

MINIMUM COURSE CONTENT

Open Water Diver, Level 1

RSTA

Recreational Scuba Training Agencies

www.rsta-international.org

ENTRY LEVEL

Application Requirements

Be aged at least 14 years (with the legal guardian's permission for those under 18 years).

Be in possession of a medical certificate of no-counter-indication to practise scuba diving issued within the last year.

Grand of the certificate

The Open Water Certificate is issued by the Instructor level 1 with active status.

Prerogatives

A Certified diver must possess the skills that will enable him/her to operate in the middle area under the direction of at least one Open Water.

THE COURSE

EQUIPMENT

Mask

- Ø Evolution and utility
- Ø Material
- Ø Characteristic
- Ø Adherence
- Ø Use
- Ø Cleaning
- Ø Choice
- Ø Emptying

Fins and boots

- Ø Evolution and utility
- Ø Types of materials
- Ø Foot fins
- Ø Adjustable fins
- Ø Soft slippers
- Ø Slippers with soles
- Ø Choice of fins and boots
- Ø Kicking techniques

Snorkel

- Ø Evolution and Purpose
- Ø Types (shape and size)
- Ø Choice
- Ø Use
- Ø Emptying

Wetsuit

- Ø Evolution and function
- Ø Types: wet or dry
- Ø Important factors

- Ø Characteristics (in a room, different types of closures, etc.).
- Ø Choice
- Ø Use
- Ø Care and Maintenance

Waistband and ballast

- Ø Evolution and function
- Ø Types (materials of the loop and the belt)
- Ø Weight (shape and weight units)
- Ø Use

Cylinder

- Ø Cylinder types and materials of construction
- Ø Capacity and pressure
- Ø Taps
- Ø Back pack
- Ø Care and Maintenance
- Ø Visual inspection (internal and external)
- Ø Checks
- Ø Marking
- Ø Safety net
- Ø How to choose a cylinder

Regulator

- Ø What is a regulator?
- Ø Structure of an expansion valve (first and second stage)
- Ø What is important in the regulator?
- Ø Second stage rescue (octopus)
- Ø Second regulator (redundancy)
- Ø Use of the expander
- Ø How to choose a regulator?
- Ø Cleaning, care and maintenance
- Ø Two divers breathing from the same regulator

Buoyancy vest

- Ø Evolution
- Ø Characteristics
- Ø Choice
- Ø Use (inflation and deflation)
- Ø Care and Maintenance

Pressure, time, direction

- Ø Pressure gauge (types)
- Ø Using the gauge
- Ø Choice of gauge
- Ø Watch
- Ø Timer
- Ø Choice of watch and timer
- Ø Depth gauge (types)
- Ø Choice of depth gauge
- Ø Compass (compass)
- Ø Choice of compass
- Ø Use the compass
- Ø Diving computer

Tools and Accessories

- Ø Marker buoy and flag
- Ø Whistle
- Ø Cyalume
- Ø Knife
- Ø Flare
- Ø Thermometer
- Ø Slate
- Ø Spare parts and repair kit
- Ø Bag
- Ø Dive logbook
- Ø Underwater navigation

THE PHYSICS OF DIVING

Buoyancy

- Ø What is buoyancy?
- Ø Changes in buoyancy
- Ø Reach neutral buoyancy with BCD
- Ø Change the volume of air in the BCD
- Ø Use of the BC during the ascent

Vision

- Ø Underwater vision
- Ø Light and refraction
- Ø Colours (spectrum changes with depth)
- Ø Lack of visibility

Hearing

- Ø Sound propagation
- Ø Speed of sound in water
- Ø Communicating underwater
- Ø Code for communication with hands

Effects of temperature

- Ø Contact with water
- Ø Cooling the body by conduction
- Ø Effects of cold
- Ø How to keep warm outside
- Ø Evaporation after exit from water
- Ø Sun exposure

Physical laws and their effects

- Ø Charles: heating of air in the cylinder
- Ø Dalton: composition of air under pressure
- Ø Henry: nitrogen uptake
- Ø Reference to the following specific lessons
- Ø Boyle and Mariotte: weight and water pressure
- Ø Increased pressure during immersion
- Ø Effects of pressure on the ears and sinuses, and balancing

Procedures for descent

- Ø Balance before you feel discomfort or pain
- Ø Pressure decrease during ascent
- Ø Gas expansion
- Ø Pressure effects on the lungs, stomach, intestines, teeth equipment.

