

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 (O₂).
 - b. Nitrogen (N₂).
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.

11. Deep Diver

11.1 Introduction

The purpose of this course is to provide the necessary training to plan and execute dives that are outside the range of depths that are experienced during an SDI Open Water Scuba Diver course, specifically beyond 18 Metres/60 Feet and to a maximum depth of not greater than 40 Metres/130 Feet.

11.2 Who May Teach

An active SDI Instructor that has been certified to teach this specialty.

11.3 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. A maximum of 4 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. The instructor has the option of adding 2 more students with the assistance of an active Assistant Instructor or Divemaster.
3. The total number of students an instructor may have in the water is 8 with the assistance of 2 active Assistant Instructors or Divemasters.

11.4 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent.
2. Minimum age 18, 10 with parental consent.

11.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.
2. The Dive plan must include surface interval, maximum no-decompression time, etc. to be figured out and logged.
3. Divers between the ages of 10 through 14 cannot exceed 21 Metres/70 Feet.

Course Structure:

1. SDI allows instructors to structure courses according to the number of students participating and their skill level.
2. This course may be combined with the SDI Computer Diver Specialty, and only that specific specialty.

11.6 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.

11.7 Training Material

Required Material:

1. *SDI Deeper Diving with Dive Computers* Student Manual and Knowledge Quest (or eLearning course)
2. *SDI Deeper Diving with Dive Computers* Digital Instructor Resource.

11.8 Required Equipment

Basic open water scuba equipment as described in section three of this manual.

11.9 Approved Outline

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered.

1. Diving Tables and Computers:
 - a. History of dive tables and computers:
 - i. No-decompression.
 - ii. Use of the decompression schedule according to your computer.
 - iii. Safety stops.
 - b. Practical problem solving.
2. Equipment:
 - a. Specialty equipment for deep dives:
 - i. Cylinders, different sizes.
 - ii. Regulators.
 - iii. Buoyancy compensator device (BCD).
 - iv. Lift bags.
 - v. Reels.
 - vi. Redundant gas supplies.
 - b. Physics and physiology for deep divers:
 - i. Special considerations for pressures greater than 3 atmospheres (ATA):
 1. Air consumption
 2. Carbon Dioxide (CO₂) factors.
 3. Nitrogen narcosis.
 4. Oxygen (O₂) toxicity.
 5. Decompression sickness.
3. Emergency Procedures for Deep Divers:
 - a. Usage and techniques for safety cylinders.

- b. Recompression chamber listing for area.
- 4. Review of First Aid:
 - a. Oxygen (O₂) treatment.
 - b. Treat for shock.

11.10 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

- 1. Open Water Dive 1:
 - a. Test and check all equipment, i.e., depth gauges, bottom timers/watches and computers.
 - b. Familiarization with area.
 - c. Descend to planned depth and do not exceed any pre-planned limits.
 - d. Dive according to plan at a depth limited to 30 Metres/100 Feet for the first dive.
 - e. Monitor depth/time/air consumption, figure all times on slate.
 - f. Monitor/test for nitrogen narcosis.
 - g. Ascend to safety stop.
- 2. Open Water Dive 2:
 - a. Monitor depth/time/air consumption, figure all times on slate.
 - b. Descend to planned depth and do not exceed any pre-planned limits.
 - c. Monitor/test for nitrogen narcosis.
 - d. Execute a simulated emergency that is to be assigned underwater by the instructor.
 - e. Dive according to plan at a depth limited to 40 Metres/130 Feet.
 - f. Ascend to safety stop.

19. Night/Limited Visibility Diver

19.1 Introduction

Many divers find that night diving is their favorite type of diving. As with all specialty diving applications, procedures are different than those associated with open water diving. The purpose of this course is to acquaint the open water diver with the procedures, techniques, and potential hazards associated with diving at night, or in limited visibility. By becoming familiar with the use of dive lights, and night diving techniques such as navigation, buddy system procedures, communications, buoyancy control, and interacting with nocturnal aquatic life, the diver will be able to enjoy night diving with maximum safety.

19.2 Who May Teach

An active SDI Instructor that has been certified to teach this specialty.

