



NAUI CLOSED CIRCUIT REBREATHERS

4 days

Costs include:
Extra coasts:

Re-breather hire, Boat trips, Soda Sorbe, Gas, Manuals
Certification

OVERVIEW

This course is to provide the NAUI EANx certified diver with the training and experience necessary to understand the hazards and minimize the risks of using a closed circuit rebreather while breathing nitrox with a constant oxygen partial pressure.

QUALIFICATIONS OF GRADUATE

Upon successful completion of this course, graduates are considered competent to plan and execute unit specific closed circuit rebreather dives up to 100 fsw (30.5 msw) for CLOSED CIRCUIT REBREATHING DIVER without direct supervision providing activities and areas dived approximate those of training.

WHO MAY TEACH

This course may be taught by active status NAUI Instructors who:

- Are certified as NAUI Closed Circuit Rebreather Divers (unit specific) with 100 logged hours on rebreathers (40 of those hours may be from SCR systems) underwater in varied environments and depths, and
- CCR systems being taught are limited to those on which the instructor has logged a minimum of ten hours each.
- Have successfully completed the Closed Circuit Rebreather Instructor Workshop, and
- Have completed the NAUI Rebreather Instructor application process and
- Received written approval to teach this course from the NAUI Training Department.

RATIOS

Confined Water Supervision

A maximum of four students per active NAUI Instructor is allowed. Assistants with unit specific closed circuit experience are strongly recommended, but do not increase the student-to-instructor ratio.

Open Water Supervision

A maximum of two students per active NAUI Instructor is allowed. Technical qualified assistants with unit specific closed circuit

PREREQUISITES

- Minimum age of 21.
- Minimum certification of NAUI EANx Diver.
- Minimum of 50 logged dives with 10 dives on nitrox.
- Medical approval – Verification as documented by a medical examination including chest x-ray and spirometry exam and unconditional approval for diving by a licensed physician (M.D. or D.O. with hyperbaric training) within

COURSE POLICIES

Ocean Zone Divers, 67/19 Moo 10, Patak Rd, Tambon Chalong, 83130 Phuket Thailand
Tel: +66 (076) 381881 GSM: +66 (09) 6474707 Fax: +66 (076) 381881
www.oceanzonedivers.com email: info@oceanzonedivers.com

- Classroom /workbench hours – 16 hours
- Confined water hours – 5 hours
- Open water dives – 6. Unless the competency of the student divers is well known to the instructor, a pre-course session shall be conducted using selected skills to screen and evaluate students to ensure that they possess the necessary diving skills to minimize risk. At least one of the six required dives shall be 1 hour in duration submerged time.
- Dive Maximums : This is a no-stop decompression course and all dives must remain shallower than 100 fsw (30msw)

EQUIPMENT

The following equipment is required for each student in addition to that required by “Policies Applying to ALL NAUI Diving Certification Courses – Equipment”:

- Depth gauge, compass, timing device and constant oxygen partial pressure tables.
- Dive knife\tool, emergency signaling device, slate and pencil.
- Closed circuit rebreather specific to the course.
- Buoyancy Compensator, if not an integral part of the rebreather.
- Redundant independent breathing gas supply for emergency ascent and gas sharing.
- Oxygen analyzer (may be provided or rented for use during the course) only if the bailout gas is a gas other than air.
- Fifty-pound lift bag and reel for use as a surface marker and ascent line or other surface marker device as appropriate.

SKILL REQUIREMENTS

The students will be able to:

- Perform the pre-dive check for the specific unit, including checking gas cylinders, inspection of harness and BC, hoses and mouthpiece, counterlung for water ingress, canister, oxygen analysis system, carbon dioxide analysis system (if present), o-rings and oxygen control system.
- Perform the pre-dive planning including safety stops, review emergency bailout procedures with contingency dive planning, problem solving, i.e., Oxygen shut down, electronics failure, etc.
- Perform the proper counterlung flush procedures prior to entering the water.
- Perform proper buoyancy control and trimming skills at a depth not to exceed 20 fsw (6 msw) before they may progress to deeper depths.
- Perform proper monitoring of information displays.
- Participate in a diver rescue simulation to include management of a diver experiencing underwater convulsions, hypoxia, flooded system and out-of-gas scenario.
- Perform the proper procedure for switching to the emergency gas at least four times during the course at a fsw(12 msw).
- Perform the proper procedure for handling a flooded canister situation, low or high oxygen levels and electronics failure.
- Perform the proper ascent with a reel and lift bag simulating a decompression-ceiling obligation.
- Perform the proper post-dive procedures after each dive including turning the unit off, rinsing the unit, checking and recording cylinder pressures, turning off valves and bleeding lines, removing hoses and mouthpiece, disinfecting and drying, cleaning of canister, calculation and recording of canister remaining time, blanking off breathing loop ports, log and mark unit clearly with canister use, secure gauges and displays.
- Explain the proper procedures for missed no-decompression and how the operating characteristics of the rebreather make these procedures different from air or nitrox open circuit procedures.

ACADEMIC REQUIREMENTS

Applied Sciences – This area is a review and continuation of the material covered in the NAUI Master SCUBA Diver, NAUI Nitrox and the NAUI Rebreather manual with special emphasis on:

- Advantages and limitations of constant oxygen partial pressure.
- Oxygen toxicity, tracking oxygen exposures, and hypoxia.
- Perfusion and diffusion issues and tissue inert gas issues.
- Carbon dioxide problems.
- Definitions, requirements and functions of rebreathers.
- Assembly of course-specific rebreathers, canister filling, and unit disinfecting.
- Effects of breathing gas on diver metabolic oxygen consumption rates, carbon dioxide stress, vital capacity, respiratory minute volume.
- Effects of hydrostatic pressure on breathing loop, static negative and positive lung loading.
- Gas requirements and limitations, and inspired oxygen calculations.
- Contingency planning, chamber locations, evacuation procedures, communications and emergency breathing gases.
- Electronic operation and considerations (if present).

Diving Equipment

This area is to provide a complete review of the manufacturer's requirements for the specific closed circuit system.

Dive Tables

This area is to cover dive tables to be used with the specific unit and associated oxygen partial pressures, dive planning requirements, and gas management.

EXAMINATIONS

See "Policies Applying to All Courses: Evaluation and Documentation"