

# Cave Diver Course Level I

## OVERVIEW

This course is to provide the diver with the skills and knowledge needed to gain experience and minimize risks while conducting limited-penetration, simple navigation cave dives that do not exceed 100 fsw (30 msw) and are within no-decompression limits.

## QUALIFICATIONS OF GRADUATES

Upon successful completion of this course, graduates are considered competent to plan and execute limited penetration, simple-navigation cave dives that are within no decompression limits without direct supervision, provided the diving activities and the areas dived approximate those of training.

## PREREQUISITES FOR ENTERING THE COURSE

- Minimum age of 18.
- Minimum certification as a NAUI Advanced Scuba Diver and Nitrox Diver or their equivalent with a minimum of 75 logged dives.

## COURSE POLICIES

- Classroom hours- twelve are estimated
- A minimum of ten cave dives will be conducted in at least three different sites. At least seven of these dives will be beyond the cavern zone.
- The student must satisfactorily demonstrate equipment configuration and management during an assessment dive and complete the NAUI cave diver skills check list.
- There must be a continuous guideline to open water when diving in a cave.
- A minimum starting gas supply of 140 cubic feet (3965 liters).
- Any dive must be turned and the exit initiated when the instructor has lost visual integrity with any student due to degraded visibility.
- Any dive must be turned and the exit initiated when any piece of equipment fails.
- Penetration beyond the cavern zone is not allowed until the student has demonstrated proper buoyancy control and trim while deploying a reel and managing a primary light.
- The maximum depth in this course may not exceed 100 fsw (30 msw) and depth and duration must not exceed the no-decompression limits.
- Complex navigation with more than two navigational decisions is not allowed.
- One staged cylinder will be carried into the overhead environment and available for the team.
- At no time will passage be allowed through a restriction that requires gear removal.

## EQUIPMENT

For purposes of safety, uniformity of instruction, and functionality, instructor and students are required to utilize, at a minimum, the NTEC gear configuration required for a cave diver.

- Three directional markers and two non-directional markers.

- Dive knife/tool or line cutting device.
- Back mounted double cylinders with a dual-outlet isolation manifold, containing at least 140 cubic feet (3965 liters) of gas. Cylinder capacities must be appropriate for the planned dives.
- Two regulator systems properly cleaned and labeled as required for the breathing gas mixtures involved.
- Back mounted “wing” style buoyancy compensator with at least 50 pounds of lift.
- Redundant underwater lights, minimum of three, one primary and two backups.
- One primary penetration reel per team with at least 300 feet (91 meters) of line.
- One safety spool with a minimum of 100 feet (30 meters) of line per diver.
- Jump/gap reels or spools as required.
- Additional optional student diver equipment as required.

## **SKILL REQUIREMENTS**

**Land drills include:** Student demonstration of proficiency in the use of spools and reels while

handling a light, team and line placement procedures, safety spool deployment for lost diver and lost line procedures, zero visibility/touch contact communications while following a line, jump/gap reel or spool deployment with navigational aids.

**Diving skills:** If EANx is used, students are to analyze their own breathing gas mixture and plan and safely execute each dive. Dive planning shall include limits for gas consumption following the rule of thirds, oxygen toxicity exposures, inert gas absorption based on depth and time within the no-decompression limits, penetration distance within cave diver limits, and diver comfort. Safety drills are to be performed at the beginning of every dive to include equipment check, dive plan and limitation review, bubble check, and gas sharing. In open water each student must demonstrate following a guideline with touch contact communications while sharing gas and simulating zero visibility, comfort while following a line without a mask, proper horizontal buoyancy control and trim while hovering without propulsion, the ability to propel backward for 10 feet (3 meters), and the ability to turn 360 degrees in a stationary horizontal position. A simulated primary regulator failure, performing isolation, shutdown and switch over procedure within 15 seconds. Rescue of a diver simulating oxygen toxicity. In the cavern zone each student must demonstrate guideline deployment and removal techniques including team position responsibilities and roles, modified frog, modified flutter and “pull and glide” propulsion techniques, a simulated primary light failure, deployment of a backup light, and exit within the dive team protocol (while maintaining proper buoyancy and trim), proper performance of a lost teammate drill, and proper procedure for a lost line drill. In the cave each student must demonstrate the ability to install a jump/gap reel or spool with the proper navigational indicators, share gas with a simulated out-of-gas teammate and swim a distance of at least 100 feet (30 meters) while maintaining proper buoyancy and trim, simulate a primary light failure and proper deployment of a back up light while maintaining proper buoyancy and trim. In a simulated zero-visibility situation, with a simulated out-of-gas teammate, maintain touch-contact communications and swim a distance of 100 feet (30 meters) while maintaining contact with the guideline.

## **ACADEMIC REQUIREMENTS**

Coverage is to include land owner relations and conservation, diving limitations including the rule of thirds and dissimilar sizes, accident analysis, cave formation and terminology, hazards associated with cavern/cave diving, NAUI Technical Equipment Configuration (NTEC), task loading, stress, perceptual narrowing, panic, dive time management within the no decompression

limits, propulsion techniques, i.e., anti-silting, guidelines, cave navigation with multiple guide lines, communications, problem solving and emergency, use of maps for dive planning, single-file passage, and remediation of specific subject knowledge as needed.