19.3 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. A maximum of 4 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. The instructor has the option of adding 2 more students with the assistance of an active Assistant Instructor or Divemaster.
3. The total number of students an instructor may have in the water is 8 with the assistance of 2 active Assistant Instructors or Divemasters.

19.4 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent.
2. Minimum age 18, 10 with parental consent.

19.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.
2. The dive plan must include surface interval, maximum no-decompression time, etc. to be figured out and logged.
3. Night or limited visibility dive is defined as any dive requiring a light to enhance Visibility.

Course Structure:

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

19.6 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.

19.7 Training Material

Required Material:

1. *SDI Night and Navigation Student Manual* and *Scuba IQ Review* or eLearning.
2. *SDI Night Diver Digital Instructor Resource*.

19.8 Required Equipment

1. Basic open water scuba equipment as described in section three of this manual.

2. Lights; primary and back up.
3. Whistle/ Audible signaling device.

19.9 *Approved Outline*

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered.

1. Why Dive at Night
 - a. Different aquatic life.
 - b. Experience in limited visibility.
2. Special Equipment:
 - a. Diving lights.
 - b. Importance of light and back up.
 - c. Comparison of different styles.
 - d. Personal dive beacon.
3. Buddy System:
 - a. Buddy contact:
 - i. Good visibility, close visual contact.
 - ii. Limited visibility, use buddy line.
 - iii. Night vision.
 - iv. Don't shine light in buddy's eyes.
 - b. Communications:
 - i. When close use standard hand signals.
 - ii. Light signals at distance:
 1. Attention/OK.
 2. Something's wrong.
 - iii. Tactual signals; buddy line:
 1. Stop – One pull.
 2. Go/OK – Two pulls.
 3. Surface – Four pulls.
 4. Come Quick! – Five or more pulls.
 - iv. Whistle on surface:

1. Five or more blasts: Distress.
4. Navigation:
 - a. Bottom contour.
 - b. Compass.
 - c. Boat.
 - d. Beach/Lake.
 - e. Marker light/strobe.
5. Disorientation:
 - a. With buddy.
 - b. Lost buddy.
 - c. Light failure.
 - d. Buoyancy considerations.
6. Emergency Procedures:
 - a. Disabled diver.
 - b. Lost diver.
 - c. Diving maladies.
7. Underwater Environment:
 - a. Nocturnal life.

19.10 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

1. Open Water Dive 1:
 - a. Plan dive.
 - b. Safety procedures.
 - c. Enter and descent.
 - d. Remain submerged for at least 20 minutes.
 - e. Change direction several times while maintaining proper navigation.
 - f. Use properly, underwater light, submersible pressure gauge, compass, depth gauge, and computer.
 - g. Maintain buddy contact throughout dive.
 - h. Log dive.

2. Open Water Dive 2:
 - a. Plan dive.
 - b. Safety procedures.
 - c. Descend.
 - d. Two-minute swim without compass.
 - e. Surface and reorient.
 - f. Descend and navigate.
 - g. Log dive.

21. Search and Recovery Diver

21.1 Introduction

This specialty is designed to acquaint the diver with the special skills and techniques necessary to successfully plan, execute and evaluate a search and recovery dive.

21.2 Who May Teach

1. An active SDI Instructor that has been certified to teach this specialty.

21.3 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. The instructor has the option of adding 2 more students with the assistance of an active Assistant Instructor or Divemaster.
3. The total number of students an instructor may have in the water is 12 with the assistance of 2 active Assistant Instructors or Divemasters.

21.4 Student Prerequisites

1. SDI Open Water Scuba Diver or equivalent.
2. Minimum age 18, 15 with parental consent.

21.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.

2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.

Course Structure:

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

21.6 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.

21.7 Required Equipment

1. Basic open water scuba equipment as described in section three of this manual.
2. All lines, lift bags, reels, etc must be provided by the instructor.

21.8 Approved Outline

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered.

