The Cave Diving Section of National Speleological Society (NSS-CDS)

2015 Standards and Procedures

Revision 2015-2, dated 11-7-2015. This document, Standards and Procedures 2015, supersedes all previous versions.

Important Copyright Notice: This document, in its entirety, is Copyright (©) 2015 by the National Speleological Society Cave Diving Section (NSS-CDS). It is protected under USA and International copyright law and intended for the sole use of current NSS-CDS Instructors. *This document may not be reproduced or distributed in any manner, printed or electronic, without the express, written consent of the NSS-CDS.* Violations will be prosecuted to the full extent of the law.

Table of Contents

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

NSS-CDS Training Policies and Standards

1.1 NSS-CDS Training Program: Purposes and Goals

A. The primary purposes of the Cave Diving Section of the National Speleological Society (NSS-CDS) are to educate the general public in the proper procedures and techniques for participating in cavern or cave diving while simultaneously protecting

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

the cave(rn)s from harm. Formal training stresses the importance of cave conservation in addition to safe diving practices and procedures. The NSS-CDS is committed to the safe and proper enjoyment of the cave environment. The NSS-CDS believes that with proper training and guided experiences one can visit underwater caves in a safe manner. Further, we believe that a properly trained cave diver will significantly reduce the damage that can be caused to the cave environment and its unique features.

B. The goals of the NSS-CDS Training Program include:

1. Establish and maintain standards and procedures for the training of scuba divers in cavern and cave diving.
2. Establish and maintain standards and procedures for the development of cavern and cave diving instructors.
3. Develop and make available outlines and other educational support materials for cavern and cave diving training.

1.1.1 NSS-CDS Training Program: Disclaimer

The NSS-CDS, NSS-CDS Board of Directors, NSS-CDS Training Committee Chairman, NSS-CDS Training Committee and any associated party or committee cannot accept responsibility for any injury or accident resulting in the use or misuse of the information contained in the NSS-CDS Standards and Procedures, NSS-CDS Student Workbook or any other NSS-CDS course, program or training materials.

The NSS-CDS, NSS-CDS Board of Directors, NSS-CDS Training Committee Chairman, NSS-CDS Training Committee and any associated party or committee cannot accept responsibility for any injury or accident resulting from scuba diving and, in particular, cavern and cave diving. Scuba diving has been deemed to be an activity with inherent risks that proper training and education can minimize but cannot eliminate due to variations in human physiology, physical fitness and personal behavior. Participants in these activities shall bear personal responsibility in their decision to train and participate in these activities.

1.2 NSS Policy for Cave Conservation

The National Speleological Society believes that: caves have unique scientific, recreational and scenic value; these values are endangered by both carelessness and intentional vandalism; these values, once gone, cannot be recovered and the responsibility for protecting caves must be assumed by those who study and enjoy them. Accordingly, the intention of the Society is to work for the preservation of caves with a realistic policy supported by effective programs for the encouragement of self-discipline among cavers, education and research concerning the cause and prevention of cave damage and special projects, including cooperation with other groups similarly dedicated to the conservation of natural areas.

Specifically:

- All contents of a cave, formations, life and loose deposits are significant for its

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

enjoyment and interpretation. Therefore, cave teams should leave a cave as they find it. They should provide means for the removal of waste, limit marking to a few small and removable signs as are needed for surveys and, in particular, exercise extreme care not to accidentally break or damage formations, disturb life forms or unnecessarily increase the number of disfiguring paths though an area. Scientific collection is professional, selective and minimal. The collecting of mineral or biological material for display purposes, including previously broken or dead specimens, is never justified as it encourages others to collect and destroy the natural state of the cave.

- The Society encourages projects such as establishing cave preserves, placing entrance gates where appropriate, opposing the sale of speleothems, supporting effective protective measures, cleaning and restoring over-used caves, cooperating with private cave owners by providing knowledge about their cave and assisting them in protecting their cave and property from damage during cave visits and encouraging commercial cave owners to make use of their opportunity to aid the public in understanding caves and the importance of conservation.
- When there is reason to believe that publication of cave locations will lead to vandalism before adequate protection can be established, the Society will oppose such publication.
- It is the duty of every Society member to take personal responsibility for spreading an awareness of cave conservation to each potential user of caves. Without this, the beauty and value of our caves will not long remain with us.

1.3 NSS-CDS Training Program: Structure, Organization, Course Levels

1.3.1 Structure and organization

As stated in the Bylaws of the NSS-CDS:

A. One of the seven members of the NSS-CDS Board of Directors is the Training Committee Chairman, who is elected biennially (two year term) by Active Status NSS-CDS Cavern and Cave Diver Instructors.

B. The Training Committee Chairman shall appoint and chair a Training Committee of not less than five (5) Active Status NSS-CDS Cave Diver Instructors.

C. The Training Committee Chairman, with the assistance of the Training Committee, prepares and brings to the BOD for approval:

1. Criteria and procedures for cavern and cave diving courses.
2. Criteria for certification of cavern and cave diving instructors.
3. Criteria and procedures for instructor evaluation institutes.
4. Administrative matters related to the Training program.

D. The Training Committee Chairman, with the assistance of the Training Committee, will schedule at least one instructor evaluation institute each year for each level of

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

training and authorize those institutes conducted by others.

E. The Training Committee Chairman will review the performance of NSS-CDS instructors and bring any matters concerning such performance to the attention of the BOD for action as is appropriate.

F. The Training Committee Chairman will oversee the issuance of training completion materials to divers successfully completing NSS-CDS approved courses.

In addition to the bylaw-mandated items above:

G. The Training Committee Chairman, with the assistance of the Training Committee, will oversee the Instructor Sponsor Program which fosters the development of NSS-CDS instructors through a program of mentoring and peer-review.

H. The Training Committee Chairman, with the assistance of the Training Committee, will handle all issues of quality assurance, standards and procedures violations, ethics matters and make related decisions and pronouncements.

1.3.2 NSS-CDS Training Course Levels

The following training course levels have been established for the NSS-CDS Training Program. The various training levels are designed and organized to encourage and allow for the participant to gain personal experience before they progress to another level. Certain training levels may be taught in combination at the discretion of the instructor as long as the proper sequence is maintained. Complete descriptions of these courses are found in Sections 2 and 3 of this *Standards and Procedures Manual*.

A. *Cavern Diver*. This course develops the minimum skills and knowledge for cavern diving and describes the dangers involved with cave diving. Planning, environment, procedures, techniques, problem solving and other specialized needs of cavern diving are covered. Problem solving in cavern diving includes, but is not limited to, body positioning (trim), buoyancy control, emergency procedures, line following and propulsion techniques. Accident analysis forms the basis of this learning experience. Special emphasis on the unique environment includes silting, entanglement, disorientation and equipment modifications. The Cavern Diver Course is in no way intended to provide instruction for cave diving.

