



## IANTD

### Advanced Wreck and Technical Wreck

5+ Days

Costs include:  
Extra coasts:

Boat trips, Gas mixes  
Equipment, Certification, Manual

#### A. Purpose

1. This Program is designed to train divers in extended wreck penetration diving and the technical utilization of EANx for wreck exploration and the use of EANx and oxygen for decompression.

#### B. Prerequisites

1. Must be qualified as an IANTD Deep Diver or equivalent. For Technical Wreck Diver Program, must also be qualified as an IANTD EANx Diver.
  2. Must provide proof of a minimum of 70 logged dives or sufficient experience doing technical dives to satisfy the instructor that the student has the ability and knowledge to continue into this level of training.
- or
3. A minimum of 40 logged dives with qualification as IANTD Wreck or Cavern Diver. If dives in the course below 130 fsw (39msw) are planned the diver must have 100 logged dives.
  4. Must be a minimum of 18 years of age.

#### C. Texts

1. *IANTD Wreck Diver Student Manual & Workbook*, or equivalent text(s) approved in writing by the Board of Directors (written approval will be issued by IAND, Inc./IANTD World Headquarters).

**Additionally, if Technical Wreck Diver Program is taken concurrently:**

2. *IANTD Technical Student Workbook*.
3. *IANTD Technical Diving Encyclopedia*.

#### D. Program Content

1. This course may be taught in conjunction with a Normoxic Trimix or Trimix Diver course.
2. This Program must include a minimum of 150 minutes of bottom time completed within at least 6 wreck penetration dives. At the Instructor's discretion, dives may be credited as specified in the Standards. With maximum crediting of dives from other Technical Diver Programs (Cave, Technical Diver and Trimix) or experience, a minimum additional 100 minutes of bottom time must be completed on wreck dives.
3. To complete the course within the minimum specified dives students must have an average of 8 points (out of 10) on the watermanship evaluations. With 2 or more additional dives the student may graduate from the course with an overall average score of 6 points.
4. Land Drills:
  - a. Basic use of safety lines and reels will be performed on land.
  - b. Simulation of wire entanglement will be practiced.

#### E. Equipment Requirements

1. All students must be taught the concept of gas matching.
2. All bottom mix tanks must be equipped with dual-outlet manifold valves. Independent cylinders may not be used. If a rebreather is used, it must be equipped with adequate bailout.
3. A stage decompression cylinder containing oxygen or an EAN mixture with at least 50% oxygen, and appropriately labeled.
4. Two Primary regulators must provide ample gas flow. One second-stage hose must be at least 5 feet (1.5 meters) in length; longer hoses are recommended.
5. A primary BCD is required and a backup BCD is recommended. Back flotation is recommended. If a dry suit is used, it may serve as the backup BCD.
6. Submersible dive tables as a backup to a dive computer or for control of the dive at the Instructor's discretion. If computers are used, it is recommended that two computers be used on planned decompression dives.
7. Two reels: one for penetration and one for decompression / lift bag deployment.
8. A lift bag of at least 50-lb (22.5-kg) lift capacity for a decompression marker.
9. Two lights: one primary light (minimum 20 watts) and one backup safety light.
10. Compass.
11. Bolt snap hooks are recommended for all equipment attached to divers, as they are less prone to entanglement.
12. A backup cutting tool is recommended.

## **F. Program Limits**

1. No dives may be conducted to depths greater than the qualification of the student, or 170 fsw (51 msw), whichever is shallower.
2. Oxygen partial pressure may not exceed 1.40 ATA during the working portion of the dives, nor exceed 1.61 ATA during the decompression portion of the dives. For the Technical Wreck Diver Program, a minimum of 6 dives must be completed using EANx with at least 23% oxygen.
3. Decompression Gas mixtures:
  - a. Air-qualified divers may breathe EAN 32 during decompression, if briefed on its use.
  - b. EANx-qualified divers may breathe up to EAN 40 during decompression.
  - c. Advanced EANx-qualified divers may breathe up to EAN 50 during decompression.
  - d. Technical Divers or students enrolled in the Technical Wreck Program may breathe any EANx mixture or oxygen during decompression and use accelerated decompression schedules accordingly.
4. All dives must be completed within both the IANTD oxygen CNS% and OTU limits (Technical Wreck Diver Program only).
5. The Rule of Thirds must be applied from the point of entering the overhead environment until safe exit from the overhead environment portion of the dive.
6. All appropriate safety or required decompression stops must be performed.

## **G. Water Skills Development**

1. A confined water session must be completed before conducting any wreck penetration dives.
2. Perform a pre-dive "S" (safety) drill prior to starting dive. Check all equipment for proper function, check equipment of each dive buddy. Ascertain each team member is familiar with use and location of dive system components.
3. Perform an in-water "S" (safety) drill (on surface or sub-surface if sea conditions permit, or immediately when reaching the bottom).
  - a. Leak-check each team member's equipment.
  - b. Breathe underwater from both / all regulators to ensure proper functioning.
  - c. Perform light checks.

- d. Perform valve shutdowns combined with regulator switches including shutting both regulators.
- e. If isolator valves are used, these are also to be closed and then re-opened.
- f. Buddies should check that all valves are back in proper position at end of drill.
- g. On first dive with new partner, perform a gas sharing drill.
4. Communicate the gas turn around point in psig and if the divers are wearing different cylinder sizes, match gas per the SRF tables or per dissimilar tank volumes. This can be divided between on board the boat and upon first arrival on the bottom.
5. Confined or OW: Swim 60 feet (18 meters) while simulating an out-of-gas situation, then commence gas sharing via the long hose, remain at rest for three breaths, and swim for 10 minutes at a normal swim rate of 75 feet (23 meters) a minute (static water swim rate).
6. Confined or OW: Two divers 50 feet (15 meters) apart must swim along a line circuit with eyes closed not taking a breath, while slowly exhaling until they meet. Upon meeting gas sharing via the long hose combined with touch contact is to be performed until the line circuit is completed.
7. Develop proficiency in a variety of propulsion techniques including cave frog kick, modified flutter kick, shuffle kick, and pull and glide technique.
8. Demonstrate proficiency in use of reels and lines.
9. During a wreck dive, at a point after turning the dive, perform a gas sharing drill exiting the wreck for a reasonable distance / time. Exercise is to commence with Instructor at some point randomly selecting the out of air diver, who must then go to the buddy and share gas. The out-of-gas diver is to keep the regulator in his or her mouth (leaving airway open) but not breathe from it if at all possible. This drill is to be repeated on different dives until all students have been both a donor and a recipient of gas.
10. On a wreck dive, exit wreck with eyes closed or lights of maintaining contact with buddy and dive line using touch communications.
11. Repeat previous drill, except at some point the Instructor will choose one of the divers to simulate being out of gas. The out-of-gas diver must communicate the problem to a buddy via touch contact, and gas sharing is to be performed for a reasonable distance. Repeat this skill until all students have been both a donor and recipient of gas.
12. Perform lost diver drills.
13. Demonstrate either on a wreck dive or in confined water the ability to drop and recover a stage cylinder. This may be the tank used as a decompression tank or an actual penetration stage cylinder.
14. On at least three dives, the student must simulate a regulator failure and, while swimming, shut off the valve for the primary regulator and switch to the secondary regulator. Upon completion, the diver is to turn on the valve for the primary regulator and switch back to it. A buddy should act as safety diver during this drill.
15. If a Rebreather is used, the appropriate modifications to the above skills must be made.