

CMAS INTERNATIONAL SCIENTIFIC DIVING COURSE

INFO & REGISTRATION

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19th to 26th September
FARO - PORTUGAL



INSTITUCIONAL



ORGANIZATION



I. INTRODUCTION

The CMAS International Scientific Diving Course will take place in Faro, Algarve, Portugal, from 19 to 26 September 2025.

Organized by the Scientific Center of the University of Algarve in collaboration with CMAS Portugal, the course aims to provide participants with the skills and knowledge necessary to conduct underwater scientific research safely and effectively.

This program combines theoretical lessons, practical workshops, and field dives in the unique marine environments of southern Portugal.

II. LOCATION

City: Faro, Algarve, Portugal

Host Institution: University of Algarve – Scientific Diving Center

Dive Sites: Selected coastal and offshore locations (Natural and Artificial Reefs) in the Algarve region, known for their biodiversity and excellent diving conditions.

III. INSTRUCTORS TEAM

COURSE DIRECTOR

The course director will be Prof. Doctor Duarte Duarte

DIVING KNOWLEDGE AND SKILLS

If the trainees do not have the competencies of a scuba diver in accordance with ISO 24801-2, then these competencies shall be taught by an instructor who has at least the competencies in accordance with ISO 24802-2.

SCIENTIFIC KNOWLEDGE AND SKILLS

Instruction of scientific knowledge and skills shall be provided by competent specialists in scientific diving. Such specialists in scientific diving shall either be:

- Instructors competent in accordance with ISO 24802-2 who have been assessed as a scientific diver in accordance with this document, with additional documented experience in scientific diving;

OR

- Professionally qualified scientists who have documented experience of scientific diving methodologies.

Instruction for competencies not requiring dives (e.g. management, communications or medical topics) may be delivered by specialist lecturers with demonstrated competence in their specialist fields. While such lecturers need not hold a formal qualification as a diver, they shall be familiar with scientific diving operations.

IV. STUDENT REGISTRATION PRE-REQUISITES

To participate, students must:

1. Hold a minimum autonomous diver level (CMAS Two Star Diver), equivalent to ISO 24801-2.
2. Have logged at least 30 dives (recent diving experience required).
3. Provide medical clearance for diving (not older than 12 months).
4. Be 18 years or older.
5. Be a researcher affiliated with a scientific center or university institution, OR a Master's or PhD student involved in projects related to scientific diving.

V. REGISTRATION PRICE

Course Fee: 800,00 €

Link: <https://cmasportugal.pt/scientific-diving-course/>

(Payment instructions will be provided upon registration.)

VI. CONDITIONS

The course fee includes:

- Course theory and practice sessions.
- Use of university diving facilities and classroom resources.
- Diving logistics (tanks, weights, boat trips).
- International Certification fee (CMAS Scientific Diver).
- Personal accidents diving insurance

The course fee does not include:

- Participants Equipment (*Personal Equipment, see below*)
- Accommodation and meals during the course.
- Travels during the course (*University – Loulé - Olhão*)

VII. PARTICIPANTS EQUIPMENT

The participant must bring:

- 2 Masks,
- 1x Regulators set: 1 x First Stage, 2 x 2nd stages, one with 210cm hose, 1 SPG, according DIR configuration,
- Dive suit (wet or drysuit),
- Dive Boots,
- Fins (hard fins – technical),
- BcD (Jacket or Wing),
- 1 Spool (min 20m line),
- 1 SMB orange/yellow,
- 1 Torche,
- 1 Compass,
- 1 Wet note,
- 2 cutting devices.

VIII. RISK ASSESSMENT

The training provider shall ensure that a site- and task-specific risk assessment is conducted before each in-water activity and shall adopt procedures to ensure that all risks are controlled as far as is reasonably practicable. The following factors shall be considered as part of this assessment, taking into account the capability of participants and available equipment:

1. Water movement (e.g. high water-flow rates, wave action, tides and currents);
2. Depth;
3. Underwater visibility;
4. Temperature;
5. Pollution;
6. Hidrodynamic and meteorological surface conditions;

7. Entry and exit methods; Surface traffic, restricted zones (e.g. ports, harbours and marinas, differential pressure hazards);
8. Suitability of the site for the planned activities, including hazardous fauna and flora;
9. Emergency action plan;
10. Special hazards associated with the specific scientific diving project.

No more than 180 min of accumulated diving time shall be conducted within any 24 h period.

The training provider shall ensure that a dive is cancelled or aborted if environmental conditions, equipment problems or a trainee's physical or mental condition make this necessary.

IX. EMERGENCY EQUIPMENT AND PROCEDURES

1. EMERGENCY EQUIPMENT

For all locations where diving activities take place, the service provider shall ensure the availability of the following:

1. A first aid kit suitable for the planned activities;
2. A communication system suitable for alerting emergency services;
3. An emergency oxygen unit with a capacity of delivering at least 15 l/min of pure oxygen with sufficient capacity to continue delivering oxygen until alternative emergency medical care is available.

2. EMERGENCY PROCEDURES

At each site where in-water activities take place, a documented emergency plan comprising at least the following information shall be available:

1. Diver recall procedures;
2. Procedures for casualty recovery, resuscitation and evacuation;
3. Use of the emergency oxygen supply;
4. Information (including contact details) on emergency medical advice (e.g. a suitable diving emergency "hotline") and the nearest medical resources (including data about the availability of a hyperbaric chamber)

X. THEORETICAL KNOWLEDGE

1. DIVING-RELATED KNOWLEDGE

1.1 GENERAL

The training programme shall ensure that trainees have knowledge concerning the following:

1. How diving cylinders are filled, including appropriate safety procedures;
2. Requirements on safe handling, storage and transportation of diving cylinders;
3. Requirements for recurring diving cylinder testing;
4. Testing breathing gas quality;
5. Different types of diving equipment configurations used in scientific diving operations and how to recognize the key features of each;
6. Basics of diving equipment maintenance.
7. Underwater communication and safety.

