20. Full Cave Diving Instructor

20.1 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 Cave Diving course
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 *TDI Standards and Procedures*

20.2 Qualifications of Graduates

Upon successful completion of this program, graduates will be authorized by TDI to teach and certify students in the following areas:

1. TDI Overhead Environment/ Cavern Diver course
2. TDI Introductory Cave Diver course
3. TDI Cave Diver course

20.3 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.

20.4 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 ratio is 3:1

20.5 Student Prerequisites

1. Minimum age 21
2. Be a certified as an open water instructor in active teaching status with an internationally recognized scuba training agency for at least 2 years
3. Have a minimum certification of TDI Intro to Cave Instructor or equivalent , with active teaching status
4. Provide proof of at least 200 full-cave dives
5. Provide proof of teaching a minimum of 3 TDI Intro to Cave Diver courses
6. Provide proof of assisting with a minimum of 1 complete TDI Full Cave Diver course with an active TDI Full Cave Diver Instructor
7. Provide recommendation from a minimum of 1 TDI Full Cave Diver Instructor with whom the candidate has assisted in cave training, stating the candidate is prepared for the TDI Full Cave Diver Instructor Evaluation Program.

The TDI Full Cave Diver Instructor candidate must work with a minimum of 1 TDI Full Cave Diver Instructor and 1 TDI Full Cave Evaluator. The final TDI Full Cave Evaluator cannot give the candidate's recommendation to enter in the TDI Full Cave Diver Instructor course.

20.6 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 TDI supervised cave 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 the double cylinder volume
3. Minimum starting pressure: 6 litres / 52 cubic ft. of volume
4. Maximum depth: 40 metres / 130 feet
5. Decompression allowed when required

20.7 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

20.8 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 a long 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 minimum burn time appropriate for the dive
    b. Two backup lights, each having an expected burn time suitable for the planned dive time
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. Jump/Gap reel with approximately 15 metres / 50 feet of guideline
15. Three directional line arrows
16. One non-directional marker
17. It is recommended that the team pre-position decompression cylinders approximately 1 stop deeper than their planned decompression depth in any dive where decompression is planned. Cylinders should be clearly marked, easily identifiable (even in no visibility conditions) and incorporate a regulator and submersible pressure gauge.

Note: All the instructor candidates must be in full cave equipment configuration for all water activities.

20.9 Required Subject Areas

1. Decompression Theory and its Application to the Special Needs of Cave Diving
2. Gas Matching Procedures/Management
3. Accident Analysis
4. Psychological Considerations
5. Equipment Considerations
    a. Cylinder options
    b. Regulator options
    c. Buoyancy compensator device (BCD)/harness options
    d. Reel options
    e. Equipment configurations
6. Body Posture and Buoyancy Control

7. Communication
    a. Hand signals
    b. Light signals
    c. Touch contact
8. Swimming Techniques
9. Review of Problem Solving
    a. Accident analysis
    b. Equipment failure scenarios
    c. Buoyancy control
    d. Line following
    e. Propulsion techniques
10. Review of Dive Tables/Computers
11. Physiology
    a. Breathing techniques
    b. Stress management
12. Cave Environment/Conservation
13. Land Owner Relations
14. Local Access Requirements

20.10 Required Skill Performance and Graduation Requirements

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

1. Proper use of reels; primary, safety, jump and gap
2. Circuits, traverses, T's, jumps and gaps
3. Simulated situations/emergencies including:
    a. Air sharing
    b. Lost guideline
    c. Lost diver
    d. Line entanglement
    e. Broken or cut guideline
    f. Primary light failure
    g. Valve/regulator failure
    h. Fin and mask failures
4. Communication:
    a. Light
    b. Hand and touch
5. 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 introductory cave dives. Candidates must proficiently 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. Demonstrate adequate pre-dive briefing, air supply and equipment matching, bubble check, air-sharing, and post-dive critique
3. Buoyancy control, body posture, and propulsion techniques
    a. Air-sharing drill in:
    b. Full visibility
4. A lights out situation, touch contact, exiting cave through a restriction using a single file swimming method
5. Lost diver and lost line drills
6. Proper use of reels and guideline; circuits, traverses, jumps and gaps and emergency drills
7. Proper use and reading of line arrows and non-directional markers
8. Proper stress identification and countermeasures
9. Primary light failure drill, exit on back-up
10. Lost line and lost diver drills
11. Propulsion techniques for heavy outflow

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 cave dives.

In addition to the above, the candidate must:

1. Complete the TDI Diving in Overhead Environments examination with a minimum score of 80 percent with 100 percent remediation
2. Complete all land drills and cave diving 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 training director

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

20.11 Renewal Requirements

1. Have certified at least 4 cavern or TDI Intro to Cave Divers and at least 2 cave divers
2. Taught a minimum of 3 complete courses
3. Logged a minimum of 15 non-training cave dives