   This course level is an entry-level program for those interested in cave diving and is also a safety program for open water divers.

B. *Basic/Intro to Cave Diver.* This course covers the basic principles of actual cave diving. Accident analysis forms the basis of training. Basic/Intro Cave Diver follows the Cavern Diver courses as the Cave Diving Section' second step in the development of safe techniques for cave diving. The basis of this course is aimed at continuing development of basic skills and the refinement of techniques and procedures required for the most elementary of cave dives. Cave dives are planned around very limited penetrations so that the diver may progress to cave diving at a conservative pace. The Basic/Intro Cave Diver course is not intended to train divers for all facets of cave

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

diving.

This course develops the minimum skills and knowledge required for limited penetration cave diving. Dive planning, cave environment, procedures, techniques, problem solving and other specialized needs of cave diving are covered.

C. *Apprentice Cave Diver.* This is the third in the series of cave diver development training courses. Emphasis is upon dive planning and skill refinement through actual cave dives. Techniques learned through the earlier Basic/Intro to Cave Diver and Cavern Diver courses are critiqued and expanded. Exposure to different cave diving scenarios is the foundation of this training.

The Apprentice Cave Diver course level represents the first half of the training ultimately required to complete the Cave Diver level and is not intended to prepare divers for evaluating all facets of cave diving. It is intended to expose students to basic fundamental principles of cave diving. Students are encouraged to move on to the next level of training before attempting to plan and execute complex cave dives. A time-limited training card is issued upon completion.

D. *Cave Diver.* This is the fourth in the series of cave diver development training courses. Exposure to more sophisticated cave diving scenarios is the foundation of this training. Complex cave dive planning and execution is emphasized. Techniques learned during the previous training levels are refined in more challenging cave diving environments.

E. Advanced Cave Diver. This course is an alternative fourth step in the series of cave diver development training courses. It includes all of the training included in the cave diver course plus it also includes all the content and training of the NSS-CDS Stage Diving specialty course and the content and training of the IUCRR First Responder program.

F. *Stage Diving* is a specialty course level. The purpose of the Stage Diving Specialty course is to expose the trained cave diver to the basic fundamentals of the safe use of stage cylinders for extended penetration diving in underwater caves while under the direct supervision of a qualified Stage Diving Specialty Instructor. The student is able to build practical experience in the field under controlled conditions. Safety and conservation practices, procedures and techniques common while stage diving the unique environment of a cave are covered to help develop the participant' skills and knowledge in extended penetration diving with the use of a stage cylinder. Longer decompression obligations and more complex navigation concerns are covered.

G. *DPV Pilot* is a specialty course level. The purpose of the DPV (Diver Propulsion Vehicle) Pilot specialty course is to expose the trained cave diver to the basic fundamentals of the safe operation of diver propulsion vehicles in underwater caves while under the direct supervision of a DPV Pilot Specialty Instructor. The student is able to build practical experience in the field under controlled conditions. Safety practices, procedures and techniques common to most DPVs used in the unique environment of a cave are covered. Conservation considerations such as low-impact operation are emphasized and potential emergency situations are simulated and

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

practiced.

H. Advanced *Sidemount Cave Diving* is a specialty course level. The purpose of this course is to expose the trained sidemount cave diver to the use of stage cylinders, how to ride a DPV and in sidemount configuration, how to deal with restrictions advanced gas management techniques and smaller areas where real sidemount techniques are required under the direct supervision of a qualified Advanced Sidemount Diving Specialty Instructor.

I. *Underwater Cave Surveying* is a specialty course level. The purpose of the Underwater Cave Surveying specialty course is to expose the trained cave diver to the basic fundamentals of surveying underwater caves while under the direct supervision of a qualified Underwater Cave Surveying Specialty Instructor. It is intended to motivate more divers to survey caves, to encourage the use of cave maps in dive planning and to increase the quantity of published cave maps. Additionally, this program is intended to promote standardization for all survey projects.

J. *Cartography* is a specialty program. This is a data management-oriented program and is designed to introduce the basics of underwater cave map presentations. The goal of this program is to develop the ability to complete the surveying and map-making process and actually produce a map.

K. First Responder is an accident scene management-oriented program and is may also be taught as a required part of the Advanced Cave diver program.

L. *Deep Cave Diver* is a specialty course level. The purpose of the Deep Cave Diver specialty course is to provide the Cave Diver training for the safe planning and execution of mixed gas diving in caves to depths not exceeding three hundred (300) feet sea water/ninety (90) meters sea water while under the direct supervision of a Deep Cave Diver Specialty Instructor. The diver will be introduced to the proper and safe use of helium as a breathing gas, along with oxygen and nitrox for staged decompression. This course will emphasize precision and accuracy in all aspects of the dive beginning with advanced pre-dive planning. Safety will be a primary focus of this course due to the depths to which dives will be made.

M. *Overhead Nitrox Diver* is a specialty course level. The purpose of the Overhead Nitrox Diver specialty course is to provide divers with the basic knowledge and skills necessary to safely utilize enhanced air Nitrox (Nitrox) as a breathing medium while under the direct supervision of an Overhead Nitrox Diver Specialty Instructor. The course covers the use of Nitrox mixtures in the range of twenty two percent (22%) to forty percent (40%) oxygen content. The diver will be introduced to the proper and safe used of Nitrox as a breathing medium and will emphasize proper safety practices and procedures for the use of Nitrox.

N. *Rebreather Cave Diver* is a specialty course level. The purpose of the Rebreather Cave Diver specialty course is to provide divers with the basic knowledge and skills necessary to safely utilize rebreathers (either semi-closed or fully-closed) in overhead environments while under the direct supervision of a Rebreather Cave Diver Specialty

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Instructor. The diver will be exposed to the special hazards involved in the use of rebreathers in overhead environments as well as the techniques and procedures used to mitigate risks to a reasonable level. The program will also instruct candidates planning overhead environment dives with open circuit dive partners.

1.4 General Training Standards and Policies

These general standards apply to all NSS-CDS courses and special programs.

1.4.1 Student Registrations and Releases

A. Each NSS-CDS training course student is required to complete and sign an NSS-CDS Training Course Registration form, an NSS-CDS Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement and any other form that may be required for a particular NSS-CDS course prior to the start of training. A student shall also complete and sign any forms supplied by the instructor which are required by his/her insurance carrier. The instructor shall maintain all NSS-CDS documents on file for a minimum of seven (7) years.

B. Instructors shall not sign as a witness on any NSS-CDS forms. A person over eighteen (18) years of age shall witness all forms.

C. NSS-CDS instructors are expected to process completed NSS-CDS Training Course Registration forms within fifteen (15) days of course completion. This includes sending to the Training Committee Chairman or NSS-CDS Administrative Manager the completed original (white) forms for NSS-CDS records unless processed online. If student registration is processed on-line, instructors are required to maintain all Training Course Registration and Release forms and submit these forms to the Training Committee Chairman upon request.

