

17. Cavern Diving Instructor

17.1 Introduction

The purpose of this program is to evaluate a candidate instructor with respect to the following criteria:

1. Level of knowledge, professionalism and proficiency in presenting a comprehensive TDI Cavern Diver program
2. Proficiency in demonstrating the required land and water skills
3. Overall attitude toward safety, both for the instructor and their student
4. Reducing the long-term environmental impact of our sport by the developing skilled, efficient and well educated divers
5. Possessing a thorough knowledge of the standards and procedures of TDI

17.2 Qualifications of Graduates

Upon successful completion of this program, graduates will be authorized by TDI to teach and certify students in the TDI Overhead Environment/ Cavern Diver course

17.3 Who May Teach

This program may be conducted by the TDI Headquarters Training Staff and/or a senior instructor who has been approved by TDI Headquarters to evaluate instructor candidates

17.4 Student to Instructor Ratio

Academic

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

Overhead Environment Training

1. The maximum candidate to instructor trainer ratio is 3:1

17.5 Student Prerequisites

1. Minimum age 21
2. Certified as an open water instructor in active teaching status with an internationally recognized scuba training agency for at least 1 year
3. Have a minimum certification of TDI Nitrox Instructor or equivalent; a TDI Full Cave certification or equivalent (NACD or NSS-CDS)
4. Provide proof of at least 100 full cave dives
5. Provide proof of teaching a minimum of 4 TDI courses and assisting with a minimum of 1 complete TDI Cavern Diver course with 1 active TDI Cave Diver Instructor.
6. Provide recommendation from a TDI Cave Instructor with which the candidate has assisted in cavern training classes and stating that the candidate is prepared for the instructor evaluation program



17.6 Course Structure and Duration

Water Execution

1. TDI allows the instructor trainers to structure programs accordingly; adequate time to ensure comprehension and ability to perform skills required

Program Structure

1. Candidates must participate in a minimum of 2 supervised cavern dives

Duration

1. Minimum time of 15 hours

Limits of Training

1. Minimum cylinder size: 22.2 litres /160 cubic feet
2. Maximum penetration: 1/3 of a single cylinder.
3. 61 linear metres / 200 linear feet from the surface
4. Minimum starting pressure: 6 litres / 52 cubic ft of volume
5. Maximum depth: 30 metres / 100 feet
6. Minimum starting visibility: 12 metres / 40 feet
7. Daylight zone: within sight of the surface entrance
8. No restrictions (areas too small for two divers to pass side-by-side)
9. No decompression diving, safety stops as appropriate or necessary

17.7 Administrative Requirements

The following are the administrative tasks:

1. Collect the course fees from all the instructor candidates.
2. Ensure that the instructor candidates have the required equipment
3. Communicate the training schedule to the instructor candidates
4. Have the instructor candidates:
 - a. Complete the *TDI Liability Release and Express Assumption of Risk* form
 - b. Submit the *TDI Medical Statement* form signed by a licensed physician

Upon successful completion of the course the instructor trainer must:

1. Issue the appropriate TDI certification by submitting the appropriate TDI Dive Leader Registration form to TDI Headquarters

17.8 Required Equipment

Required Reading:

1. *TDI Diving in Overhead Environments* Manual
2. *TDI Diving in Overhead Environments* Instructor Guide
3. *TDI Diving in Overhead Environments* Instructor Resource CD (Optional)

Suggested Reading:

1. *NACD Art of Safe Cave Diving*
2. *Basic Cave Diving – A Blueprint for Survival*
3. *Caverns Measureless to Man – Sheck Exley*

Equipment Requirements

1. Primary cylinders, minimum volume size is 22.2 litres / 160 cubic feet, a manifold system recommended
2. Mask, low volume recommended
3. Fin straps taped or reversed if applicable
4. Appropriate cylinder harness and buoyancy compensator device (BCD) with automatic low pressure inflator
5. Two completely independent first and second stage regulators; one regulator having an approximately 2 metre / 7 foot hose, one first stage regulator having a submersible pressure gauge and low pressure hose for buoyancy compensator device
6. Three battery powered lights consisting of:
 - a. A primary light with illumination sufficient for the environment and an expected burn time appropriate for the planned dive
 - b. Two back up lights, each having an expected burn time suitable for the planned dive
7. Exposure suit, adequate for the diving environment
8. Watch or bottom timer and a depth gauge; a dive computer may be used in place of one or both)
9. Computer and/or submersible dive tables, both are recommended
10. Slate or wet notes and pencil
11. Small knife or other suitable line cutting device
12. Safety reel with a minimum of 37 metres / 125 feet of guideline
13. One primary cave diving reel with approximately 107 metres / 350 feet per team
14. Three directional line arrows
15. One non-directional marker
16. It is recommended that the instructor have oxygen (O₂) and a first aid kit for surface support; adequate drinking fluids for all students to prevent dehydration is recommended