1. Navigation:
 - a. Compass use
 - b. Estimating distances:
 - i. Kicking techniques.
2. Natural navigation.

- 3. Limited Visibility Diving:
 - a. Factors affecting visibility.
 - b. Hazards of limited visibility:
 - i. Salt water.
 - ii. Fresh water.
 - c. Techniques of diving.
- 4. Search Techniques:
 - a. Shotgun:
 - i. When to use.
 - ii. How to control.
 - b. Circular search:
 - i. When to use.
 - ii. How to control.
 - iii. Advantages.
 - c. Grid search:
 - i. When to use.
 - ii. How to control.
 - iii. Advantages.
 - d. Current (Overlap) search:
 - i. When to use.
 - ii. How to control.
 - iii. Advantages.
 - e. Signals for search diving:
 - i. Hand signals.
 - f. Line signals.
- 5. Salvage Techniques:
 - a. Depth considerations.
 - b. Lift bags.
 - c. Lifting drums.
 - d. Necessary qualities of lifting devices.
 - e. Knots and rigging.

- f. Fill techniques.
- g. Mud/silt suction considerations.

21.9 *Required Skill Performance and Graduation Requirements*

Students are required to successfully complete the following:

1. Open Water Dive I:
 - a. Compass review.
 - b. Search techniques.
 - c. Lifting techniques.
 - d. Have students practice and perform a few different search patterns.
 - e. Recover an object from depth.
 - f. Log dive.
2. Open Water Dive 2:
 - a. Simulated scuba emergency.
 - b. Minimum of 2 searching techniques
 - c. Salvage and recovery of an object with a water weight of between 11 and 33 kg/25 and 75 lbs.
 - d. Log dive.

23. Sidemount Diver

23.1 Introduction

This course is designed to teach certified divers how to safely utilize side-mounted primary Cylinders as an alternative to the traditional back-mounted configuration. The course is strictly non-decompression with a maximum depth limit of 40 metre /130 Feet, or within the limit of the student's current certification, whichever is shallower.

23.2 Qualifications of Graduates

Upon successful completion of this course, graduates may engage in Sidemount diving activities without direct supervision provided the following limits are adhered to:

1. Safety stops as appropriate.
2. Planned dives do not exceed the diver's current certification level.

23.3 Who May Teach

1. This course may be taught by any active SDI Sidemount Specialty Instructor. Instructors can apply for administrative upgrade by:
 - a. Providing documentation of SDI Sidemount diver level certification or equivalent.
 - b. Completing 25 Sidemount dives.

OR

- c. Successfully completing an SDI Sidemount Instructor course with a active SDI Sidemount IT and completing 10 Sidemount dives.

23.4 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.

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

1. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.

23.5 Student Prerequisites

1. SDI Open Water Scuba Diver or equivalent.
2. Minimum age 18, 15 with parental consent.

23.6 Course Structure and Duration

Open Water Execution:

1. Two open water dives are required with complete briefs and debriefs by the instructor.
2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.
3. This is a non-overhead environment course.

Course Structure:

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

23.7 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.

23.8 Training Material

Required Material:

1. *SDI/TDI Sidemount Student Manual* or eLearning.
2. *SDI/TDI Sidemount Instructor Guide*.

23.9 Required Equipment

1. Cylinder(s), volume appropriate for planned dive, and student gas consumption.
2. Regulators appropriate for the cylinder configuration with a pressure gauge on each first stage and a total of two second stages.
3. Buoyancy compensator device (BCD) with power inflator appropriate for Sidemount configuration.
4. Exposure suit, adequate for diving environment.
5. Mask and fins.
6. Dive computer.
7. Compass.
8. Rescue signal.

23.10 Approved Outline

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

1. Gas management utilizing independent cylinders.
2. Equipment considerations:
 - a. Cylinder options.
 - b. Regulator options.
 - c. Buoyancy compensator device (BCD)/harness options.
 - d. Proper weighting.
 - e. Equipment configurations.
3. Communication:
 - a. Hand signals.
4. Problem solving:

- a. Gas-sharing.
 - b. Gas hemorrhages.
- 5. Water entries:
 - a. Shore.
 - b. Boat.
- 6. S-Drills (specific to Sidemount).

23.11 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

Land drills:

- 1. May be performed at the instructor's discretion.