   The instructor shall also provide a copy of the completed and signed form to the student when the course is successfully completed along with a temporary training completion card.

D. All NSS-CDS training course students shall be at least eighteen (18) years of age prior to the start of any NSS-CDS course, except for those courses (Cavern Diver and Basic/Intro to Cave Diver) that have special exceptions for minors as participants.

E. Participation by Minors: Prior to the beginning of any training, applicants under eighteen (18) years of age shall supply to the instructor an NSS-CDS Training Course Registration form and Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement form signed by both parents or legal guardians in the presence of that instructor. If one or both parents or legal guardians are not present at the beginning of training to sign the form, the absent parent/guardian(s) signature(s) shall be notarized. (If the minor student is legally recognized as having one single parent or legal guardian, a second parent/guardian signature is not needed).

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

1.4.2 Regular Training Course Procedures

A. An NSS-CDS instructor, certified to teach the level of training being conducted, is to be present and in control during any and all course activities, including all activities taking place in the water.

B. Active NSS-CDS instructors are permitted to take students on dives one (1) level beyond the student's current level of training in the course of instructional or guided dives. The NSS-CDS instructor conducting any such dives shall be authorized to teach the next level of training. The minimum equipment requirements for the next level of training are required on any and all such dives.

C. For all levels of training offered, the instructor is required to screen and evaluate students to insure that they possess the necessary attitude, knowledge and skills to proceed safely.

D. All minimum subject material and water skills are to be covered prior to student completion of a course.

E. Confidence building skills in open-water or pool training may include instructor-controlled gas shut-offs, mask flooding or line entanglement, but absolutely no "regulator snatching," gas shut-offs or tank removal (except stage or decompression cylinders where appropriate) is permitted while in the overhead environment.

F. Students shall satisfactorily complete the skills for each particular level of training before being allowed to proceed to the next level.

G. The number of dives, total bottom time and required skills for each course shall be completed before proceeding to the next level and dives conducted during one level of training shall not be counted toward completion of another level of training. Should an instructor combine courses, then the stated individual course requirements of minimum number of dives, total bottom time and required skills for each course shall still be met.

H. NSS-CDS instructors may encourage or require students to build and accumulate cavern and cave diving experience between the various NSS-CDS training course levels.

I. For all water activities, each student shall be equipped with at least the minimum equipment appropriate for the level of training undertaken as defined by NSS-CDS Standards for each course or program.

J. There must be sufficient breathing gas as reserve (bail-out), carried by the team to get all students and the instructor out of the cave from the maximum penetration. The instructor must be in a full cave configuration.

K. Instructors shall inform students as to the disadvantages of, and the considerations for, undertaking cavern or cave dives with dissimilar cylinder volume capacities among a dive team and review with students the method(s) for computing equivalent and safe

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

gas reserve volumes appropriate for their level of training. Instructors shall be certain that student's breathing gas supplies meet or exceed course-required minimum breathing gas volumes specified for each course-required dive.

L. The maximum Partial Pressure of Oxygen (PO2) allowed during the working portion of a dive is 1.4 Atmospheres (ATM). The maximum Partial Pressure of Oxygen (PO2) allowed during the decompression portion of a dive is 1.6 Atmospheres (ATM). Absolutely no dive is to be undertaken to a depth greater than that specified in each course standard "Limits of Training."

M. Breathing gasses shall be analyzed prior to each dive.

N. All NSS-CDS courses are to include information on the importance of logging dives and the procedures used. All dives shall be logged with a minimum of date, maximum depth, bottom time, decompression time, site location, breathing gas mix(es) and dive buddies.

O. All cavern and cave dives are to include a site briefing by the NSS-CDS instructor prior to the dive.

P. Visibility, as described in course requirements, is the minimum linear distance from which a diver may clearly identify a team member's lighted hand signal at the beginning of the dive as it is understood that visibility may deteriorate during the course of the dive. It is the responsibility of the instructor to end the dive if doubt arises that any or all students within the dive team may lose sight of the instructor or the instructor of any student due to the continued deterioration of visibility.

Q. At any point these Standards refer to the measure of performance for completion of a training level to be "skills performed to the satisfaction of the instructor," that phrase shall mean performance by the student that achieves a level of reasonably comfortable, fluid and repeatable performance as measured by the discretionary satisfaction of the instructor.

R. The Cavern through Cave Course programs and Specialty Course programs may be taught in any twin cylinder configuration agreed to by student and instructor. If the student wishes to take the Cavern through Cave program in sidemount configuration upon express agreement of the instructor pursuant to the terms of this provision, all course levels shall be undertaken in sidemount configuration. The NSS-CDS instructor shall be an approved NSS-CDS Sidemount Specialty Instructor. Upon completion of any level, only the appropriate Cavern through Cave Training Completion Card or Specialty Course Training Completion Card shall be issued to receive the Sidemount Specialty Training Completion Specialty Card, the student shall undertake and fulfill all the listed requirements (including course prerequisites, dives and bottom times) of the Sidemount Specialty course after completion of the standard Cavern through Cave Program.

S. NSS-CDS instructors shall refrain from conducting training dives and drills in caves or passages that contain sensitive formations and structures, that are in a relatively

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

pristine condition or contain sensitive biological or archeological resources. An instructor must consider the potential impact of any training dive on the cave that is selected, choosing sites appropriate for the level of training and current student skill level. Instructors shall refer to the Section 1 Appendix at the end of this section for a list of approved locations for zero visibility drills.

T. NSS-CDS approved courses are subject to evaluation for quality assurance. Standardized methods of evaluation are to be determined by the Training Committee.

U. There shall be a continuous guideline to the exit during all NSS-CDS training dives.

V. The NSS-CDS Standards and Procedures, NSS-CDS Student Workbook and all other NSS-CDS course and program materials form the basis of the NSS-CDS Instructional courses and programs and shall be used for all courses and programs by students and NSS-CDS instructors. When any conflict should arise between course and program materials the NSS-CDS Standards and Procedures shall take precedence. If necessary, NSS-CDS instructors are directed to contact the NSS-CDS Training Committee Chairman for interpretation of any materials.

W. NSS-CDS instructors shall notify the NSS-CDS Training Committee Chairman immediately if an NSS-CDS instructor becomes aware of any instructor in violation of these Standards and Procedures or an instructor related accident. An "accident" as referred to by this section refers only to dives conducted during the course of training and has no applicability to any individual's personal, recreational or non-training dives.

X. All training cave dives shall include a post dive debriefing to include the importance of cave conservation and minimizing impact to the cave environment.

1.4.3 General Training Waivers

Instructors may apply to the Training Committee Chairman for waivers for particular courses if the instructor deems it necessary. The waiver may pertain to class size, ratios, equipment needs, course minimum site requirements and particular site locations. Waivers, if granted, may be for a specific course and specific time only. Waivers shall be noted on the student's registration form. Waivers are not in effect until the instructor has received written confirmation from the Training Committee Chairman. Instructors may request permanent waivers. These waivers shall be in writing and presented to the Training Committee Chairman for review by the Training Committee.

