



## CMAS NITROX DIVER

2 Days

Costs include:  
Extra costs:

Boat trip, Certification  
Equipment

### I. Course classification (Type & Level)

1. Classification  
The CMAS BASIC NITROX DIVER course is considered a basic-level speciality course.
2. Validity period  
There is no specific period of validity for this certificate.
3. Benefits & responsibilities  
Successful students will be qualified to dive using nitrox mixtures containing up to 40% oxygen.

### II. Aims & Objectives of course

- To introduce the diver to the techniques involved in diving with nitrox to a limit of 40% oxygen.
- To make the diver aware of the additional physiological problems encountered when diving with gases other than air.
- To make the diver aware of the special dive planning procedures appropriate to diving with nitrox.
- To introduce the diver to the problems of equipment approved for oxygen and procedures for gas mixing.
- To prepare the diver for the first dives using nitrox, and to lead toward further experience before taking the Advanced Nitrox Diver course.

### III. Entry requirements (prerequisites)

Student's minimum age : 18 years,

**Certification level :** 2-star Diver CMAS, or equivalent,

Minimum number of dives : 25 (at least 4 of these performed within 8 weeks prior to the course),

Medical certificate : according to member federation requirements,

### IV. Maximum student/instructor ratios

According to member federation requirements.

### V. Instructor / assistant requirements

1. Instructor/course director  
Certificate level : national/CMAS 2-star instructor  
Speciality : CMAS Nitrox Instructor or equivalent  
Proof of experience : Instructor must be in active teaching status as required by his national federation. Must be of proven ability and experience (at least 20 logged dives in this speciality).
2. Assistants  
As required by the course director.

### VI. Special course requirements

- Course outline : must be approved by the federation's Technical Committee or must use a standard outline proposed by the federation itself.
- Course approval : approval by national technical committee.
- Facilities : adequate classroom, according to the needs of the course and the students, normal open water diving site.
- Depth limits according to qualification level of each diver (as a maximum under best conditions) and according to local circumstances.
- Minimum duration of any one dive is 15 minutes.
- All diving is done within a maximum oxygen partial pressure limit of 1.6 bar.
- Supervision : During the complete course, at least one authorised course director (instructor as outlined above) must always be present.

## **VII. Student performance objectives**

By the end of the course, students should be able to :

a) knowledge-related :

1. Identify the problems and advantages related to diving with Nitrox
2. Explain the physiological phenomena associated with diving with Nitrox
3. Correctly use standard diving equipment for diving with Nitrox
4. Demonstrate their knowledge of diving with Nitrox

b) skill-related :

If their basic diving experience requires a practical evaluation, students should be able to demonstrate their ability to plan and execute dives using Nitrox.

## **VIII. Minimum course duration**

1. Minimum duration of course : 2 days
2. Recommended number of sessions : 4 sessions.
3. Minimum classroom duration : 6 hours (2 sessions)
4. Minimum number of dives : 2 dives

## **IX. Quality assurance**

CMAS strongly recommends and encourages all federations to use an adequate system for quality assurance. A system in widespread use and of proven effectiveness is to send questionnaires to the students, followed by an analysis of the feedback.

Questionable cases should be further investigated and measures taken to avoid similar situations in the future.

5.2. CMAS BASIC NITROX DIVER PART II (TRAINING PROGRAM)

**I. Course schedule**

1. Recommended number of sessions : 4 sessions over two days.
2. Minimum duration : classroom 6 hours (2 sessions ), open water 2 hours (2 sessions).
3. Minimum number of dives : 2 dives using nitrox should be included in the course.
4. Lessons & topics (brief overview) : See II.1.

**II. Minimum course content (syllabus)**

1. Theory lessons (Classroom)

**1.1 TH1 (classroom ; approx. 1.5 hours.)**

- a) **Introduction**, course administration
- b) **topics** : Overview of oxygen physiology and oxygen toxicity, including reasons for, and methods of avoiding, central nervous system toxicity and pulmonary toxicity, and effects of these on human physiology.

**1.2 TH2 (classroom ; approx. 1.5 hours.)**

- a) **Introduction**
- b) **Topics** : Symptoms and effects of nitrogen on human physiology and the reduction or avoidance of these effects by the use of appropriate nitrox mixtures, within recreational diving depths.

**1.2 TH3 (classroom ; approx. 1.5 hours.)**

- a) **Introduction**
- b) **Topics** : Procedures for diving with nitrox up to 40% oxygen, including appropriate equipment selection, practical dive planning, and an understanding of the concept of Equivalent Air Depths and nitrox decompression procedures.

**1.2 TH4 (classroom ; approx. 1.5 hours.)**

- a) **Introduction**
- b) **Topics** : Basic nitrox diving safety, including oxygen equipment compatibility, colour coding and labelling of equipment, gas analysis requirements, and an introduction to gas mixing methods.

2. Practical lessons (Confined and Open Water)

**2.1 PR1 (open water, dive 1 ; approx. 1 hr.)**

- a) site orientation, dive planning, depth limits, choice of mixture.
- b) pre-dive briefing, equipment check including gas analysis
- c) open water dive 1 ; objectives : observe nitrox diving depth disciplines.
- d) special equipment : oxygen analyser
- e) post-dive review (debriefing).

**2.2 PR2 (as PR1)**

**III. Knowledge review & skills assessment**

**1. Theoretical knowledge :**

- a) suggested type: final evaluation
- b) suggested form: written,
- c) suggested structure: 4 main topics, 5 questions for each, allotted time 45 minutes.
- d) question technique: multiple-choice,
- e) allowed support material (for student): decompression tables, EAD tables.

**IV. Awarding of certification material**

# OCEAN ZONE DIVERS

*Performance Under Pressure*

May be given to successful students at end of course. Only students who have attended the whole course (and/or successfully passed any required assessment / evaluation) may receive the corresponding recognition material :

- CARD
- BADGE
- WALL CERTIFICATE