In-water skills during open water dives:

- 1. Plan dive.
- 2. Test and check all equipment (depth gauges, bottom timers/watches, and computers).
- 3. Familiarization with area.
- 4. Descend to the planned depth and do not exceed any pre-planned limits.
- 5. Demonstrate the ability to safely manage gas.
- 6. Monitor depth/time/air consumption, figure all times on slate.
- 7. Demonstrate ability to control buoyancy.
- 8. Attaching Sidemount cylinders while:
 - a. Out of water.
 - b. On the surface, standing on bottom.
 - c. On the surface, in water too deep to stand.
 - d. At depth.
- 9. Perform regulator switches.
- 10. Perform safety stops.

In order to complete this course, students must:

1. Perform all land drills and open water dive requirements safely and efficiently.
2. Demonstrate mature, sound judgment concerning dive planning and execution.
3. Log all dives.

24. Solo Diver

24.1 Introduction

The objective of this course is to train divers in the benefits, hazards, and proper procedures for diving solo. Upon successful completion of this course, graduates may engage in solo diving activities.

24.2 Who May Teach

An active SDI Solo Diver Instructor that has been certified to teach this specialty.

To qualify to teach the Solo Diver Program the instructor must:

1. Be minimum age 21.
2. Have a minimum of 1 year of teaching experience.
3. Have certified 50 or more students at diver-level.
4. Show verification of completing the SDI Solo Diver program within the past 24 months either by completing the eLearning course (if available in their language/region) or the diver course with a qualified instructor using printed materials.
5. This rating may be obtained by administrative upgrade, or by completing a course with an SDI Solo Diver Instructor Trainer but the prerequisites remain the same either way.

24.3 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.

24.4 Student Prerequisites

1. SDI Advanced Diver or equivalent.
2. Minimum age 21.
3. Provide proof of 100 logged dives.

24.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.
2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.

Course Structure:

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

24.6 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.

24.7 Training Material

Required Material:

1. *SDI Solo Diver Student Manual* and I.Q. Review or eLearning.
2. *SDI Solo Diver Instructor Guide*.

Optional Materials:

1. *SDI Solo Diver* planning slate.

24.8 Required Equipment

1. Basic open water scuba equipment as described in section three of this manual with exception of a safe second, or octopus, is not allowed as a redundant air source.
2. One of the following must be used to provide an additional independent regulator attached to an air source: pony cylinder, twin cylinders with isolation, H-valve, independent doubles, or SpareAir™.

24.9 Approved Outline

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

1. Why We Must Solo Dive:
 - a. History of buddy diving.
 - b. Pros and cons of buddy diving.
 - c. Pros and cons of solo diving.
 - d. Legal liability assumed by buddy diving.
 - e. How to use the solo diving waiver.
2. Who Must Solo Dive:
 - a. Prerequisites and practicalities.
3. Solo Diving Mentality:
 - a. Self-reliance.
 - b. Self-rescue.
4. When Not to Solo Dive:
 - a. Overhead environments.
 - b. Decompression and deep diving.
5. Equipment for Solo Diving:
 - a. Redundant air sources: pony cylinder, twin cylinders with isolation, independent doubles, SpareAir™.
 - b. Regulators.

- c. Buoyancy compensator devices (BCD).
 - d. Exposure suits.
 - e. Dive knives and other cutting tools
 - f. Surface marker buoys and floatation devices
 - g. Safety reels.
 - h. Underwater navigational tools.
 - i. Current and ascent lines.
 - j. Surface audible signaling devices.
 - k. Dye markers, signal mirrors or flares.
 - l. Emergency position indicating radio beacons (EPIRBs).
 - m. Equipment configuration appropriate for solo diving; streamlining equipment.
6. Planning and Conducting a Solo Dive:
- a. Dive site selection and pre-dive considerations.
 - b. Filing notification of planned dive activities.
 - c. Contingency planning.
 - d. Equipment configuration appropriate for solo diving.
 - e. Gas management.
 - f. Avoiding entanglements.
7. Navigation:
- a. Why navigation skills are important to the solo diver.
 - b. Use of a mechanical compass.
 - c. Electronic compass.
 - d. Underwater diver tracking systems.
8. Management of Solo Diving Emergencies:
- a. Free-flowing regulators.
 - b. BCD inflator malfunctions.
 - c. Mask problems.
 - d. Managing currents.
 - e. Entanglements.
 - f. Unintended decompression obligations.

