Syllabus Number: 3.A.6

CMAS Two Stars 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 such information, as provided for in Clause 4.2 of Chapter 1 in order to enable him to take an informed decision about his participation in the CMAS Two Star Diver Training Programme.

1.1.2 The participant shall be provided with the information about the CMAS as provided for in Clause 4.3 of Chapter 1.

2.1 **Subject Area 2: Medical problems related to diving**

2.1.1 The participant shall have an appropriate knowledge concerning the causes, signs and symptoms, prevention as well as the first-aid treatment of the following diving related illness:

2.1.1.1 Revision of effects of pressure on the body, gas laws, partial pressures
2.1.1.2 Ear and sinus disorders
2.1.1.3 Burst lung (Pneumothorax, Emphysema and Arterial Gas Embolism)
2.1.1.4 Hypoxia and Anoxia
2.1.1.5 Nitrogen narcosis
2.1.1.6 Decompression illness
2.1.1.7 Carbon dioxide poisoning
2.1.1.8 Carbon monoxide poisoning
2.1.1.9 Oxygen poisoning
2.1.1.10 Exhaustion, hypothermia, hyperthermia
2.1.1.11 Drowning

2.2 **Subject Area 3: Diver rescue procedures**

2.2.1 The participant shall have an appropriate knowledge concerning the following diver rescue procedures:

2.2.1.1 Accident prevention
2.2.1.2 Rescuer safety
2.2.1.3 Buddy rescue techniques including lifting, towing and landing a diving casualty
2.2.1.4 Rescue breathing and Cardio Pulmonary Resuscitation
2.2.1.5 Oxygen first-aid

2.3 **Subject Area 3: Use of dive tables (decompression tables)**

2.3.1 The participant shall have an appropriate knowledge concerning the use of dive tables including:

2.3.1.1 Nitrogen absorption and elimination
2.3.1.2 How to determine dive profiles which do not require in-water decompression stops for single and repetitive dives.
2.3.1.3 How to determine required stage decompression (even though exceeding the no-decompression limit is beyond the qualification of a CMAS Two Star Diver).
2.3.1.4 How to use dive tables to properly plan and execute a dive.

2.3.1.5 Flying after diving.

2.4 **Subject Area 4: Gas management**

2.4.1 The participant shall have an appropriate knowledge of gas management techniques, including the following:
2.4.1.1 Factors that influence the duration of a diver's air supply
2.4.1.2 Basic principles of gas management
2.4.1.3 Gas management techniques
2.4.1.4 Gas management calculations

2.5 **Subject Area 5: Dive planning**

2.5.1 The participant shall have appropriate knowledge concerning the following dive planning issues:

2.5.1.1 The dive planning process
2.5.1.2 Communications, both under-water and on the surface.

2.6 **Subject Area 6: Advanced diving activities**

2.6.1 The participant shall have knowledge concerning the following advanced diving activities (further speciality courses can be taken to specialise in the following areas):

2.6.1.1 **Deeper diving** (dives to a recommended maximum depth of 40 metres)

2.6.1.1.1 Additional problems associated with deeper diving
2.6.1.1.2 Deep diving equipment and techniques
2.6.1.1.3 Additional factors to take into consideration when planning deeper dives

2.6.1.2 **Boat diving**

2.6.1.2.1 Additional problems associated with boat diving
2.6.1.2.2 Boat diving equipment and techniques
2.6.1.2.3 Additional factors to take into consideration when planning boat dives

2.6.1.3 **Underwater navigation dives**

2.6.1.3.1 Additional problems associated with underwater navigation dives
2.6.1.3.2 Underwater navigation equipment and techniques
2.6.1.3.3 Additional factors to take into consideration when planning underwater navigation dives

2.6.1.4 **Night diving**

2.6.1.4.1 Additional problems associated with night diving
2.6.1.4.2 Night diving equipment and techniques
2.6.1.4.3 Additional factors to take into consideration when planning night dives

2.6.1.5 **Limited visibility diving**

2.6.1.5.1 Additional problems associated with limited visibility diving
2.6.1.5.2 Limited visibility diving equipment and techniques
2.6.1.5.3 Additional factors to take into consideration when planning limited visibility dives

2.6.1.6 **Fresh water diving**

2.6.1.6.1 Additional problems associated with fresh water diving
2.6.1.6.2 Fresh water diving equipment and techniques
2.6.1.6.3 Additional factors to take into consideration when planning fresh water dives
2.6.1.7 **Sea water diving**

2.6.1.7.1 Additional problems associated with sea water diving
2.6.1.7.2 Sea water diving equipment and techniques
2.6.1.7.3 Additional factors to take into consideration when planning sea water dives

2.6.1.8 **Altitude diving**

2.6.1.8.1 Additional problems associated with altitude diving
2.6.1.8.2 Altitude diving equipment and techniques
2.6.1.8.3 Additional factors to take into consideration when planning altitude dives

2.6.1.9 **Computer assisted diving**

2.6.1.9.1 Additional problems associated with computer assisted diving
2.6.1.9.2 Computer assisted diving equipment and techniques
2.6.1.9.3 Additional factors to take into consideration when planning computer assisted dives

2.7 **Subject Area 7: Career development**

2.7.1 The participant shall be provided with the career development information as provided for in Clause 4.4 of Chapter 1.

3. Required SCUBA skills

3.1 Confined water skills

3.1.1 The participant shall be accessed with regard to his ability to demonstrate the following skills in a comfortable and relaxed manner; remedial training shall be provided to those participants whose level of competence has been assessed as below standard for safe open water diving before the participant will be allowed to participate in any open water activity:

3.1.1.1 Pre-dive equipment inspection and in and out of water buddy checks
3.1.1.2 Entries and exits
3.1.1.3 Proper descent and ascent procedures (e.g. equalising pressure in ears and mask)
3.1.1.4 Swim under-water efficiently with appropriate buoyancy and attitude control
3.1.1.5 Buddy-system techniques (e.g. appropriate hand signals, staying close, monitoring buddy)
3.1.1.6 Underwater and surface buoyancy and trim control
3.1.1.7 Underwater problem-solving (e.g. regulator recovery/retrieval, etc)
3.1.1.8 Monitoring instruments
3.1.1.9 Surface-snorkel swimming with full diving equipment. (The student shall be able to swim a distance of at least 50 m)
3.1.1.10 Surface operation of the quick release/emergency function of the weight ballast system
3.1.1.11 Underwater removal and replacement of SCUBA system
3.1.1.12 Underwater removal and replacement of the weight/ballast system
3.1.1.13 Out-of-air emergency procedures allowing a scuba diver to ascend to the surface in the event of an out-of-breathing gas situation, acting as both receiver and donor. This shall include both dependent and independent procedures)

3.1.1.14 Diver assistance techniques (self/buddy) (i.e. to assist a buddy to the surface and provide support on the surface)
3.1.1.15 Equipment care and maintenance
3.1.1.16 Practise rope and net cutting techniques

3.2 Open water skills

3.2.1 The Supervised Open Water Section

3.2.1.1 The participant shall participate in and successfully complete and log the following

3.2.1.1.1 Deeper dive (dive to depths of greater than 30 metres need to be carried out under the guidance of a P***)
3.2.1.1.2 Boat dives
3.2.1.1.3 Underwater navigation dives

3.2.2 Open Water Dives

3.2.2.1 The participant shall submit proof that he has logged at least twenty (20) open water dives of which ten (10) must be between a depth range of 20 - 40 metres to his CMAS Instructor before the CMAS Instructor can issue him with a CMAS Two Star Diver certificate.