



MINIMUM COURSE CONTENT

FOR
Open Water Diver Certification

As Approved By

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**Recreational Scuba Training Council
(RSTC)**

**Minimum Course Content
for
Open Water Scuba Certification**

1. Scope and Purpose

This standard provides minimum course content requirements for instruction leading to open water certification in recreational diving with scuba (self-contained underwater breathing apparatus). However, these requirements should under no conditions be considered to define a level of optimum training in the use of scuba. Instructional programs that extend beyond these requirements should, in fact, be encouraged. Some states, provinces or countries may have additional regulations for entry-level scuba training. Instructors should be aware of requirements in their local areas and adhere to the additional protocols when conducting training.

The requirements of this standard are meant to be comprehensive, but general in nature. That is, the standard presents all the subject areas essential for open water scuba certification, but it does not give a detailed listing of the skills and information encompassed by each area. For example, these minimum specifications require that an open water certification course must cover the physical description, operating principles, and maintenance of at least the items of equipment listed in 4.2. Those items are simply listed in this standard; training organizations shall publish detailed course outlines that meet this standard, which would include specific techniques for the use and maintenance of each item.

Although the information categories are outlined in what may appear to be a logical sequence, the outline shall not be viewed as a lesson plan. That is, the order in which the information is presented in this standard, while logical as a framework for the basic requirements of this standard, does not necessarily define the sequence of a class lesson plan. Similarly, the requirements presented in this standard do not indicate the emphasis that should be placed upon a particular subject area, or the manner in which subjects are to be taught. Rather, course outlines, lesson plans, and other training aids prepared by training organizations responsible for recreational diver training shall be used as guidelines for the sequencing and emphasis of course content requirements presented in this standard. Decisions as to sequencing and emphasis are at the discretion of the certifying instructor within the requirements of the instructor's training organization, to be made within the context of environmental factors, student characteristics, and other relevant considerations.

Open water certification qualifies a certified diver to procure air, equipment, and other services and engage in recreational open water diving without supervision. It is the intent of this standard that certified open water divers shall have received training in the fundamentals of

recreational diving from an instructor (see definition). A certified open water diver is qualified to apply the knowledge and skills outlined in this standard to plan, conduct, and log open-water, no-required decompression dives when properly equipped, and accompanied by another certified diver.

2. Definitions

certification. A Certification Card ("C-Card") documenting that a student has completed all requirements of an open water diving certification course. This verification is issued by training organizations upon receipt of an instructor's written confirmation of satisfactory completion of all course requirements by the student, as documented in the student's log/training record.

certified assistant. An individual who is currently certified by a training organization to assist an instructor. By the intent of this standard, all activities of a certified assistant in open water courses shall be under the supervision of an instructor. Completion of formal training in planning, management and control of diving activities, first aid, cardiopulmonary resuscitation, and diver-rescue techniques is required before a certified assistant may assume responsibility for any student or students during open water training dives, as defined in this document. The certified assistant shall also have passed a written examination demonstrating certified assistant-level knowledge, as required by the training organization. (See the RSTC Recreational Dive Supervisor and RSTC Assistant Scuba Instructor certification standards for details).

confined water. Any body of water that offers conditions similar to those of a swimming pool.

excursion dive. A dive without formal performance requirements made prior to completion of all open water training dives.

instructor. An individual who is currently certified and sanctioned by a training organization to teach open water scuba diving and to authorize the issuance of open water certification. In order to be sanctioned, the instructor shall meet the annual renewal requirements of the sanctioning organization. An instructor shall have completed formal training in lesson preparation, planning and delivery of lecture, pool/confined water skills and open water skills teaching presentations, in addition to completing the training requirements of a certified assistant (see definition). The instructor shall also have passed a written examination demonstrating instructor-level knowledge, as required by the training organization. (See the RSTC Recreational Scuba Instructor certification standards for details).