NOTE: The instructor candidate must be in full cave equipment configuration for all water activities.

17.9 Required Subject Areas

1. Policy of Cavern Diving
2. Gas Matching Procedures/Management
3. Accident Analysis
4. Psychological Considerations
5. Equipment Considerations
 - a. Body posture and buoyancy control
 - b. Communication
 - c. Hand signals
 - d. Light signals



6. Touch Contact
7. Swimming Techniques
8. Review of Problem Solving
 - a. Accident analysis
 - b. Equipment failure scenarios
 - c. Emergency procedures
 - d. Body posture/trim
 - e. Buoyancy control
 - f. Line following
 - g. Propulsion techniques
9. Review of Dive Tables/Computers
10. Physiology
 - a. Breathing techniques
 - b. Stress management
11. Cave Environment/Conservation
12. Land Owner Relations
13. Local Access Requirements

17.10 Required Skill Performance and Graduation Requirements

The instructor candidates are required to demonstrate the cave diver land/safety drills as described in the *TDI Diving in Overhead Environments* materials. Candidates will teach and encourage cave manners and proper etiquette at all times.

1. Proper use of reels; primary, safety
2. Simulated situations/emergencies including:
 - a. Air sharing
 - b. Line entanglement
 - c. Broken or cut guideline
 - d. Primary light failure
 - e. Valve-regulator failure
 - f. Fin and mask failures
3. Communication
 - a. Light
 - b. Hand and touch
4. Candidates are required to present a minimum of 2 lectures, 1 prepared and 1 impromptu, from the *TDI Diving in Overhead Environments* Diver materials

Candidate must be proficient with the following in-water skills during cavern dives, and must demonstrate and conduct the student through a selection of the following:

1. Dive planning to include conservative decompression procedures and proper diver etiquette on all dives
2. Pre-dive briefing, air supply and equipment matching, bubble check, air-sharing, and post-dive critique
3. Buoyancy control, body posture, and propulsion techniques



4. Communication with use of light/hand signals
5. Air-sharing drill in
 - a. Full visibility situation
 - b. A lights out, eyes closed situation using a single-file swimming method and touch contact
6. Line following, eyes closed, touch contact drill
7. Use of reels; primary and safety
8. Demonstrate proper stress identification and countermeasures

NOTE: All situation/emergency drills are to be conducted during the exit of all dives.

NOTE: A continuous guideline to open water must be maintained on all cavern dives.

In addition to the above, the candidate must:

1. Complete the TDI Diving in Overhead Environments Instructor written examination with a minimum score of 80 percent and 100 percent remediation
2. Complete all land drills and course requirements safely and efficiently
3. Demonstrate mature, sound judgment concerning dive planning and execution
4. Maintain an appropriate level of awareness and respect for the cave environment
5. Receive the recommendation for certification by the TDI Training Director

Note: An irresponsible or cavalier attitude is sufficient grounds to deny certification.

Candidate Ratings:

1. **Pass:**
The candidate may teach and certify students for the TDI Cavern Diver course, after proper processing of paperwork through TDI Headquarters.
2. **Provisional:**
The candidate requires additional development before teaching courses at this level of training. The candidate must provide proof to the training director when he meets developmental improvements according to TDI Standards. The candidate will not have to repeat the evaluation program.
3. **Failure:**
It is the opinion of the training director that the candidate is not ready to conduct training courses at this level. The candidate will be required to obtain more experience and repeat the evaluation program. Certification may be denied if it is determined that the program was not conducted according to the standards established by TDI.

17.11 Renewal Requirements

1. Have certified at least 4 TDI Cavern Divers
2. Taught a minimum of 2 complete courses
3. Logged a minimum of 15 non-training cave dives