

Syllabus Number: 3.B.36 / BOD no 193 (05-05-2016)
CMAS Cave Diver 2 (Cave Diver) Training Programme
Minimum Training Programme Content

1. Required theoretical knowledge

1.1 Subject Area 1: Introduction

1.1.1 The participant shall be provided with all necessary information concerning the CMAS Cave Diver 2 course, in order to enable them to make an informed decision about their participation in the CMAS Cave Diver 2 Training Programme.

1.2 Subject Area 2: Equipment

1.2.1 The participant shall have appropriate knowledge concerning the physical characteristics, operating principles, maintenance and use of the following items of specific diving equipment.

1.2.2 Specific Equipment:

1.2.2.1 Twin set (double cylinders) with dual valve manifold - volume appropriate for planned dive and student gas consumption. Cylinders total water volume of min. 4800 bar*litres of breathing gas. The only valve allowed is the DIN type. INT-yokes are strictly prohibited. Only valve types are permitted that allow each outlet to be closed/opened separately and independent of the others.

1.2.2.2 Two independent first and second stage regulators with minimum one pressure gauge. One of the regulators equipped with a long hose at approx. length of two (2) meters. The cylinders must have valves for installing DIN regulators.

1.2.2.3 Buoyancy Compensator with inflator.

1.2.2.4 Exposure suit adequate for cave diving environment.

1.2.2.5 Mask and fins - NO snorkel. Mask should be low-volume; fins should be rigid, non-split.

1.2.2.6 Every diver has to have a personal second mask (backup mask).

1.2.2.7 At least two (2) line cutting devices (knife, cutter, scissors).

1.2.2.8 Three (3) battery powered lights – one (1) primary and two (2) back-ups/emergency lights (uses non-rechargeable batteries), each with a burn time suitable for the planned dive time.

1.2.2.9 Safety spool with a minimum of thirty (30) meters of guideline.

1.2.2.10 At least one (1) spool per diver with at least twenty (20) meters of guideline

1.2.2.11 One (1) primary cave-diving reel with length appropriate for intended dive at least one hundred (100) meters.

1.2.2.12 Three (3) directional line arrows.

1.2.2.13 Three (3) Non directional markers

1.2.2.14 A Helmet is recommended (instructor to decide):

CMAS International Diver Training Standards and Procedures Manual

1.2.2.15 Computer and back up computer / bottom timer with tables

1.2.2.16 Underwater slate/wet notes.

Note: Instructor must use OC Full Cave Diving Equipment during all water exercises. Prior to the commencement of class, students should consult with a CMAS representative to verify equipment requirements.

1.3 Subject Area 3: theory of CMAS Cave Diver 2 (Cave Diver)

1.3.1 The participant shall have appropriate knowledge concerning the physical principles and their application to Cave Diving equipment and hazards relating to:

1.3.1.1 Policy for Cave Diving;

1.3.1.2 Definitions of Cave Zones 2 and Cave Zones 3, CMAS Training Standards and safety rules for the safe exploration of Zones 2 and Zones 3;

1.3.1.3 Gas matching procedures and management in order to include dissimilar volumes;

1.3.1.4 Calculation of gas consumption and of required gas supply;

1.3.1.5 Streamlining and equipment considerations in Cave Zone 2.

1.3.1.6 Communication: Hand signals, light signals, touch contact signals;

1.3.1.7 Trim, buoyancy control;

1.3.1.8 Propulsion techniques;

1.3.1.9 Special requirements of underwater orientation in caves;

1.3.1.10 Deploy guideline (reel, spool) Line following;

1.3.1.11 Physiology:

1.3.1.11.1 Breathing techniques,

1.3.1.11.2 Stress management.

1.3.1.12 Cave environment:

1.3.1.12.1 Geology: Bottom, ceiling.

1.3.1.12.2 Local access requirements; Landowner relations.

1.3.1.13 Cave conservation;

1.3.1.14 Problem Solving procedures;

1.3.1.15 Accident analysis;

1.3.1.16 *CMAS Cave Diver's Etiquette*

Note: Minimum course duration three (3) days. Minimum course content (three) 3 classroom lectures four (4) hours per day.

1.4 Subject Area 4: Land Drills and topics

- 1.4.1 The following land drills must be covered during this course:
- 1.4.2 Basic Cave Diver equipment configuration;
- 1.4.3 How to properly deploy a guideline;
- 1.4.4 How to properly follow a guideline;
- 1.4.5 How to touch contact communicate;
- 1.4.6 Use of safety spool in lost diver procedures;
- 1.4.7 Use of safety spool in lost line drill.

2. Required physical skills

- 2.1.1 Demonstrate adequate pre-dive planning;
- 2.1.2 Equipment check and gear matching;
- 2.1.3 Bubble check;
- 2.1.4 Demonstrate specialized propulsion techniques in varying types of flow;
- 2.1.5 Demonstrate proper buoyancy and trim control;
- 2.1.6 Properly deploy a guideline;
- 2.1.7 Properly use line markers;
- 2.1.8 Properly follow a guideline with eyes open and closed (simulating loss of visibility);
- 2.1.9 Gas sharing with a buddy with eyes open, following the guideline;
- 2.1.10 Gas sharing with a buddy with lights off, eyes closed and use touch contact, following the guideline;
- 2.1.11 Remove and replace mask while in contact with guideline;
- 2.1.12 Demonstrate light / hand-signals and touch contact;
- 2.1.13 Conservation and awareness techniques;
- 2.1.14 Referencing as back-up navigation;
- 2.1.15 Demonstrate lost line and lost diver drills;
- 2.1.16 Simulate a primary light failure, and use back light to exit the cave;
- 2.1.17 Demonstrate proper stress analysis (detection and management).

Note: Minimum six (6) practical lessons in at least three (3) days. Minimum of six (6) dives are performed in Zone 2 in a minimum of two (2) different cave systems.