10. Computer Nitrox Diver

10.1 Introduction

The SDI Computer Nitrox course is designed to teach open water divers how to use nitrox mixtures up to 40 percent with the aid of a nitrox programmable dive computer.

10.2 Qualification of Graduates

Upon successful completion of this course, graduates may conduct open circuit dives utilizing a dive computer with a single gas of no greater than 40 percent oxygen and not requiring decompression. The training program does not qualify divers to make dives which require mandatory in-water decompression stops or dives using more than one breathing gas and/or rebreathers.

10.3 Who May Teach

An active SDI Instructor that has been certified to teach this specialty. Proof of certification at the diver level is required to upgrade administratively or to take a specialty instructor course for this specialty.

10.4 Student to Instructor Ratio

Academic:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training of subject matter.

Confined Water (swimming pool-like conditions):

1. N/A.

Open Water (ocean, lake, quarry, spring, river, or estuary):

1. N/A.

10.5 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent.

2. Minimum age 18, 10 with parental consent.

10.6   Course Structure and Duration

Open Water Execution:

1. No dives are required.

Course Structure:

1. SDI allows instructors to structure courses according to the number of students participating and their skill level.

10.7   Administrative Requirements

Administrative Tasks:

1. Collect the course fees from all the students.

2. Ensure that the students have the required equipment.

3. Communicate the schedule to the students.

4. Have the students complete the:

    a. *SDI Liability Release and Express Assumption of Risk* Form

    b. *SDI Medical Statement* Form..

Upon successful completion of the course the instructor must:

1. Issue the appropriate SDI certification by submitting the *SDI Diver Registration* Form to SDI Headquarters or registering the students online through member's area of the SDI website.

2. If taught in conjunction with the SDI Open Water course, the students should be registered as Open Water Scuba Divers prior to registering them as Computer Nitrox divers.

10.8   Training Material

Required Material:

1. *SDI Computer Nitrox* Manual and Knowledge Quest or online course.

2. *SDI Computer Nitrox* Digital Instructor Resource.

Suggested materials:

1. *SDI EAD* Table.

10.9   Required Equipment

1. Nitrox Cylinder.

2. Air cylinder for calibration.

3. Oxygen analyzer.

4. Sample nitrox log.

10.10 Approved Outline

Instructors may use any additional text or materials that they feel help present these topics. The following topics must be covered.

1. History of Enriched Air Nitrox (EAN).

2. Physiology:

    a. Oxygen (O_2).

    b. Nitrogen (N_2).

3. Equipment Considerations:

    a. Less than 40 percent oxygen content.

    b. More than 40 percent oxygen content.

4. Dive Computers:

    a. Mix adjustable.

    b. Air integrated.

    c. Nitrox programmable dive computer.

5. Advantages and Disadvantages:

    a. Use of nitrox for physiological advantage with a nitrox programmable dive computer.

    b. Use to extend no-decompression time or shorten surface intervals.

    c. Oxygen toxicity hazards and depth limits.

    d. Discussion of myths and facts regarding enriched air nitrox (EAN) mixtures.

6. Equivalent Air Depth (EAD):

    a. Introduction to the concept only for demonstration.

7. Procedures:

    a. Use and theory of oxygen analyzer.

b. Gas analysis and logging.

c. How to complete and sign a fill station's EAN fill log, including MOD and oxygen content.

10.11 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

1. Students must achieve a minimum score of 80% on the Knowledge Quest or online final exam with 100% remediation.

2. Analyze at least 2 nitrox cylinders and label cylinders in accordance with local practices and/or regulations.

3. Log at least 1 nitrox cylinder analysis to include: MOD and oxygen content.

4. Program a nitrox computer to a mix between 22-40 percent oxygen.