1.5 NSS-CDS Ethics Policies and Procedures

1.5.1 Ethical Standards for Instructors

A. Every NSS-CDS instructor shall adhere strictly to all NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards and safe and professional teaching practices in all instructional and guided cavern and cave dives.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Comment: Safe and effective training of students and safe cavern and cave diving are particularly at the heart of the NSS-CDS training and NSS-CDS relationships with the public. In all matters, the highest professional teaching standards shall be practiced in every training activity in order to guarantee the safest and most fulfilling training experience and to set proper examples of safe cavern and cave diving practices. There may be some unique commercial contexts and some exploration diving that require careful deviation from NSS-CDS Standards and Procedures, but in all other instances NSS-CDS instructors shall adhere strictly to these Standards and Procedures. Instructors in the classroom and in the water are the frontline representatives of the NSS-CDS and their conduct and behavior shall always represent the best interests of the NSS-CDS.

B. No NSS-CDS instructor shall participate in any activity, or accept any benefit, that creates a personal conflict of interests with implementing safe and effective NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices, or generally accepted dive industry standards.

Comment: An NSS-CDS instructor is entitled to receive reasonable compensation for training students. A "conflict of interest" exists when an NSS-CDS instructor's private interest interferes in any way with the creation or application of NSS-CDS Standards and Procedures or when an NSS-CDS instructor allows an ulterior interest or benefit to alter or interfere with either safe and complete application of the NSS-CDS Standards and Procedures or safe and professional teaching practices. That "private interest" includes gratuities or benefits bestowed upon the immediate family (spouse, parents, children and sibling) of the instructor. A conflict situation may arise when an instructor takes actions or has interests that may make it difficult to perform NSS-CDS instruction objectively and effectively. A conflict situation also arises when an instructor receives improper personal benefits as a result of his or her position with the NSS-CDS, especially as an instructor sponsor, board member, committee member or officer of NSS-CDS.

The overall dive industry has a generalized set of standard standards and practices that is practiced worldwide. These standard practices are set and adhered to in order to better protect the diving public. NSS-CDS instructors who are in the dive business are expected to adhere to these generally accepted safe practices.

C. NSS-CDS instructors shall always avoid even the appearance of impropriety and shall disclose to the Training Committee Chairman for review and decision every anticipated or potential future transaction or relationship that reasonably might give rise to a conflict of interest described in subsection B above.

Comment: Legal, ethical and professional conduct by instructors is fundamental to the credibility of NSS-CDS with the public and to the effectiveness of the NSS-CDS training program. Any time an instructor questions whether anticipated conduct complies with NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices, s/he shall consult with the Training Committee Chairman and either abide by the decision of the Training

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Committee Chairman or appeal the decision of the Training Committee Chairman to the full Training Committee for review.

D. No instructor shall disclose confidential NSS-CDS business information provided, however, that NSS-CDS instructors shall disclose in an appropriate forum all information required by law or permitted by law in an appropriate official session of the NSS-CDS Training Committee or the NSS-CDS Board of Directors; and provided further that NSS-CDS instructors shall promptly report to the Training Committee Chairman any known or observed violation of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices by another NSS-CDS instructor.

Comment: Legal and professional conduct requires that an NSS-CDS instructor respect the privacy rights of others and that NSS-CDS instructors safeguard sensitive corporate, financial, legal and personnel matters pertaining to NSS-CDS business and instructional programs. "Confidential NSS-CDS business information" includes personal health information about another person obtained while conducting NSS-CDS business and instructional programs, private information of a personal nature obtained while conducting NSS-CDS business and instructional programs, NSS-CDS personnel matters, pending and unpublished NSS-CDS quality assurance inquiries, sensitive NSS-CDS corporate legal or financial matters or other confidential information pertaining to NSS-CDS or arising from NSS-CDS instructional contexts. This provision is not intended to discourage instructors from reporting discreetly to the Training Committee Chairman observed or justified beliefs of violations of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices by another NSS-CDS instructor. This provision also is not intended to hamper legitimate formal proceedings, either in law or in NSS-CDS corporate affairs. Rather, this provision limits disclosures of confidential information to forums and contexts where a legal right-to-know exists and where a corporate/business need-to-know exists. It prohibits NSS-CDS instructors from disclosing protected personal and corporate information indiscreetly, informally or for personal advantage or profit.

E. While conducting NSS-CDS instructional and business activities, instructors shall comply with all laws, ordinances and regulations of federal, state and local government and all lawful rules and restrictions of landowners.

Comment: Instructors are expected to comply fully with all laws affecting their instructional activities. Instructors are also expected to respect private property and avoid damage to property while conducting instructional activities. The consequences to the NSS-CDS and its directors or committees of any departure from this policy can be very serious. In addition, the effort, energy and expense required in responding to governmental investigations or to defend NSS-CDS instructor actions in court diverts the talents and energy of the NSS-CDS from the pursuit of its mission. It is NSS-CDS policy to cooperate with all governmental investigations of possible unlawful conduct. If unlawful activity has occurred, the

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

NSS-CDS will take appropriate steps to stop such conduct and to prevent such conduct from recurring.

F. An instructor convicted of, or pleading guilty or no contest to, a felony offense or a criminal offense involving moral turpitude shall immediately and automatically be suspended from teaching NSS-CDS courses. If the offense involves moral turpitude, the instructor shall be terminated from teaching any NSS-CDS course immediately and automatically upon exhaustion or extinguishment of final appellate remedies that do not result in a reversal of the conviction. If the felony offense does not involve moral turpitude, the Training Committee Chairman shall initiate a quality assurance inquiry pursuant to Section 1.5.1 below to determine whether the offense constitutes a violation of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices. A felon or a person convicted of a crime involving moral turpitude may become an NSS-CDS instructor after fulfilling all terms and conditions of the sentence for that crime provided, however, that the Training Committee Chairman or the Training Committee may deny that application in the exercise of total and unfettered discretion.

Comment: This ethical standard embraces the fundamental proposition that a felon or a person convicted of a crime involving moral turpitude has, by that very fact, demonstrated an absence of the basic social morality and responsibility necessary to be entrusted with safeguarding the lives of others in circumstances involving heightened inherent risks. At the same time, this standard recognizes the possibility that a person who has paid the price of his crime to society may have been rehabilitated and deserves consideration for a fair chance to contribute honorably to the NSS-CDS and community.

G. NSS-CDS instructors shall conduct themselves and their diving courses in a professional manner whenever engaging in NSS-CDS business or programs and whenever engaging in interpersonal relationships with NSS-CDS board members, officers, staff, instructors, students or representatives of other certifying agencies.