- g. Panic and stress management techniques.
- h. Use of surface marker buoys and location devices.
- 9. Review the *SDI Solo Diver Liability Release and Express Assumption of Risk Agreement Form*:
 - a. How students use the *SDI Solo Diver Liability Release and Express Assumption of Risk Agreement Form*:
- 10. During training.
- 11. Post training at dive locations.

24.10 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

Swimming skills:

- 1. 200 Metres/600 Feet surface swim in full scuba equipment, configured for local diving conditions; must be non-stop and performed in an open water environment.

Scuba skills:

- 1. Demonstrate adequate pre-dive planning.
- 2. Limits based on personal gas consumption.
- 3. Exact dive and/or no-decompression profile.
- 4. Properly execute the planned dive within all predetermined limits.
- 5. Equipment configuration appropriate for solo diving:
 - a. Streamlining equipment.
 - b. How to use and carry a redundant air supply.
- 6. Proper descent/ascent rates.
- 7. Proper safety stop procedures.
- 8. Monitoring of decompression status equipment; tables, computers, equipment.
- 9. Navigation skills.
- 10. Demonstrate proficiency of navigation with compass.
- 11. Demonstrate emergency change over to a backup regulator or bailout scuba at a depth not exceeding 30 Metres/100 Feet.

12. Deploy surface marker and use of surface audible signaling device.

26. Underwater Navigation Diver

26.1 Introduction

This course is designed to give students a greater understanding and experience on how to properly navigate underwater using both natural and compass navigation.

26.2 Who May Teach

An active SDI Instructor that has been certified to teach this specialty.

26.3 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. The instructor has the option of adding 2 more students with the assistance of an active Assistant Instructor or Divemaster.
3. The total number of students an instructor may have in the water is 12 with the assistance of 2 active Assistant Instructors or Divemasters.

26.4 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent.
2. Minimum age 18, 10 with parental consent.

26.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.

2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.

Course Structure:

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

26.6 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.

26.7 Training Material

Required Material:

1. *SDI Night and Navigation Student Manual and I.Q. Review or eLearning.*
2. *SDI Underwater Navigation Digital Instructor Resource.*

26.8 Required Equipment

Basic open water scuba equipment as described in section three of this manual.

26.9 Approved Outline

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

1. The Aquatic Environment:

- a. Vision.
 - b. Light.
 - c. Sound.
 - d. Tides.
 - e. Currents.
 - f. Waves.
 - g. Surge.
2. Natural Navigation:
- a. Bottom contours.
 - b. Depth.
 - c. Amount of light.
 - d. Surge.
 - e. Currents.
 - f. Underwater objects (rocks, wrecks, etc).
3. Compass
- a. Types.
 - b. Analog.
 - c. Digital.
 - d. Features:
 - i. Lubber line.
 - ii. Bezel.
 - iii. Luminous dial.
 - e. Use of compass:
 - i. Out and back.
 - ii. Squares.
 - iii. Triangles.
4. Estimating Distance Underwater.
5. Kick cycles.
6. Time.

26.10 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

1. Open Water Dive 1:
 - a. Skills are generally done with more success if practiced on the surface from shore. Using the shore or descent line as a starting /reference point makes keeping track of students easier.
 - b. Plan dive.
 - c. Enter water from boat or shore.
 - d. Practice out and back technique on surface and underwater.
 - e. Squares and triangles on surface.
 - f. Perform square and triangle on bottom.
 - g. Practice locating a fixed object underwater by triangulation at the surface.
 - h. Ascend and exit.
2. Open Water Dive 2:
 - a. This dive must be a relaxed practice session. Place objects or use existing underwater formations and set up an underwater course. Let the students try and find all the points based on the direction and distance you give them prior to the start of the dive.
 - b. Plan dive and decide what the best pattern to use for the dive site is.
 - c. Enter and descend.
 - d. Run desired dive pattern.
 - e. Enjoy the sites.
 - f. Ascend and exit.

27. Underwater Photographer Diver

27.1 Introduction

This course is designed to introduce divers to the equipment, techniques, and procedures to take underwater photographs and allow the student to experience and discuss many areas of interest to the underwater photographer.