minimum instructional diving system. The equipment required to be worn by students while performing the skills listed in 4.9. This equipment includes, as a minimum: fins, mask, snorkel, cylinder and valve, buoyancy control device with low-pressure inflator, regulator, alternate air source (active scuba/air delivery system), submersible pressure gauge, weight ballast system, and exposure suit (e.g., wetsuit, drysuit, etc. if appropriate). Additional desirable (but not required) equipment includes a timing device, depth gauge, and compass/direction monitor.

open water course. A course of scuba training leading to diver certification, issued by a training organization. Successful completion of a course that meets the requirements of this standard qualifies an individual to procure air, equipment, and other diving services and to engage in recreational open water diving without supervision, except as noted in Section 3 (1).

open water scuba training dives. Supervised, open water scuba training experiences to fulfill certification requirements. Training dives shall consist of the exercises outlined in 4.9 and as required by the training organization. Each dive shall include, as minimum: (1) a briefing; (2) preparation to dive; (3) an entry; (4) at least 15 minutes at depths between 15 and 60 feet (5 and 18 metres); (5) an exit; (6) a debriefing; (7) logging the dive in student's personal log book .

out-of-air emergency alternatives. Procedures allowing a diver to ascend to the surface in the event of an out-of-air situation.

dependent procedures include: alternate air source; buddy breathing; redundant air supply (provided by buddy).

independent procedures include: emergency ascent; redundant air supply.

supervision (pool/confined water and open water). The following levels of supervision apply as outlined in Section 5. If local regulations specify a higher level of supervision than outlined in the RSTC Standards, instructors should follow these regulations to ensure compliance with local government requirements.

direct supervision. Visual observation and evaluation of student skill performance and student diving activities by an instructor or certified assistant. Direct supervision requires personal observation and evaluation of the performance of the skills required for certification. During underwater skill performance and evaluation, direct supervision requires the student to be accompanied underwater.

indirect supervision. The overall control, general observation, evaluation, and direction of student skill performance and student diving activities. The instructor must be personally present at the training site and be prepared to come to the aid of a student.

3. Eligibility for Certification

In order to qualify for open water certification, a student shall meet the following minimum prerequisites:

(1) **Age.** The student shall be at least 15 years of age; there is no upper limit. Students under the minimum age who meet open water scuba performance requirements may qualify for a special certification that allows them to dive under the supervision of an adult who has, as a minimum, an open water scuba certification.

(2) Physical Conditioning and Watermanship Evaluation. The student shall effectively demonstrate basic watermanship ability by performing, to an instructor, the watermanship evaluation required by a training organization. This watermanship evaluation shall include either: a) continuous 200 yard (183 metre) surface distance swim and a 10 minute survival swim/float without the use of mask, fins, snorkel or of other swimming aids; b) 300 yard swim using mask, fins and snorkel, and a 10 minute survival swim/float without mask, fins, snorkel or other swimming aid. If an exposure suit is used, the wearer must be neutrally buoyant at the surface.

(3) Medical History/Statement. Applicants to a course shall complete the medical history/statement form required by the training organization prior to in-water activities. Applicants shall comply with all stipulations thereon before continuing in-water training. It is required that applicants with out-of-the-ordinary medical histories be approved, without conditions or restrictions, as medically fit for diving by a licensed medical practitioner prior to engaging in water activities. In no event will medical approval be accepted when the person signing the approval is the participating individual.

(4) Acknowledgment and Assumption of Risk. Applicants to a course shall be informed of the inherent risks of scuba and shall agree to sign appropriate forms acknowledging and assuming those risks prior to participating in water activities. These forms may include, but are not to be limited to: liability release; waiver and release of liability; affirmation and liability release; assumption of risk; limitation of liability; safe diving practices; standards for safety; statement of understanding; etc. Parental or legal guardian signature is required on the appropriate form(s) when the applicant is a minor.