Comment. A "professional" consciously strives to function at a high level of skill and learning. A "professional" is civil, respectful and courteous in the face of differences with others. A "professional" possesses integrity, is truthful and is trustworthy. NSS-CDS instructors shall support the NSS-CDS programs, shall refrain from public or third-part criticism of, or discrimination against, any other NSS-CDS instructor. NSS-CDS instructors also shall refrain from disparaging any instructor or dive program including those of other certifying agencies. However, nothing in this section precludes courteous, private conversations offering constructive criticism to another instructor or reasonable statements made in the context of an official proceeding. This ethical standard applies to NSS-CDS business and programs and to interpersonal relationships among NSS-CDS members in instructional contexts. Other issues or conflicts between individuals are not the concern of the NSS-CDS and are beyond the scope of the NSS-CDS Training Committee Chairman to investigate for quality assurance purposes.

H. NSS-CDS instructors shall demonstrate financial responsibility when transacting

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

business with the NSS-CDS and with NSS-CDS students.

I. NSS-CDS instructors shall process all course registration forms within fifteen (15) days of course completion. Temporary student training completion cards will be issued at the completion of the course. Instructors shall assist promptly in resolving any training card issues.

J. NSS-CDS instructors shall respond in writing to an official quality assurance inquiry with accurate and complete information within thirty (30) days of receipt of the inquiry from the Training Committee Chairman.

Comment. In most instances, an instructor can and shall respond fully in a timely manner. Occasionally, an attorney may advise the instructor to withhold comment about an incident. In such instances, the NSS-CDS reserves the right to conduct its own preliminary investigation of incomplete information and make an interim determination as to whether the accusations warrant suspension of the instructor's teaching status pending a complete written response from that instructor and final adjudication of the quality assurance inquiry.

1.5.2 Procedures for Hearings and Appeals

A. A quality assurance inquiry may be initiated in the sole discretion of the Training Committee Chairman whenever s/he learns of an alleged breach of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices by an NSS-CDS instructor or whenever the Training Committee Chairman determines in his or her sole discretion that a pattern of minor infractions by an NSS-CDS instructor warrants further investigation and assessment.

B. The Training Committee Chairman shall receive all complaints reporting alleged breaches of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices by an NSS-CDS instructor. The Training Committee Chairman shall encourage the complainant to promptly provide a written report or a recording of an oral statement identifying known witnesses and describing the acts or omissions observed and the date, time and location of the alleged breaches. If a complainant insists upon remaining anonymous or refuses to provide recorded evidence supporting the accusation, the Training Committee Chairman shall endeavor to establish independent evidence or testimony of a plausible complaint before carrying the inquiry any further.

C. Upon receipt of a complaint, the Training Committee Chairman shall either:

1. Determine that the complaint is unfounded or lacks merit on its face; or
2. Determine that the complaint merits further investigation.

D. If the Training Committee Chairman determines that the complaint is unfounded or lacks merit on its face, s/he shall retain the complaint in an appropriate NSS-CDS file, but not lodged in the accused instructor's record file.

E. If the Training Committee Chairman determines that the complaint merits further

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

investigation, s/he shall:

1. Inform the Training Committee that a complaint has been received which warrants a quality assurance inquiry; and
2. Notify the accused instructor that a report of an alleged violation has been received:
   a. Stating as precisely as possible the details of the allegation including date, time and place;
   b. Advising him or her that a quality assurance inquiry is being initiated;
   c. Advising him or her that s/he has thirty (30) days from receipt of notice to respond in writing to the allegations; and…
   d. Advising him or her that s/he will receive further written notice and an opportunity to be heard if the matter is presented for possible disciplinary action by the Training Committee.

F. Upon receipt of the responding report from the instructor, the Training Committee Chairman may, in his or her discretion:
   1. Determine that the complaint is unfounded or lacks merit on its face;
   2. Immediately submit the matter for hearing and decision to the Training Committee;
   3. Pursue a more extensive inquiry into the matter through interviews and collection of additional documents including, but not limited to, soliciting supplemental materials, responses and refutations from the complainant or from the accused instructor and then submit the matter for hearing and decision to the Training Committee; or
   4. Issue a verbal warning to the instructor, in which case no reference to the matter shall be placed in the instructor's record file. The Training Committee Chairman shall, however, report this action to the NSS-CDS Chairman. Issuance of a verbal warning is a final decision which does not require any further hearing by the Training Committee unless the instructor chooses to appeal that verbal warning to the Training Committee. If appealed, the Training Committee may affirm the verbal warning, rescind it, remand the matter for further investigation by the Training Committee Chairman or immediately impose a higher level of disciplinary action against the instructor.

G. At least fifteen (15) days prior to the hearing by the Training Committee, pursuant to subsections F.2. and F.3. above, the Training Committee Chairman shall provide to the accused instructor and to each member of the Training Committee a packet containing the complaint, the report of the instructor, all supplemental documents, summaries of interviews, replies and refutations and possibly a disciplinary recommendation from the Training Committee Chairman if s/he chooses to include one.

H. The Training Committee shall convene a closed hearing at an appointed date and time. The accused instructor shall receive notice of the closed hearing at least fifteen (15)

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

days before the hearing and may be present at all times during the proceeding including the deliberations and the vote on the recommended decision.

I. The hearing shall be conducted in a courteous and professional manner designed to achieve full disclosure and a fair decision, but without being restricted by formal rules of evidence and testimony.

1. The Training Committee Chairman shall present evidence developed during the quality assurance inquiry, question witnesses, if any, and answer the questions of the Training Committee. The Training Committee Chairman may include in the presentation his or her opinion as to which allegations against the instructor are meritorious and the Training Committee Chairman may include a recommendation for disciplinary action.
2. The instructor may question any witness testifying at the hearing, may call his or her own witnesses and may address the Training Committee in his or her defense.
3. The Training Committee shall receive and consider only evidence and testimony that was previously disclosed between the Training Committee Chairman and the instructor and contained at least in summary form in the packet described in subsection F above, except that the Training Committee may hear and consider new and additional evidence or testimony in rebuttal of material contained in the packet.
4. Written summaries of statements from witnesses are admissible as are first-hand witnesses of the complaint, testimony of the Training Committee Chair, the affected instructor and the Training Committee members. Except for the Training Committee Chair, Training Committee members and affected instructor, all other such witnesses shall be admitted to the hearing only during the time of their testimony.
5. Any member of the Training Committee may question the Training Committee Chair, the instructor or any witness appearing at the hearing.
6. The Training Committee may recess the hearing to a future date if it determines that additional information or time is required before reaching a decision and recommendation.

J. After receiving sufficient evidence and testimony, the Training Committee may decide to exonerate the instructor. This conclusion shall be reported to the NSS-CDS Chairman.