27.2 Who May Teach

An active SDI Instructor or Assistant Instructor that has been certified to teach this specialty.

27.3 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. The instructor has the option of adding 2 more students with the assistance of an active Assistant Instructor or Divemaster.
3. The total number of students an instructor may have in the water is 12 with the assistance of 2 active Assistant Instructors or Divemasters.

27.4 Student Prerequisites

1. SDI Open Water Scuba Diver, SDI Junior Open Water Scuba Diver, or equivalent.
2. Minimum age 18, 10 with parental consent.

27.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.
2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.

Course Structure:

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

27.6 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.

27.7 Required Equipment

1. Basic open water scuba equipment as described in section three of this manual.
2. Underwater photography equipment applicable to course structure and activities

27.8 Approved Outline

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

1. Underwater Light:
 - a. Variation of light under water.
 - b. Time for best available light photography.

- c. Color correction filtering for depth.
 - d. Strobes vs Video Light.
 - e. Selective color absorption of light.
 - f. Available light and strobe considerations.
 - g. Possible backscatter issues.
- 2. Film Considerations:
 - a. Color balance.
 - b. Grain.
 - c. Resolving power.
 - d. Latitude.
 - e. Contrast.
 - f. Color reversal.
- 3. Digital:
 - a. Capture Media.
 - b. Memory Technology.
 - c. Printing.
 - d. Post Dive Review ability.
 - e. TV vs Computer vs Camera.
- 4. Camera Use in Association with Scuba:
 - a. Types of cameras:
 - i. Housed style.
 - ii. Integral unit.
 - b. Handling of equipment.
 - c. Camera settings:
 - i. Auto vs Manual.
 - ii. Optional settings (as required).
- 5. Photographic Subjects:
 - a. Composition of scene.
 - b. Use of light enhancement.
 - c. Subject ease.
 - d. Use of models.

- e. Marine Conservation awareness.
- 6. Care of Equipment:
 - a. Saltwater care.
 - b. Fresh water care.
 - c. Care of the flooded-housed camera.
- 7. Use of Color Positive Films:
 - a. Ease of development (E—6 processing).
 - b. Mounting.
- 8. Digital Software:
 - a. Downloading images.
 - b. Photo Storage.
 - c. Photo Manipulation.
 - d. Printing & Mounting.

27.9 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following:

- 1. Open Water Dive 1:
 - a. Local dive site to familiarize the student with the equipment and handling.
 - b. Composition to be considered at a beginning point of view.
 - c. Plan Dive.
 - d. Suitable Entry (care to be taken with camera & additional equipment; these may be passed to diver once in the water in conditions & environment allows it).
 - e. Situational awareness (depth, time, air consumption and buddy awareness).
 - f. Photography of subjects as planned.
 - g. Conservational awareness.
 - h. Conduct safe ascent and safety stops.
 - i. Exit.
 - j. Log dive.
- 2. Open Water Dive 2:

- a. Choose a dive site to give the student more application with:
- b. Marine subjects.
- c. Additional light considerations.
- d. Wide coloring.
- e. Stress on safety while within the water environment and attaining good quality subjects.
- f. Both still and moving life subjects shown if possible.
- g. Conduct dive as per above.

A post-dive session should be scheduled for students to review their photographic images and develop self-evaluation techniques.

29. Wreck Diver

29.1 Introduction

Wreck diving can be one of the most exciting aspects of sport diving, however every effort must be made to maximize safe diving techniques. This course will discuss the equipment and techniques commonly employed while wreck diving. This course may be taught as a non-penetration, 2 dives required, or as a limited-penetration course, requiring 3 dives. Limited penetration is defined as a swim through or within the ambient light of entry point.

29.2 Who May Teach

An active SDI Instructor that has been certified to teach this specialty.

29.3 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. A maximum of 8 students per instructor; it is the instructor's discretion to reduce this number as conditions dictate.
2. During the penetration portion of the course, the student to instructor ratio drops to 2 to 1.

29.4 Student Prerequisites

1. SDI Open Water Scuba Diver or equivalent.
2. Minimum age 18, 15 for limited penetration course with parental consent.
3. Minimum age 10 with parental consent for a non-penetration course.
4. Junior Open Water Divers may not participate in any penetration activities or dives deeper than 18 Metres/60 Feet.
5. Divers must have a deep diver specialty certification or be able to provide proof of experience in order to dive deeper than 18 Metres/60 Feet in this course.