(5) Knowledge. When available in the student's primary language, the student shall use a dive-training manual approved by the training organization to study from during the course. The student shall demonstrate open water level knowledge of scuba diving by taking and passing an oral or written examination. Documentation of the examination shall be retained by the instructor or facility for at least 5 years. This examination shall test open water knowledge of equipment (as listed in 4.2), physics of diving (4.3), medical problems related to diving (4.4), use of dive tables and/or dive computers (4.5), dive environment (4.6), general information (4.7), pool/confined-water scuba skills (4.8), and open water scuba skills (4.9), to be presented in the course and as specified by the training organization.

(6) Scuba Skills. The student shall satisfactorily demonstrate, to an instructor, the scuba skills required by the training organization and as outlined in 4.8 and 4.9 covering pool/confined water and open water scuba skills, respectively. The instructor shall follow the appropriate in-water training parameters in conducting the scuba skills, as required by the training organization and outlined in Section 5.

4. Minimum Course Content

The course shall consist of the topics and scuba skills required by the training organization and as outlined in this section.

4.1 Introduction. The following information should be made available to students before or during the first class meeting.

- (1) Certification requirements (see Section 3)
- (2) Class requirements
 - (a) cost
 - (b) insurance options/requirements
 - (c) contractual agreement
- (3) Scope of course
 - (a) Content
 - (b) Limitations of eventual qualification
- (4) Equipment requirements
- (5) Course procedures

4.2 Equipment. Open water level information on the physical description, operating principles, maintenance, and use of the equipment items. The subcategories of information that are to be taught about the face mask are presented as examples of recommended course detail in covering the physical description, maintenance, and competent use of each equipment item. For similar detail regarding each of the other items, reference the training organizations' published detailed course outlines.

4.2.1 Face Mask

- (1) Physical description/selection
 - (a) Fit
 - (b) Lens (including prescription/optical)
 - (c) Skirt
 - (d) Band
 - (e) Strap
 - (f) Locking device
 - (g) Equalizer
 - (h) Purge
 - (i) Shape/volume
- (2) Maintenance
 - (a) Inspection
 - (b) Cleaning
 - (c) Storage
- (3) Use
 - (a) Defogging
 - (b) Donning

- (c) Sealing
- (d) Clearing
- (e) Equalizing
- 4.2.2 Fins
- 4.2.3 Snorkel
- 4.2.4 Buoyancy Control Device/Buoyancy Compensator
- 4.2.5 Exposure Suit/Exposure System/Environmental Suit
- 4.2.6 Weights and Belt/Weight System/Ballast System
- 4.2.7 Float and Flag
- 4.2.8 Cylinders/Tanks and cylinder support systems
- 4.2.9 Valves
- 4.2.10 Regulators/Air-Delivery System
- 4.2.11 Submersible pressure Gauge/Air monitor
- 4.2.12 Alternate Air Source (octopus/safe second/redundant air system/pony bottle, etc)
- 4.2.13 Timing Device (watch/time monitor)
- 4.2.14 Compass/Direction Monitor
- 4.2.15 Depth Gauge/Depth Monitor
- 4.2.16 Dive Tables and/or Dive Computers
- 4.2.17 Knife/Diver's Tool
- 4.2.18 Personal Diving Log Book
- 4.2.19 Lights
- 4.2.20 Emergency equipment
 - (a) signaling devices (acoustical and optical)
 - (b) first aid kit
 - (c) oxygen kit

4.3 Physics of Diving. Open water level information on the physical principles of matter and their application to diving activities and hazards.

- (1) Sound
- (2) Light
- (3) Buoyancy
- (4) Pressure/gas laws
- (5) Temperature

4.4 Medical Problems Related to Diving. Open water level information on the causes, symptoms, prevention, and first-aid and treatment of diving medical problems.