K. After receiving sufficient evidence and testimony, if the Training Committee finds that the instructor has violated NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices or has exhibited a pattern of minor infractions warranting disciplinary action, the Training Committee shall impose on the instructor disciplinary action which it determines appropriate in its discretion including, but not limited to, any among the following disciplinary actions:

1. The Training Committee may order and immediately administer a verbal warning to the instructor with no reference to the matter placed in the instructor's record

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

file. This course of action shall be reported to the NSS-CDS Chair.

2. The Training Committee may order that the Training Committee Chairman shall write either a Letter of Warning (to be delivered to the instructor and placed in the instructor's record file for a period of no more than one year from the date of the event) or a Letter of Reprimand (to be delivered to the instructor and placed in the instructor's record file permanently).
3. The Training Committee may order that the Training Committee Chairman place the instructor on Probationary Status, which allows the instructor to maintain his or her credentials and to instruct, but instructional activities may be limited or conditioned in a manner ordered by the Training Committee. An order of Probationary Status shall include the length of the period of probation, along with other requirements or conditions (co-teaching, institute re-attendance, etc.).
4. The Training Committee may order the Training Committee Chairman to place the instructor on Suspended Status, which allows the instructor to maintain his or her credentials, but instructional activities shall not occur during the suspension. An order of Suspended Status shall include the length of the period of suspension, along with other requirements or conditions (co-teaching, institute re-attendance, etc.). This action does not affect the individual's general membership status with NSS or NSS-CDS. A suspended instructor, however, is not an instructor in good standing for NSS-CDS Training Committee Chairman voting purposes.
5. The Training Committee may order Revocation of Teaching Status and Credentials against the instructor. Revocation of Teaching Status and Credentials will terminate the ability of the instructor to teach NSS-CDS courses. This action does not affect the individual's general membership status with NSS or NSS-CDS. This action does terminate instructor-voting status in NSS-CDS. Any future re-activation of this individual as an NSS-CDS instructor requires the approval of the Training Committee Chairman and the Training Committee.

L. The Training Committee shall provide a written statement of its conclusion and order to the instructor with a copy to the Chairman of the Board of Directors.

M. Within thirty (30) days of receipt of this written notice ordering disciplinary action, the instructor may appeal any decision, except a verbal warning by the Training Committee, to the NSS-CDS Board of Directors by delivering to the Chairman of the Board of Directors a Statement on Appeal describing the alleged error or abuse of discretion by the Training Committee. The Board of Directors shall hear oral statements from the instructor and from the Training Committee or its designee in closed session. The Board of Directors shall consider on appeal only the evidence and testimony that was previously offered to the Training Committee for decision.

N. The NSS-CDS Board of Directors may affirm or reverse the decision and order of the Training Committee or may remand the matter with a written statement of reasons for further consideration by the Training Committee.

O. Notwithstanding any other provision of this Section 1.5.2, the Training Committee

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Chairman may impose immediate, temporary and preliminary disciplinary action on an instructor whenever the Training Committee Chairman has reasonable cause to believe that acts or omissions of that instructor in violation of NSS-CDS Standards and Procedures, NSS-CDS Ethical Standards or safe and professional teaching practices, pose a risk of imminent harm to a diver, severe damage to property or serious damage to the reputation of the NSS-CDS.

1. The Training Committee Chairman shall immediately notify the Training Committee and the Chairman of the NSS-CDS Board of Directors of the emergency disciplinary action taken and the reasons supporting his or her acting alone in this matter.
2. The Training Committee Chairman shall immediately initiate a full quality assurance inquiry pursuant to this Section 1.5.2.
3. To ensure that the educational mission and governance of the NSS-CDS is conducted safely for divers and the general public, in good faith and in the best interests of the membership, the Training Committee may, in its discretion, continue, amend or rescind the emergency disciplinary decision of the Training Committee Chairman pending a full quality assurance inquiry pursuant to this Section 1.5.2.

1.6 Representations, Advertising, Copyright, Media and Presentation Policies

1.6.1 Representation of the NSS-CDS

While NSS-CDS instructors are representative of the NSS-CDS, they do not directly speak for or officially represent the NSS-CDS, its Board of Directors or its policies. Although NSS-CDS instructors are considered to have expertise in cave diving activities, only the Board of Directors is authorized to directly speak for and officially represent the NSS-CDS organization. Except for direct quotations from this manual or other official releases from the Board of Directors or the Training Committee Chairman, NSS-CDS instructors should make it clear that any opinions expressed are their own and not necessarily those of the NSS-CDS. As the public will often assume that the actions or any opinions expressed by an NSS-CDS instructor are those of the NSS-CDS, it is important that an NSS-CDS instructor clarify these distinctions as necessary.

Only active and renewed NSS-CDS instructors may hold themselves out and advertise to be NSS-CDS instructors. The training director maintains up to date records for determination of whether or not an instructor is an active status instructor.

This section applies to all representations including those made on electronic/internet postings on public forums.

1.6.2 Course Announcements

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Placement of announcements or advertisements in magazines intended primarily for open water recreational divers should be undertaken only with extreme care so as not to be in conflict with the policies listed below. Announcements should not dwell on the attributes of caves or cave exploration so as to create an attraction for the reader. Rather, announcements should stress the safety orientation of the NSS-CDS program and the necessity of proper training to successfully participate in this activity.

1.6.3 Use of NSS-CDS Logo

Only active and renewed NSS-CDS instructors may use the logo of the NSS-CDS in conjunction with personal business cards or course description advertising. However, the Section copyrights the logo of the NSS-CDS and reproduction or use of this logo is subject to the review and consent of the NSS-CDS Board of Directors.

1.6.4 Reproduction of NSS-CDS Materials

NSS-CDS Active Status Instructors may reproduce, at their own expense, limited quantities of material provided in this and other Section manuals (except for the required Student Workbook) for use by the instructor's students. However, no alterations or additions are permitted unless written permission is obtained from the NSS-CDS Board of Directors.

1.6.5 Media Coverage

The public perception that cave diving is a high-risk sport makes it highly vulnerable to sensationalistic media coverage. Exposure of the public to cave diving continues to expand as a result of media coverage of fatalities and applications of cave diving to scientific studies. Since everything an NSS-CDS instructor says may be quoted, instructors shall exercise prudence and care when asked to comment and shall keep commentary at a professional level. When in doubt, refer the interested party to the NSS-CDS Board of Directors.

1.6.6 Presentations

A. Presentations should clearly differentiate between cave and recreational open-water diving.

B. The many safety aspects necessary for mitigating the hazards of cave diving should be clearly stressed.

C. Presentations should not sensationalize underwater caves or cave diving nor should they challenge the reader's sego so as to motivate a non-participant to take up cave diving.

D. Presentations should clearly differentiate between the nature and attributes of specific caves or regions containing caves.

E. Presentations and visual or written depictions of cave diving should emphasize proper cave diving equipment and techniques. Depictions of improper equipment or

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

techniques should be labeled as such and the potentially fatal results of such equipment or techniques should be clearly stated.

