

## 19. Intro to Cave Diver

### 19.1 Introduction

This course is an introduction to the basic principles of cave diving utilizing a single primary guide line. Introductory cave diving is the second level in the development of safe techniques for cave diving, directly building upon the cavern diver course. This introduction to cave diving is not intended to train divers for all facets of cave diving. The objective of this course is the perfection of skills taught in the cavern diving program, in addition to the adoption of additional techniques and procedures required for elementary cave dives.

### 19.2 Qualifications of Graduates

Upon successful completion of this course, graduates may engage in single guideline cave diving activities without direct supervision provided the graduates adhere to the following limits:

1. Penetration is limited to 1/3 of a single diving cylinder or 1/6th if using double cylinders
2. 40 metres / 130 feet maximum depth
3. No decompression diving
4. No restrictions; no areas too small for 2 divers to pass side-by-side
5. Maintain a single continuous guideline
6. Proper cave diving equipment is used
7. No removal of life support equipment shall be permitted within the overhead environment

Upon successful completion of this course, graduates are qualified to enroll in:

1. TDI Cave course

### 19.3 Who May Teach

Any active TDI Intro to Cave Instructor may teach this course

## **19.4 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

### **Confined Water (swimming pool-like conditions)**

1. N/A

### **Cave Dives**

1. A maximum of 3 students per active TDI Instructor are allowed
2. The ratio should be reduced as required due to environmental or operational constraints

## **19.5 Student Prerequisites**

1. Minimum age 18, 15 with parental consent
2. Provide proof of certification as a TDI Cavern Diver or equivalent or be currently enrolled in a TDI Cavern course

## **19.6 Course Structure and Duration**

### **Water Execution**

1. Minimum of 4 single guideline cave dives with a total bottom time of 100 minutes conducted at 2 different sites

### **Course Structure**

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

### **Duration**

1. The minimum number of classroom and briefing hours is 4
2. Course must be taught over 2 days
3. If this course is combined with the TDI Cavern Diver course, a minimum of 3 days, 8 dives and 180 minutes bottom time is required. All skills from the TDI Cavern course must be completed before any dives can be conducted beyond the natural light zone. A minimum of 2 cavern dives and a minimum of 4 intro cave dives must be conducted in the combined courses.

## 19.7 Administrative Requirements

**The following are the administrative tasks:**

1. Collect the course fees from all the students
2. Ensure that the students have the required equipment
3. Communicate the training schedule to the students
4. Have the students complete the:
  - a. *TDI Liability Release and Express Assumption of Risk Form*
  - b. *TDI Medical Statement Form*

**Upon successful completion of the course the instructor must:**

1. Issue the appropriate TDI certification by submitting the *TDI Diver Registration Form* to TDI Headquarters or registering the students online through member's area of the TDI website

## 19.8 Required Equipment

**The following are required for this course:**

1. *TDI Diving in Overhead Environments* Manual (or TDI Overhead eLearning course)
2. *TDI Diving in Overhead Environments* Instructor Guide

**Other suggested reading materials:**

1. *Basic Cave Diving – A Blueprint for Survival*
2. *Cavern Measureless to Man*

**The following equipment is required for each student:**

1. Primary cylinder(s); volume appropriate for planned dive and student gas consumption
2. Dual-orifice (Y) or (H) valve, double cylinders or dual valve manifold
3. Two independent first and second stage regulators; one regulator equipped with a long hose
4. Submersible pressure gauge
5. Buoyancy compensator device (BCD) with power inflator
6. Exposure suit adequate for diving environment
7. Mask and fins
8. Line cutting device
9. Three battery powered lights; 1 primary and 2 back-ups, each with a with burn time suitable for the planned dive time
10. Safety reel/spool with a minimum of 37 metres / 125 feet of guideline

11. One primary reel for the team with length appropriate for intended dive
12. Computer, watch or bottom timer and depth gauge
13. Slate or wet notes with a pencil
14. Submersible dive tables or backup dive computer
15. Three directional line arrows

**Instructor must use full cave diving equipment during all water exercises**

## **19.9 Required Subject Areas**

**The following topics must be covered during this course:**

1. Policy for Cave Diving
2. Gas Matching Procedures and Management to Include Dissimilar Volumes
3. Psychological Considerations
4. Equipment Considerations
  - a. Cylinder options
  - b. Regulator options
  - c. Buoyancy compensator device (BCD) / harness options
  - d. Reel options
  - e. Proper weighting
  - f. Equipment configurations
5. Communication
  - a. Hand signals
  - b. Light signals
  - c. Touch contact signals
6. Swimming Techniques
  - a. Body posture/ trim
  - b. Buoyancy control
  - c. Line following
  - d. Propulsion techniques
7. Physiology
  - a. Breathing techniques
  - b. Stress management
8. Cave Environment
  - a. Geology
    - i. Bottom
    - ii. Ceiling
  - b. Local access requirements
  - c. Land owner relations
9. Conservation

10. Problem Solving
  - a. Emergency procedures
  - b. Equipment failure
  - c. Silting conditions
11. Accident Analysis
12. Review of Dive Tables and Decompression Theory
13. Cave Diving Etiquette

## **19.10 Required Skill Performance and Graduation Requirements**

**The following land drills must be covered during this course:**

1. How to properly deploy a guideline
2. How to properly follow a guideline
3. Use of safety reel in lost diver procedures
4. Use of safety reel in lost line drill

**The student must perform the following S-drill and skills during all dives:**

1. Demonstrate:
  - a. Adequate pre-dive planning
  - b. Equipment check and equipment matching
  - c. Bubble check
  - d. Specialized propulsion techniques in varying types of flow
  - e. Proper buoyancy control
  - f. Proper body posture
  - g. Proper stress analysis (detection and management)

**The student must perform the following in-water skills during cave dives:**

1. Properly deploy a guideline
2. Properly use line markers
3. Properly follow a guideline with eyes open and closed, simulating loss of visibility
4. Air share with a buddy with eyes open, following the guideline
5. Air share with a buddy with lights off or simulating lights off, using touch contact, following the guideline
6. Remove and replace mask while in contact with guideline
7. Demonstrate light / hand -signals and touch contact
8. Conservation and awareness techniques

9. Referencing as back-up navigation
10. Demonstrate adequate anti-silting techniques
11. Simulate a primary light failure, and use back light to exit the cave
12. Demonstrate lost line and lost diver drills

**In order to complete this course, students must:**

1. Satisfactorily complete the TDI Intro Cave Diver Course written examination
2. Perform all land drills and cave dive 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 cavern environment
5. Log all dives