introduced, directly supervised and evaluated by an instructor. The scuba instructor shall be in the water and in charge of each open water dive. During the first 4 open water dives the scuba instructor shall be in direct control of students throughout the dives. During subsequent open water dives students may be supervised by a qualified assistant, except when skills are being performed or evaluated which must be done only by the Instructor.
8. Students should NEVER be mixed underwater with certified divers in the same dive, under the supervision of the same Instructor
9. The absolute maximum number of students per scuba instructor for this level, in ideal conditions for supervision and escorting under water, is four. The maximum number of students per qualified assistant for supervision and escorting under water is two. At no time shall a student in or under water be left without supervision.
10. Prior to open water dives the scuba instructor shall prepare an "emergency plan". In the immediate vicinity of the dive site there shall be:
 - A suitable first aid kit
 - An emergency oxygen unit with a capacity of delivering at least 15 l/min. for at least 20 min.
 - Communication system suitable for alerting emergency services.
11. The scuba instructor shall cancel or abort the open water dive if environmental conditions or a student's physical or mental condition make this necessary.
12. A maximum of 3 daily training dives will be allowed. Plan the dives and take into consideration decompression issues, specially in cases where the 2nd or 3rd dives could be slightly deeper than the previous dives - advise students that this is

Note: Specific environments may require appropriate additional equipment (e.g. an underwater navigational aid, knife/cutting device).



Annex 1 (continued)



not standard procedure and that is only done during checkout dives to allow for progressive introduction of the student to greater depths. Remind the student that normally, **the deeper dive must always be done first**

SKILLS TO BE CHECKED IN THE *FIRST* OPEN WATER DIVE

Note: This first dive should be taken as an introduction to the environment dive, therefore, the exercises done should be easy so that they do not put any added stress to the candidate. This dive should be done in less than 12 meters (40 feet) of water. Suggested bottom time: 30 minutes (25 minutes in cold water).

use of equipment and weight adjustment

tank inspection

diving equipment assembly and disassembly (at water's edge)

putting the equipment on and taking it off

methods of entering the water (Giant Stride and Walking Entry from beach)

surface entries and exits (Feet first)

instrument monitoring (often)

mouthpiece clearing - snorkel (Blow Method)

regulator/snorkel exchanges, swimming at the surface

proper descent and ascent procedures (e.g. equalizing pressure in ears and mask, rotating during ascent, hand up, Ok sign, etc)

under-water and surface buoyancy control (pivotal method)

equipment care and dive log, including tables calculations



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SKILLS TO BE CHECKED IN THE *SECOND* OPEN WATER DIVE

In this second dive students should be tested in more demanding skills, however, consideration should be given that this is only their second open water diver and therefore, undue stress should not be placed on the student. Some exercises are repeated from the first dive for continuous evaluation. The depth of this dive should not exceed 15 meters (50 feet). Suggested bottom time: 25 minutes (20 minutes in cold water)

diving equipment assembly and disassembly (at water's edge)

putting the equipment on and taking it off

methods of entering the water (Back rolled entry and Controlled entry)

surface entries and exits (Head first)

under-water (pivotal method) buoyancy control

mouthpiece clearing - snorkel (Displacement method)

swim under-water (finning methods: Bicycle and Scissors)

proper descent and ascent procedures (e.g. equalizing pressure in ears and mask, rotating during ascent, hand up, Ok sign, etc)

mouthpiece clearing - regulator (Blow method)

act as donor and receiver of an octopus or similar alternative breathing gas source

descending and ascending with a buoyancy compensator

basic instrument monitoring (often)

basic hand signals

equipment care and dive log, including tables calculations

SKILLS TO BE CHECKED IN THE *THIRD* OPEN WATER DIVE

In this third dive students should be tested in more demanding skills. Some exercises are repeated from previous dives for continuous evaluation. The depth of this dive should not exceed 18 meters (60 feet). Suggested bottom time: 20 minutes (15 minutes in cold water).

diving equipment assembly and disassembly (at water's edge)

putting the equipment on and taking it off

under-water (pivotal method) buoyancy control

swim under-water (finning methods: Frog and Dolphin)

proper descent and ascent procedures (e.g. equalizing pressure in ears and mask, rotating during ascent, hand up, Ok sign, etc)

mouthpiece clearing - regulator (Purge method)

mask-clearing, including removal and replacement (*)

under-water regulator recovery (two methods: back reach and side reach)

descending and ascending with a buoyancy compensator

basic instrument monitoring (often)

safety stop

equipment care and dive log, including tables calculations

(*) Special safety precautions are to be taken during the removal and replacement of mask in open water, specifically in those areas with cold water.


SKILLS TO BE CHECKED IN THE *FOURTH* OPEN WATER DIVE

This fourth dive should be a relaxed, end of the course dive, with minimal skill testing. Some exercises are repeated from previous dives for continuous evaluation. The depth of this dive should not exceed 25 meters / 80 feet (only if conditions allow it). Suggested bottom time: 15 minutes.

air consumption consideration and dive planning for this type of dive (25 meters/80 feet)

buddy system (above and below the water)

diving equipment assembly and disassembly (at water's edge)

putting the equipment on and taking it off

proper descent and ascent procedures (e.g. equalizing pressure in ears and mask, rotating during ascent, hand up, Ok sign, etc)

under-water (pivotal method) buoyancy control

mouthpiece clearing - regulator (Purge method)

more often than usual basic instrument monitoring (own and buddy's)

safety stop

equipment care and dive log, including tables calculations