



BOARD OF DIRECTORS VISA N°:223

1. AIM OF THE TRAINING PROGRAMME

- 1.1. To interest and introduce divers in a safe and competent way to planning, preparing and performing for Underwater Navigation techniques and diving under close supervision.
- 1.2. To familiarise interested divers with the skills, techniques and possible problems for this type of diving.
- 1.3. To serve as a prerequisite for higher-level speciality courses.
- 1.4. To form another important link in the chain of continuous training and education within the CMAS system.

2. CLASSIFICATION

- 2.1. The CMAS underwater navigation course is considered as a basic level speciality course. That means that the required minimum entry certificate is CMAS one star diver or equivalent.

3. INSTRUCTOR AND ASSISTANT REQUIREMENTS

- 3.1. The CMAS underwater navigation Training Programme may be presented by a minimum of a CMAS Two Star Instructor in active status that complies with the requirements of the national federation.
- 3.2. The CMAS Two Star Instructor may be assisted by a CMAS One Star Instructor in active status that complies with the requirements of the national federation.

4. COURSE STRUCTURE AND DURATION

- 4.1. Academics (minimum hours) 3 hours;
- 4.2. Practical skills minimum required hours are 8;
- 4.3. The participants must complete a minimum of three (3) open water underwater navigation under the direct supervision of a CMAS two stars Instructor at depths between six (6) to maximum fifteen (15) meters.
- 4.4. Note: Normally, no more than 2 dives should be made per day, being the surface interval between the 1st and the 2nd dive at least 3 hours.
- 4.5. All dives must be completed during daylight hours, or under conditions that simulate daylight conditions;
- 4.6. All open water dives shall be conducted in water that allows direct vertical access to the surface.
- 4.7. Open water dives therefore shall not be conducted in underwater caves, inside wrecks or below ice;
- 4.8. CMAS allows instructors to structure courses according to the number of candidates participating, their skill level and the diving environment.

5. COMPETENCIES OF A CERTIFIED CMAS UNDERWATER NAVIGATION DIVER

- 5.1. The parameters within which the CMAS underwater navigation diver is qualified to dive are those applicable to the other diver training certifications he already holds.

6. PREREQUISITES FOR PARTICIPATION IN THE TRAINING PROGRAMME

- 6.1. Minimum age 15 with written parental consent;
- 6.2. Complete the medical history/statement form required by the CMAS Federation prior to participating in any in-water activities; and
- 6.3. Sign the appropriate form(s) as required by the CMAS Federation acknowledging and assuming the risks of SCUBA diving prior to participating in any in-water activities.

7. EXPERIENCE / KNOWLEDGE/CERTIFICATION

- 7.1. Hold CMAS one star diver or equivalent
- 7.2. Have at least fifteen (15) dives in the Logbook at least of these performed within 2 weeks prior to the course;

8. RATIO Participant/ INSTRUCTOR

SKILLS	MAXIMUM PARTICIPANTS	INSTRUCTOR
THEORY	12	1
GOOD VISIBILITY	8	1
NORMAL VISIBILITY	6	1
POOR VISIBILITY	2	1

9. REQUIREMENTS FOR CERTIFICATION

In order to be certified as a CMAS underwater navigation diver, the participant shall:

- 9.1. Explain and demonstrate proper planning, preparation and techniques underwater navigation activities and dives;
- 9.2. Identify and explain possible problems and hazards associated with underwater navigation activities and dives and their prevention;
- 9.3. Explain and demonstrate the correct use, handling and care of special underwater navigation equipment in recreational diving;
- 9.4. Demonstrate underwater navigation techniques while diving;
- 9.5. Perform proper buoyancy control while diving;
- 9.6. Demonstrate the correct use of the buddy system before, during and after underwater navigation activities;
- 9.7. Perform all required exercises and assessments as requested without stress and pass successfully all forms of evaluation;
- 9.8. Successfully complete the theoretical assessment of this Standard;

- 9.9. Successfully complete the confined water training of this Standard and;
- 9.10. Having successfully completed three (3) in open water at a depth between six (6) to maximum fifteen (15) meters and a minimum duration of twenty (20) minutes;
- 9.11. Pass successfully all oral and/or written forms of evaluations.

