

## Skill Development Course – Syllabus

### ADVANCED NITROX DIVER

#### AIM

- To Introduce BSAC Sports Divers to the meticulous dive planning and practical skills required when diving and decompressing using enriched Nitrox mixtures.
- To monitor time spent at different depths tracking different partial pressures of oxygen in order to avoid oxygen toxicity.
- To teach the safe use of up to EANx 50 as both a diving and decompression gas.
- To teach the safe use BSAC Nitrox Decompression Tables.
- To teach the safe use of Nitrox and Air Computers.

#### DURATION

Two days: Day 1 - Classroom studies, Day 2 - Two Open Water Dives

#### ENTRY GRADE

- BSAC Sports Diver or similar (see BSAC SALT table) + 20 additional dives
- BSAC Nitrox Diver (or equivalent)
- Current evidence of Fitness to Dive

#### APPROVAL

- Course approval procedures apply. A BSAC Advanced Nitrox Diver student notes pack **must** be supplied to each student.

#### INSTRUCTORS

This course must be led and staffed by approved BSAC Nitrox Instructors. A register of approved BSAC Nitrox Instructors is maintained by the Chief Examiner at BSAC HQ.

Ratio - One Instructor for every eight students in the classroom: One Instructor to maximum of four students in water. However, the ratio is dependant on visibility and may have to be reduced. Instructors must be able to see all students at the same time and this may demand a one-to-one ratio.

#### FACILITIES

- A suitable classroom for theory lessons, with enough space to spread Nitrox cylinders for practical analysing lessons.
- A suitable open water site for practical diving on Day Two.
- The following equipment will be required for the practical dives:
- 1 Nitrox cylinder per student (minimum 10 litre)
- 1 Pony cylinder (or doubles) per student
- 1 Delayed SMB per student
- Oxygen analysers.

Nitrox cylinders must conform to the BSAC recommendations: in test, in Oxygen Service and correctly labelled.

#### QUALIFICATION

Each part of the course concludes with an assessment, and only those who pass these assessments will receive the Advanced Nitrox Diver Certificate and qualification record book certificate.

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## SYLLABUS

Instructor briefing

Assemble, Introductions, Administration.

1. Classroom Lesson - **Introduction** - 20 mins  
Course aims  
Advantages and disadvantages of Nitrox as a diving and a decompression gas.
2. Classroom Lesson - **Pressure and Nitrox mixes** - 20 mins  
Dalton's Law  
Calculating ppO<sub>2</sub>  
Maximum Operating Depth and Nitrox mix.
3. Classroom Lesson - **Nitrogen and Nitrox Diving** - 90 mins  
BSAC Nitrox Decompression Tables  
Nitrogen Narcosis  
Decompression - good practice, equipment  
Carbon Dioxide Toxicity.
4. Classroom Lesson - **Oxygen and Human Physiology** - 60 mins Effects of Oxygen  
CNS & Whole Body Toxicity  
Monitoring Oxygen uptake
5. Classroom Lesson - **Equipment for Nitrox diving** - 45 mins  
Decompression equipment and configuration  
Dive Cylinders  
Regulators  
Other diving equipment  
Oxygen Service
6. Classroom Lesson - **Nitrox Mixing and Analysing** - 60 mins  
Ways to Mix / Blend Nitrox  
Advantages, disadvantages  
Practical Gas Analysing
7. Classroom Lesson - **Dive Organisation & Management** - 60 mins  
Dive Marshalling  
Pairing divers  
Decompression planning  
Accident Management  
Dive planning
8. Classroom - **Theory Assessments** - 60 mins
9. Classroom - **Open Forum** - 15 mins  
Course debriefing - Disperse  
Instructor De-brief

## NOTES

1. Instructors should base their teaching on the Instructor Notes they receive from the Chief Examiner once they have been approved as a BSAC Nitrox Instructor.
2. When an application to run a course is approved the Technical Support Manager at BSAC HQ will supply all course paperwork including Assessment Papers and the required number of Student Packs.
3. Members wishing to qualify as BSAC Nitrox Instructors are invited to apply to the Technical Support Manager at BSAC HQ for the appropriate application form.