- 4.4.1 Direct Effects of Pressure
 - (1) Descent (squeezes/barotrauma)
 - (a) Ears
 - (b) Sinuses
 - (c) Mask
 - (d) Lungs
 - (e) Suit

- (f) Teeth
- (2) Ascent
 - (a) Gas expansion (ears, sinuses, lungs, stomach, intestines, and teeth)
 - (b) Lung over pressurization/overexpansion injuries
 - (c) Vertigo

4.4.2 Indirect Effects of Pressure (Physiological)

- (1) Decompression sickness
- (2) Nitrogen narcosis
- (3) Carbon dioxide excess/overexertion
- (4) Oxygen toxicity (discussion of first aid and treatment not required)
- (5) Hyperventilation/shallow-water blackout
- (6) Contaminated air

4.4.3 Other Hazards

- (1) Fatigue and exhaustion
- (2) Stress and panic
- (3) Exposure/hypothermia/overheating
- (4) Inadequate ventilation (hypoventilation)
- (5) Carotid-sinus reflex
- (6) Injuries by aquatic animals and plants
- (7) Drowning/secondary drowning
- (8) Medication, drugs and alcohol
- (9) Mental stress
- (10) Panic
- (11) Overconfidence

4.5 Decompression Theory and Use of Dive Tables and/or Dive Computers. Open water level information on (1) how to determine no-decompression limits for single and repetitive dives, (2) exceeding the no- decompression limits is beyond the qualifications of open water divers, (3) how to use dive tables and/or dive computers to properly plan and execute a dive and (4) other related topics.

4.6 Dive Environment. Open water level information on the local and general conditions of the diving environment and their possible effects on the diver.

- (1) Water
 - (a) Temperature/thermocline
 - (b) Visibility
 - (c) Movements (surface action, currents, tides, and the like)
 - (d) Density (fresh and salt water)
- (2) Topography
 - (a) Bottoms
 - (b) Shorelines
- (3) Aquatic life
 - (a) Animal

- (b) Plant
- (4) Weather conditions
- (5) Orientation to new diving environments
- (6) Environmental conservation and preservation
- (7) Hazards
 - (a) surface hazards
 - (b) Overhead environments
 - (c) entanglement

4.7 General. Open water level information on other topics.

- (1) Dive planning
 - (a) Planning and preparation, with emphasis on the prevention of out-of-air situations and emergencies
 - (b) Emergency procedures
 - (c) Accident management/prevention
- (2) Communications, both underwater and on the surface
- (3) Diver assistance (self/buddy)
- (4) Recommended diving practices, including safety stops
- (5) Procedures for diving from boats
- (6) Proper use of personal diving logbook
- (7) Local dive regulations and protocols

4.8 Pool/Confined Water Scuba Skills. The following scuba skills shall each be required to be taught to students in pool/confined water prior to that skill being performed in the open water.

- (1) Diving system assembly and disassembly
- (2) Equipment inspection (at water's edge)
- (3) Entries and exits
- (4) Proper weighting
- (5) Mouthpiece clearing - snorkel and regulator
- (6) Regulator/snorkel exchanges at the surface
- (7) Controlled descents and ascents
- (8) Underwater swimming
- (9) Mask-clearing, including removal and replacement
- (10) Underwater exercises - with and without mask
- (11) Buddy-system techniques
- (12) Underwater and surface buoyancy control
- (13) Underwater problem-solving (regulator recovery/retrieval, etc)
- (14) Surface-snorkel swimming with full diving system
- (15) Surface operation of the quick release/emergency function of the weight system
- (16) Underwater removal and replacement of scuba system
- (17) Underwater removal and replacement of the weight/ballast system (when wearing a scuba unit with an integrated weight system, may be performed in conjunction with

4.8.16)

(18) Out-of-air emergency alternatives, including at least one dependent procedure and one independent procedure

(19) Equipment care and maintenance (at water's edge)

4.9 Open Water Scuba Skills. These open water scuba skills are to be performed while diving in the open water, wearing a minimum instructional scuba diving system.