10. REQUIRED THEORETICAL KNOWLEDGE

10.1. SYLLABUS REQUIREMENTS

10.1.1. USING NATURAL NAVIGATION AIDS

- **Natural references:** ripples, bottom contours, life patterns, depth, light

10.1.2. DISTANCE EVALUATION

- Tank pressure (use of depth gauge);
- Advancing time (watch);
- Number of fin's strokes (cycles of movement of fins).

10.1.3. SPEED EVALUATION

- On the surface; underwater;
- Note: importance of the current.

10.1.4. INSTRUMENTS NAVIGATION

- Geographic coordinates;
- True, magnetic and compass north; variation and deviation;
- Action of ferrous metals on compass readings; cautions to have;
- Construction, characteristics of underwater compass types;
- Correct methods of holding and use the compass.

10.1.5. COURSES TRAJECTORIES TYPES

- Go and back course
- Square course
- Rectangular course
- Triangular course



10.1.6. SITE RELOCATION

- Chart reading; true azimuth / magnetic azimuth;
- Visual bearings, use of markers, buoys;
- Site relocation with a "fix".

10.1.7. PLANNING AND PREPARATION WITH ALL RELEVANT SAFETY CONDITIONS

- Site evaluation and selection
- Special dive procedures

10.1.8. THE BUDDY SYSTEM

- Equipment check
- Regular buddy checks underwater
- Air supply checks
- Communications

10.1.9.PROBLEMS AND HAZARDS / PREVENTION

- Fear and panic, breathing rate
- Lost of orientation
- Low-air situation
- Buoyancy control
- Reduced visibility

10.1.10.EMERGENCY PLANNING

- (what should be included in the plan, etc.)

10.1.11.ACCIDENT MANAGEMENT

- Types of accidents;
- Prevention, countermeasures;
- First aid on site;
- Calling for help;
- Other actions;
- Site orientation for open water dives;
- Specific assignments: candidates carefully review, check and adjust their equipment for practical session.

11. PRACTICAL TRAINING PARAMETERS

11.1. The participant shall be assessed with regard to his ability to demonstrate the advanced 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.

11.2. CONFINED WATER SCUBA SKILLS

11.2.1.The dives should take place in sheltered open water area (no current, no heavy surf zone)

- Analysis of different environmental conditions;
- Equipment familiarisation;
- Communications, signals;
- Training distances and speed evaluations;
- Basic navigation techniques;
- Natural underwater navigation;
- Buddy techniques.

11.2.2.SPECIAL MATERIAL

- Diving flags, spare equipment;
- Ropes, buoys, markers;
- First aid equipment.

11.2.3.POST-DIVE REVIEW (DEBRIEFING)

- Review of conditions and observations
- Discussion of any problem
- Tips and hints for solving these problems
- Stow equipment
- Refreshments

11.2.4.SAFETY MEASURES

- First aid equipment easily accessible, position known to everyone;
- Thorough briefing of staff;
- Thorough buddy check before entry (supervised).

11.2.5.OPEN WATER SCUBA SKILLS

The participant must demonstrate underwater navigation skills, assistance and organisation during one or more of the open water training dives.

- Natural navigation techniques (ripples, bottom contours, life patterns, depth, light);
- Diving with navigation instruments (compass, computer with a digital compass.....);
- Training courses 1st. and 2nd. 3rd and 4th trajectory type;
- Communications, signals;
- Buddy techniques;

All skills performed in confined water must be completed and successful in open water at the depth that not to exceed 15 metres taking into account the visibility of the training location.

12. ASSESSMENT

12.2.1.KNOWLEDGE

- The participant shall demonstrate to the CMAS Instructor knowledge of scuba diving by taking and passing a written or oral examination (but not mandatory).
- If made in written form, a multiple-choice quiz should be used.
- The 2nd and 3rd dive may be used to observe and eventually assess the behaviour and the competence of the candidate.

13. CERTIFICATION

- Upon successful completion of the training programme, the participant shall be awarded with a CMAS underwater navigation Diver C-card.