29.5 Course Structure and Duration

Open Water Execution:

1. Two dives are required with complete briefs and debriefs by the instructor.
2. The Dive plan must include surface interval, maximum no decompression time, etc. to be figured out and logged.
3. One additional dive must be conducted for a limited penetration certification.

Course Structure:

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

29.6 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.

29.7 Training Material

Required Material:

1. *SDI Wreck, Boat and Drift Diving Student Manual* and I.Q. Review or eLearning.
2. *SDI Wreck, Boat and Drift Diving Instructor Guide*.

29.8 Required Equipment

1. Basic open water scuba equipment as described in section three of this manual.

2. Reel.
3. One audible and one visual signaling device.

29.9 *Approved Outline*

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered.

1. Motivating Statements:
 - a. Why wreck dive.
 - b. Potential benefits.
 - c. Beauty.
 - d. Mysteriousness.
 - e. One man's trash is another man's treasure.
 - f. It's fun.
2. Down lines and surface supports:
 - a. Size.
 - b. Material.
 - c. Surface supports:
 - i. Communications, when and if necessary.
 - ii. Back-up procedures.
3. The Buddy System.
4. Buddy Contact:
 - a. Contact with varied visibility.
 - b. Buddy lines.
 - c. Line signals.
 - d. Buddy positioning in close proximity.
5. Navigation/Charting:
 - a. Usage of the slate:
 - i. Larger than normal.
 - ii. Pre-dive marking.
 - b. Pre-planning the dive using charts, other information.
 - c. Directional determination.

6. Disorientation:
 - a. With/without buddy.
 - b. Lost buddy.
 - c. Light failure.
 - d. Emergency procedures.
7. Special Equipment:
 - a. Lights:
 - i. Primary and backup.
 - ii. Size.
 - iii. Burn time.
 - iv. Usage.
 - b. Knives and cutting devices.
8. Limited Visibility Diving:
 - a. Silt-out.
 - b. Psychological considerations.
9. Light usage:
 - a. Importance of light and backup.
 - b. Dark vision, do not shine light in buddy's eyes.
10. Lifelines and Reels:
 - a. Type of line.
 - b. Tie-offs.
 - c. Directional markers.
 - d. Line handling and reeling must be practiced on land prior to performing this skill underwater.
11. Special Emergency Procedures:
 - a. Safe Wreck:
 - i. As normal, but with considerations for lack of free access to the surface in some cases.
 - b. Hazardous or otherwise unsafe wrecks:
 - i. Must avoid.
 - ii. Don't enter doors blocked.

- iii. Entrance restrictions.
- 12. Mapping the Wreck:
 - a. Vertical.
 - b. Horizontal.
 - c. Feature Identification.

29.10 Required Skill Performance and Graduation Requirements

Students are required to successfully complete the following. Dives 1 and 2 are for the non-penetration certification. In addition to dives 1 and 2, dive 3 is required for limited penetration certification; dive 4 is strictly optional for more experience.

1. Open Water Dive 1:
 - a. Pre-dive review of dive computers.
 - b. Plan dive, to include depth, time and gas consumption.
 - c. Test lights.
 - d. Familiarization with areas.
 - e. Basic charting outside wreck.
 - f. Usage of lines outside wreck, optional.
 - g. Surface and log dive.
2. Open Water Dive 2:
 - a. Plan dive, to include depth, time and gas consumption.
 - b. Figure surface interval.
 - c. Descend.
 - d. Team complete mapping.
 - e. Usage of lines outside wreck, optional.
 - f. Surface and log dive.
3. Open Water Dive 3:
 - a. a. Plan dive, to include depth, time and gas consumption.
 - b. b. Descend.
 - c. c. Usage of lines inside wreck, optional.
 - d. d. Surface and log dive.
4. Open Water Dive 4 (Optional):

- a. Plan dive, to include depth, time and gas consumption.
- b. Planned dive explained.
- c. Dive/explore as determined.
- d. Surface and log dive.