(1) Diving system assembly and disassembly (at water's edge)

(2) Equipment inspection (at water's edge)

(3) Entries and exits

(4) Proper Weighting

(5) Mouthpiece clearing – snorkel and regulator

(6) Regulator/snorkel exchanges at the surface

(7) Controlled descents and ascents

(8) Underwater swimming

(9) Mask-clearing

(10) Buddy-system techniques

(11) Underwater and surface buoyancy control

(12) Diver assistance techniques (self/buddy)

(13) Surface-snorkel swimming with full diving system

(14) Removal and replacement of weight/ballast system

(15) Removal and replacement of scuba system

(16) Out-of-air emergency alternatives

(17) Equipment care and maintenance (at water's edge)

(18) Underwater navigation

5. In-water Training Parameters

It is consistent with Section 1, Scope and Purpose, that during any in-water training activities the instructor must be present.

5.1 Pool/Confined Water Training Parameters. Students shall receive their initial training of each scuba skill under the direct supervision of the instructor. Further skill development may continue under direct supervision of certified assistants and indirect supervision of the instructor. The instructor shall conduct the final evaluation to determine the satisfactory skill performance of each student.

5.2 Open-Water Training Parameters. Students to be certified shall complete at least four open water scuba training dives according to the procedures required by the training organization and as outlined in this section. All scuba skills shall be directly supervised by the instructor until satisfactory performance has been demonstrated. The exception is underwater navigation, as specified in 5.2.9

5.2.1 The minimum equipment to be worn by an instructor while conducting open water

training consists of the required and desirable equipment listed in Section 2 under the definition of "minimum instructional diving system," plus a dive knife/diver's tool (unless prohibited by law or regulation at the dive site) and an emergency-signaling device. When appropriate, the use of a surface support-station with dive flag is also encouraged.

5.2.2 The maximum number of students for in-water training is eight students per instructor. Two additional students per certified assistant may be added up to a maximum of 12 students per instructor. Although additional assistants may be used, no additional students may be added to the responsibility of the individual instructor. These ratios are considered maximum and should be reduced if environmental conditions or other factors are not optimum.

5.2.3 All dives prior to open water certification shall be conducted during daylight hours* at depths between 15 and 60 feet (5 to 18 metres). Dives shall not be conducted in any situation where direct vertical access to the surface is not possible. Aquatic plants are not considered an overhead obstruction.

*Exceptions are allowed when artificial light permanently installed at the dive site is sufficient to simulate daylight diving conditions and is approved by the training organization

5.2.4 No more than three open water scuba dives may be conducted on a given day. These dives may be a combination of required training dives and additional excursion dives.

5.2.5 During any open water scuba training dive, the instructor has the option to delegate responsibility for direct supervision to certified assistants for the purpose of escorting students during surface excursions and exits.

5.2.6 During any open water scuba training dive, while the instructor conducts a skill, certified assistants may temporarily directly supervise the remaining students.

5.2.7 Following satisfactory student performance of the skill evaluations during the second or subsequent open water scuba training dives, the instructor has the option to delegate responsibility for direct supervision to certified assistants for the purpose of escorting students during underwater tours, with indirect supervision by the instructor. Any excursion dives conducted prior to the satisfactory performance of the skill evaluations for the first training dive are to be conducted under the direct supervision of the instructor and are not to exceed a depth of 40 feet/12 metres.

5.2.8 The maximum number of students per certified assistant for the escorting of students during underwater tours is two.

5.2.9 After all other scuba skills are completed, the underwater navigation skill may be conducted on Dive #4 under indirect supervision of both the instructor and certified assistant. All other student diving activities on Dive #4 must be under the direct supervision of either the instructor or certified assistant.

5.2.10 Dives following satisfactory completion of the four required dives, and for the purpose of expanding student experience, may be conducted with indirect supervision of an instructor (see definition in Section 2).

Appendix A

RSTC Members

IDEA

International Diving Educators Association
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PADI

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1-949-858-7234 Fax: 1-949-267-1266
Email: julie.taylor.sanders@padi.com or jeff.nadler@padi.com

PDIC

Professional Diving Instructors Corporation
1015 River Street
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1-570-342-9434 Fax: 1-570-342-6030
Email: info@pdic-intl.com

SDI

Scuba Diving International
18 Elm Street
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SSI

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