1.2 RISK ASSESSMENT

The training programme shall ensure that trainees have knowledge concerning the following assessment of risks involved in scientific diving activities:

1. Identifying site and task specific hazards;
2. Undertaking site and task specific risk assessment;
3. Selecting appropriate measures to mitigate and/or control the risks.

2. SCIENTIFIC DIVING METHODOLOGIES AND PROTOCOLS

2.1 GENERAL

The training programme shall ensure that trainees have knowledge concerning:

1. Ethics of science (Some principles of ethics in science are presented in the Nagoya protocol);
2. Sustainable practices in scientific diving in accordance with ISO 21416;
3. Experimental design;
4. Underwater work conducted by scientific divers;
5. Core responsibilities involved in the administration and safety of scientific diving.
6. Scientific Dive Plan and Scientific Diving Report.

2.2 GENERIC METHODS

The training programme shall ensure that trainees have basic knowledge concerning:

1. Site selection, site marking and assessment (e.g. disturbance by other activities, type of equipment);
2. Marking and measuring;
3. Underwater photo a lifting bag;
4. Visual and video census;
5. Measuring visibility;
6. Tethered diving techniques;
7. Sampling and recording;
8. Processing, evaluation and archiving of data;
9. Creating a site report;
10. Aquatic life identification;
11. Deployment and recovery of scientific equipment.

2.3 SURVEY TECHNIQUES

The training programme shall ensure that trainees have knowledge concerning the following survey techniques:

1. Line survey and transect methodologies;
2. Quadrats;
3. Establishing a grid;
4. Mapping, sketching, drafting a map;
5. Coring;
6. Photography, photogrammetry, photoquadrat;
7. Tagging;
8. Collecting;
9. Estimating per cent coverage;
10. Location, relocation;
11. Geolocation, georeferencing.

2.4 DIVING ENVIRONMENTS AND CONDITIONS

The training programme shall ensure that trainees have knowledge concerning diving in the following environments and conditions and their possible effects on the objectives of the scientific dives:

1. Altitude;
2. Depth of the dive;
3. Limited visibility;
4. Ice;
5. Water temperature;
6. Blue water;
7. Remote locations;
8. Ports, harbours and marinas;

2.5 NAVIGATION TECHNIQUES

The training programme shall ensure that trainees have basic knowledge concerning the following navigation techniques:

1. Line work (knots, reels and spools);
2. Establishing a datum;
3. Establishing transects and baselines;
4. Use of global navigation satellite systems (GNSS), surface and underwater positioning techniques;
5. Use of a compass;
6. Dealing with the effects of currents and other environmental conditions;
7. Means of assessing distance.

XI. PRACTICAL SCIENTIFIC DIVING SKILLS

One main objective of a scientific diving programme is to ensure the divers are safe and productive.

The training programme shall ensure that trainees have basic skills in the following tasks:

1. Survey techniques (e.g. digital imaging, transects and quadrats, mapping);
2. Sampling techniques (e.g. coring, specimen collection, tagging);
3. Data collecting or data recording.

These scientific skills shall be demonstrated while maintaining good and safe diving practices, including:

1. Always putting safety before the scientific objectives;
2. Maintaining good buoyancy and trim control;
3. Underwater positioning and locomotion techniques;
4. Scientific tasks proficiency;
5. Maintaining the buddy system;
6. Monitoring depth, time and gas supplies;
7. Environment awareness.
8. Dive team protocols and Pre-dive Drills.
9. Dive assessment.
10. Valve Drills and Safety Drills proficiency.

DATE	PERIOD	WHAT	WHERE
1 st day 12 th September	AFTERNOON	Videconference with all participants	Zoom platform
2 nd day 18 th September	ALL DAY	Training day, only for divers without ASD skills.	Loulé pool
3 rd day 19 th September	MORNING	Training session, only for divers without ASD skills to master proficiency on trim, buoyancy control, locomotions technics, and taks proficiency.	Loulé pool
	AFTERNOON	Presentation day – Welcome speeches. Full check teams	Classroom
4 th day 20 th September	MORNING	Theoreticals and theoretical-practicals classes	Classroom
	AFTERNOON	Practical sessions in confined waters	Loulé pool
5 th day 21 st September	MORNING	Theoreticals and theoretical-practicals classes	Classroom
	AFTERNOON	Practical sessions in confined waters	Loulé pool
6 th day 22 nd September	MORNING	Reef dive class	Open Water dive
	AFTERNOON	Theoreticals and theoretical-practicals classes	Classroom
7 th day 23 rd September	MORNING	Reef dive class	Open Water dive
	AFTERNOON	Theoreticals and theoretical-practicals classes	Classroom
8 th day 24 th September	MORNING	Reef dive class	Open Water dive
	AFTERNOON	Theoreticals and theoretical-practicals classes	Classroom
9 th day 25 th September	MORNING	Reef dive class	Open Water dive
	AFTERNOON	Theoreticals and theoretical-practicals classes	Classroom
10 th day 26 th September	MORNING	End session	Classroom