Procedures for ascent

- Ø Normal ascent, use of the vest
- Ø Emergency return with finning, with the vest, without ballast
- Ø How to choose emergency ascent
- Ø Always keep the regulator in your mouth during the ascent

DISSOLUTION OF GASES IN A LIQUID

- Decompression sickness.
- Residual nitrogen.
- The tables.
- Planning a dive.
- The briefing.
- Control before the dive.
- Altitude diving.
- Flying after diving.

PHYSIOLOGY OF DIVING

- Lungs.
- Hypoxia.
- Hyperoxia.
- Circulation.
- Cardiopulmonary resuscitation.
- Hypothermia.
- Narcosis or bends.
- Pulmonary barotrauma.
- Recompression.
- Dizziness.

UNDERWATER

- History of the oceans
- Origin of life
- Variation in environments
- Temperature
- Thermocline
- Water recycling in different seasons
- Water recycling by winds
- Change in the marine environment
- North Sea, Mediterranean Sea, Atlantic Ocean, "hot" seas.

- Types of bottoms and coasts
- Sand
- Rock
- Mud
- Seaweed
- Tides
- Currents
- Effects of currents on dives
- How to make a dive in a current
- Waves

Entering the water

- From the beach
- From rocks
- From a boat

Hazardous environments for diving

- Caves and caverns
- Muddy with limited visibility
- Wrecks

Knowledge and awareness of environmental problems

THEORETICAL EXAMINATION

- This exam is based on a multiple choice form.
- The protected environment

PROTECTED ENVIRONMENT

- Putting on and removing the belt.
- Elementary signs.
- Entering the water.
- Using the regulator in small depth.
- Balancing the ears.
- Kicking underwater.
- Swimming with snorkel and no mask.

- Mounting diving suit

Free diving

- Emptying the mask
- Emptying the snorkel
- Descent with compensation of ears
- Duck, jump, giant steps

With diving suit

- Regulator recovery
- Fin pivot
- Swim with scuba gear
- Regulator recovery from the rear
- Breathing without a mask
- Underwater swimming without a mask
- Vertical descent
- Ascent with the vest
- Horizontal descent
- Ascent with finning
- Fin pivot without direct-system.
- Fin pivot
- The float
- Ascents
- Two divers breathing with one regulator
- Using the emergency air source
- Emergency ascents exhaling with valve in mouth
- Remove and replace scuba (surface and bottom)
- Remove and replace the belt (surface and bottom)
- Inflating the vest by mouth

Examination

- 200 metres freestyle in jersey (not neoprene).
- 10 minutes treading water in open water.

Drill

- Installation of the diving suit
- Control of equipment between pairs (inflation and deflation of the vest, use of the regulator, belt of sinkers, mano and octopus).
- Under the water, inflate the vest
- Emptying the mask
- Swim with the diving suit
- Exit, debriefing, advice and suggestions
- Record the dive in the student's notebook
- Purge of the regulator
- Loss and recovery of the regulator
- Breathless breathing
- Underwater swimming without mask
- Vertical descent
- Climbing up by palming
- Pivot on the fins
- Buoyancy control
- Exit, debriefing and suggestions
- Record the dive in the student's notebook
- The lifts
- With a single regulator

- Use of the emergency air source
- Exit, debriefing and suggestions
- Record the dive in the student's notebook
- Remove and put back the belt on the bottom.
- Emergency lift during expiratory expiratory expiration
- Pivot on the palms without direct-system
- Underwater navigation
- Exit, debriefing and suggestions
- Record the dive in the student's notebook