

NAUI Introduction to Technical Diving (ITD)

OVERVIEW

This course is designed to give the open water or advanced diver an opportunity to improve their skills, knowledge and equipment configuration, thereby increasing their safety and efficiency. Course is also intended to prepare the advanced diver for the rigors of technical diver training. This is an introduction of the skills demonstrated in NAUI Technical courses. Focus is to be on diver's proper buoyancy and trim. Propulsion techniques are introduced to include frog kick, modified flutter kick, helicopter turns and backdowns. Also included is NAUI Technical Equipment Configuration (NTEC), gear inspection, decompression systems utilized in technical dive team applications, and an introduction to overhead environment consideration. Also to be covered is an introduction to support team operations, simulated decompression, lift bag deployment and line reel use.

Graduates are considered competent to enter into a NAUI Technical course as long as all other prerequisites are met. Course gives the open water recreational divers the ability to increase their confidence and skills while remaining within no-decompression limits and by utilizing streamlined and efficient equipment configurations, divers will have the freedom to improve their skills. These divers will be more skilled, aware and responsible. Improving non-technical skills and techniques and building diver confidence are the goals of the course.

ACADEMIC REQUIREMENTS

This course focuses on equipment and skill development. Also included are basic discussions on decompression theory, physics, physiology and medical aspects as applied to planned decompression diving, with special emphasis on mechanisms of bubble formation, a review of inert gas perfusion and diffusion, equivalent narcosis depth (END), advantages of oxygen enriched air mixes for decompression, oxygen toxicity, dive time management. Dive planning considerations to include depth, time, gas mixture, simulated decompression, gas quantities, logistics and contingencies.

The following texts shall be used (an asterik * denotes recommended but not required texts):

"Introduction to Technical Diving" presentation and text by Tim O'Leary
"The Fundamentals of Better Diving" by Jarrod Jablonski*

SCOPE OF COURSE

- The maximum training depths for these dives are 60 fsw
- At least 4 open water dives are required for certification
- Dives must be in a double tank configuration
- Maximum PO₂ is 1.2 atm for working portions of the dive

SKILL REQUIREMENTS

The students are to analyze their own breathing as mixture and to plan and safely execute each dive. Dive planning shall include limits based on gas consumption, oxygen toxicity exposures and inert gas absorption for each dive and breathing gas mixture. Each diver is to demonstrate switching and isolating a malfunctioning regulator, first in confined water, and following adequate practice, at a depth of 33 fsw (10 msw) or less, out of air sharing with five foot (1.5 meter) to eight foot (2.5 meter) hose through a simulated restriction, underwater

navigation appropriate to the dive plan, and deployment of lift bag. Each diver shall participate in and demonstrate expertise in NAUI Technical Equipment Gear Configuration (NTEC). Each diver will also participate in a diver rescue simulation to include management of a diver experiencing oxygen toxicity underwater, and out of gas scenarios.

EQUIPMENT REQUIREMENTS

For purposes of safety, uniformity of instruction and functionality, gear configurations for water work and training exercises must be the same for instructors and students. Standardized rigging of bottom and stage cylinders, isolation manifolds, cylinder gauges, inflators, primary regulators, and backup regulators is crucial to the safety, success and effectiveness of technical diver training. NTEC specific configurations of technical diving equipment, that is, its organization and placement on the diver, are presented in NAUI support materials for each technical course.

Cylinders:

- Double cylinders with a dual manifold and isolation valve. DIN valves are mandatory. Your cylinders may be steel or aluminum; aluminum cylinders are recommended if diving in a wetsuit. You should be able to physically manage your choice of cylinders.
- At least 1 stage cylinder of 40 ft³ or greater for decompression gas with stage rigging. The cylinder should be oxygen clean. Use of steel stages is prohibited. DIN valves are recommended.
- Argon and/or air inflation systems for drysuit diving are necessary. Helitrox is inappropriate for suit inflation. Six to 13 ft³ aluminum/steel cylinders are acceptable for this purpose.

Regulators:

- Back cylinder configuration: two first stages with each supplying one second stage. The primary regulator's first stage is attached to the right post of the manifold and has a 7-foot hose leading to the second stage. The low-pressure inflator to the BCD wings should come off of the primary first stage (right post). The back up regulator is attached to the left post and supports the one SPG (no consoles).
- Oxygen cleaned regulator and SPG for the stage bottle.
- Argon regulator: first stage must have an over pressure relief valve.

Buoyancy Compensators:

- Standard single bladder wings of 55-lb lift are adequate for most individuals diving double tanks. For single tanks 35-40-lb lift is usually appropriate. NAUI discourages the use of overly large, dual bladder wings and the bungee cord used to control them. A stainless steel or aluminum backplate is recommended.

Instrumentation:

- Each diver needs one depth device and one timing device. A wrist mounted digital bottom timer/depth gauge is the best choice for technical diving.
- Compass

Exposure Suits:

- A dry suit with a separate suit inflation system is required. The inflation first stage must be equipped with an over pressure relief valve.

Other Equipment:

- Mask/fins (no snorkel).
- One cutting device required, with two recommended.
- Underwater writing device such as a slate or wetnotes.
- Two lift bags (50 to 100 lb lift) and one primary reel with at least 200 ft of line.
- One safety reel or spool with at least 100 ft of line.
- Two lights (3 lights if in wreck penetration standards)

PREREQUISITES FOR ENTERING THE COURSE

Age. Minimum is 18 years. **Certification:** NAUI Advanced Scuba Diver, NAUI EANx **or equivalent level.** These requirements can be modified or amended during pre-course interview and/or screening dive.

- Medical clearance and physically fit
- Nonsmoker
- Minimum of 25 logged dives with at least 5 (beyond certification) using EANx.

For pricing see the NAUI Training Rate Sheet.