1.7 Appendix A

1.7.1 Permanent Site Waivers for Instructional Purposes at Ginnie Springs, Florida.

The cavern located at Ginnie Springs, Gilchrist County, Florida is granted a permanent site waiver under normal diving conditions. This waiver applies only to the demonstration dive (typically dive number 1) of the Cavern Diver course. for this specific dive the student-to-instructor ratio may increase to 6:1. "Normal Diving Conditions" are defined as regular spring-type outflow and non-flood conditions. Should normal conditions change, the ratios will revert to the published standards. (Justification: The location described is an extremely roomy and well-defined cavern. Silt conditions are very light with the near-absence of either mud or clay. Flow within this cavern is well distinguished and constant and aid in rapid clearing should the sandy bottom become disturbed. This location offers an excellent area for students which is nearly free of silt and offers a large and easily differentiated entrance.)

1.7.2 Number of Sites

The numbers of different sites (locations) at each level of training will be 2, one of which shall will be new to the student(s) for a total number of 5 for a where the number of sites needed are not available with-in 100 miles of the location of the first dive site this requirement is waived.

1.7.3 Recommended Areas for Zero-Visibility Drills

A. North Central Florida Area Caves.

1. *Cow Springs:* Downstream section with gold line. No training dives of any kind shall be made into the upstream section of this cave system.
2. *Devil's Ear/Eye:* Downstream of the Keyhole and only the first 200 feet/60 m of the Catacomb area.
3. *Little River Spring:* From Table Rock out.
4. Madison Blue Spring: The Blue Room (cavern), from the Monkey Room out and on the mainline up to the Martz Sink jump intersection (approximately 700 feet/213 m. in).
5. *Manatee Springs:* Sue Sink to Catfish Hotel.
6. *Orange Grove:* From the warning sign out.
7. *Peacock Springs:* The shallow tunnel no further in than the Breakdown Pile (approximate penetration of 500 ft/150 m).

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

8. *Telford Spring:* The first 500 ft/150 m of the main line.

B. Playa Del Carmen-Tulum Corridor Caves, Quintana Roo, Mexico

1. *Car Wash:* Downstream in Satan's silt Hole and upstream between the warning sign and Luke's Hope Cenote.
2. *Chac Mol:* Downstream on the gold line for the first 200 feet/61 m.
3. *Grand Cenote*: Absolutely no areas of this site are recommended for zero-visibility drills.
4. *Mayan Blue:* Upstream in the A Tunnel between the entrance and the beginning of the A Line.
5. *Naharon:* Upstream on the mainline between the entrance and the Halocline Room.
6. *Ponderosa:* Upstream between the warning sign and Little Joe Cenote and upstream in the river run.
7. *Taj Mahal:* Downstream on gold line between the entrance and the first dome.

C. Missouri Area Cave.

1. Roubidoux Springs: first 300 feet/ 100 m of the upper tunnel.

D. Florida Panhandle Caves:

1. Jackson Blue from the first tee out on the gold line, and Vortex Spring from the grate out are the only two areas to conduct lost line or zero visibility drills in Florida panhandle caves.

2. The committee also recommends and requests you adhere to the following:

3. No DPV training in Twin caves.

4. No lights out/zero visibility or lost line drills in Hole in the Wall or Twin caves.

Section 2 NSS-CDS Cavern and Cave Diver Courses

2.1 Cavern Diver: Course Description and Standards

2.1.1 Purpose

The course develops the minimum skills and knowledge for cavern diving and describes the dangers involved with cave diving. Planning, cave environment, procedures, techniques, problem solving and other specialized needs of cavern diving are covered. Problem solving in cavern diving includes, but is not limited to, body positioning (trim), buoyancy control, emergency procedures, line following and propulsion techniques. Accident analysis forms the basis of this learning experience. Special emphasis on the

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

unique environment includes silting, entanglement, disorientation and equipment modifications. The dangers of unsafe practices and more advanced cave diving are discussed. Developing basic skills and refining techniques and procedures required for the most elementary of cave dives is the basis of this course. Cavern dives are planned around very limited penetrations so that the diver may progress to cave diving at a conservative pace. The Cavern Diver course is not intended to train divers for all facets of cave diving.

2.1.2 Course Duration

This course usually takes two (2) days to complete. However, course duration is determined by completion of minimum dives, bottom time and required skills. Skills are to be performed to the satisfaction of the instructor.

2.1.3 Prerequisites

Open Water Scuba Diver training. Advanced Open Water Diver training or the equivalent is recommended. Students shall be able to demonstrate comfort and competency in open water skills to the instructor' satisfaction.

2.1.4 Classroom Presentations

Classroom is defined as any place time is spent presenting information, instruction or evaluations out of the water.
Required topics include:

A. The NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Landowner relations.

D. Accident Analysis.

E. Underwater cave formations and terminology.

F. Types of underwater cave entrances.

G. General and specific hazards of the cavern/cave environment.

H. Equipment.

I. Trim and propulsion.

J. Guidelines and line-laying.

K. Dive planning and procedures.

L. Communications.

M.Psychological aspects and stress control.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

N. Problem solving and emergency procedures.

O. A final review and individual student critique to aid the student in their continuing education.

2.1.5 Land Drills

The purpose of the land drills is to demonstrate tie offs, line placement, line traps, line following and line protocols. Each member of the team should clearly understand the techniques and have the ability to perform these skills on land before attempting to do so in-water.

A. Guideline use (use of line reels).

B. Guideline following.

C. Emergency Procedures.

2.1.6 Open-Water Drills

One dive will be conducted in open water in order to introduce basic techniques and open water drills. These skills will include:

A. Guideline use.

B. Guideline following with no visibility.

C. Guideline following while sharing gas with no visibility.

D. No-mask swim on guideline and mask removal and replacement while maintaining contact with a guideline or while maintaining a fixed position in the water column.

2.1.7 Cavern Dives and Skills

Minimum total bottom time in the overhead required to complete this level of training is 85 minutes. The following skills will be performed and developed on each dive:

A. Safety drill (equipment check, “bubble check” and gas share prior to each dive).

B. Calculating turn around pressures and no-decompression limits.

C. Satisfactory performance of specialized propulsion techniques, demonstrating efficiency and minimum cave impact.

D. Satisfactory trim technique and buoyancy control through proper weight adjustment and distribution and buoyancy compensator operation.

E. Use of reels and guidelines in caverns.

F. Management of valves and regulators.

2.1.8 Limits of Training

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

The participant will be encouraged through this training to develop a clear understanding of the safety limits of the Cavern Diver level of training and will be expected to dive within the scope of these limits both during and upon successful completion of this training:

A. Daylight zone of cavern and within sight of the surface entrance.

B. Penetration is limited to one-third (1/3) of a single diving cylinder or one-sixth (1/6) of a twin cylinder configuration.

C. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000psi/140 bar.

D. 200 feet/60 m maximum distance from surface.

E. 100 feet/30 m maximum depth.

F. 40 feet/12 m minimum starting visibility with 4 students and 30 feet/9 m minimum starting visibility with 2 students and 20 feet starting visibility with 1 student.

G. Penetration in the daylight zone only (on a primary reel), no traverses, dives start and stop in same place, no complex navigation.

H. No decompression.

I. No restrictions (areas too small for two divers to pass through together).

J. No original exploration.

K. No goal oriented dives.

2.1.9 Equipment Requirements

Each diver shall be equipped with at least the following:

A. Mask and fins (straps taped, if required), but no snorkel.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000psi/140 bar.

C. First and second stage regulators with additional second stage on a long intermediate-pressure hose (5 foot/1.5m hose is minimal), submersible pressure gauge and power inflator for buoyancy compensator.

D. Two battery-powered diving lights.

E. Safety reel/spool with at least 100 feet/30 m of guideline. (Instructor may dictate line volume in excess of 100 feet/30 m if local conditions dictate).

F. Dive computer or timing device, depth gauge, slate, pencil and submersible dive tables.

G. Knife configured so as to minimize entanglement. A small knife or a “Z” knife type line cutter is preferred.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

H. Proper exposure suit.

I. One (1) primary line reel (minimum 350 feet/110 m) per team. At the Cavern level only, the instructor may supply each team with primary reels for use during the course, but shall emphasize the need for each Cavern Diver to obtain their own primary reel prior to conducting any post-course dives.

2.1.10 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cavern Diving Manual* (recommended, instructor may require).

C. *Basic Cave Diving: A Blueprint for Survival* (recommended, instructor may require).

2.1.11 Written Exam

Successful completion of a written exam is required.

2.1.12 Minimum Age

A. Minimum training age for participation in the NSS-CDS Cavern Diver course is eighteen (18) years of age. Applicants less than the minimum age may participate in this course at the discretion of the instructor.

B. *Minors as Participants:* Applicants may, at the discretion of the instructor, be less than eighteen (18) years of age but shall be at least Fifteen (15) years of age.

1. Upon successful completion of all phases of training, the minor diver shall qualify for a *Conditional Status Training Completion Card*. This condition states that the adolescent diver shall dive with an adult at least twenty-one (21) years of age who is trained to at least the same level.
2. Prior to the beginning of training, applicants less than eighteen (18) years of age shall supply, to the instructor, an NSS-CDS Training Course Registration form and Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement form signed by both parents or legal guardians in the presence of that instructor.
3. If one or both parents or legal guardians are not present at the beginning of the training, the absent parent/guardian(s)'s signature(s) shall be notarized. (If the minor student is legally recognized as having only one parent or legal guardian, a second parent/guardian signature is not required).

2.1.13 Student Ratios and Instructor Requirements

A. Student/instructor ratio (in cavern) maximum 4:1.

B. Maximum for field/open water exercises may not exceed a student/instructor ratio of 6:1.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

C. Instructor shall wear complete cave diving equipment as defined in the Cave Diver section of these Standards during all in-water exercises.

D. To conduct this level of training an NSS-CDS instructor shall be "Active Status" and qualified to teach to at least the Cavern Diver level.

2.2 Basic/Intro to Cave Diver: Course Description and Standards

2.2.1 Purpose

This course develops the minimum skills and knowledge required for limited penetration cave diving. Basic/Intro to Cave Diver follows the Cavern course as the NSS-CDS second step in the development of safe techniques for cave diving. The basis of this course is aimed at developing basic skills and refining techniques and procedures required for the most elementary of cave dives. Dive planning, cave environment, procedures, techniques, problem solving and other specialized needs of cave diving are covered. Accident analysis forms the basis of the training. The dangers of unsafe practices and more advanced cave diving topics are discussed.

Cave dives are planned around very limited penetrations so that the diver may progress to cave diving at a conservative pace. Skills training in the Basic/Intro to Cave Diver course include, but are not limited to, body positioning (trim), buoyancy control, emergency procedures, line use and following, propulsion techniques and problem solving. Special emphasis on the unique environment includes silting, entanglement, disorientation and equipment modifications.

The Basic Cave Diver course will be completed in a double tank configuration. Intro Cave Diver is a single tank course. The Basic/Intro to Cave Diver course is not intended to train divers for all facets of cave diving.

2.2.2 Course Duration

This course usually takes two (2) days to complete. However, course duration is determined by completion of minimum dives, bottom time and required skills. Skills are to be performed to the satisfaction of the instructor.

2.2.3 Prerequisites

NSS-CDS Cavern Diver training or equivalent. (Advanced Open Water diver training and NSS-CDS Overhead Nitrox Diver training, or the equivalent, is recommended.)

2.2.4 Classroom Presentations

Classroom includes a review of the Cavern Diver Program, as required, with emphasis placed on the differing techniques and procedures used in a cave including the below-listed topics (some of which may have been covered in whole or part in the Cavern Diver course). Classroom is defined as any place time is spent presenting information,

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

instruction or evaluations out of the water. Required topics include:

A. The NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Accident Analysis.

D. Types of underwater cave entrances.

E. Guidelines and navigational concerns.

F. Dive planning and procedures including gas management and the calculation of dissimilar volume matching of team member breathing gas cylinders.

G. Communications.

H. Psychological aspects and stress control.

I. Equipment

J. Trim and propulsion.

K. Problem solving and emergency procedures.

L. A final review and individual student critique to aid the student in their continuing education.

2.2.5 Land Drills

A. Guideline use.

B. Guideline following.

C. Emergency gas-sharing procedures.

D. Use of a safety reel in lost diver/guideline procedures.

2.2.6 Open-Water Drills

An optional open water dive may be conducted, at the instructor's discretion, in open water in order to review basic techniques and open water drills. These skills may include:

A. Guideline use.

B. Guideline following with no visibility.

C. Guideline following while sharing gas with no visibility.

D. No-mask swim on guideline and mask removal and replacement while maintaining contact with guideline or by maintaining a fixed position in the water column.

2.2.7 Cave Dives

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

A. A minimum of four (4) limited-penetration cave dives will be conducted. Minimum total bottom time in the overhead required to complete this level of training is 100 minutes.

The following skills are to be performed competently by the student in open water at least once during this course:

A. Mask removal and replacement while maintaining contact with a guideline or by maintaining a fixed position in the water column.

B. Management of cylinder valves and regulators while isolating regulators (simulating regulator failures).

The following skills shall be performed and/or developed on each dive:

A. Safety drill (equipment check, "bubble check" and gas share prior to each dive).

B. Calculating turn-around pressures and no-decompression limits.

C. Satisfactory performance of specialized propulsion techniques, demonstrating efficiency and minimum cave impact.

D. Satisfactory trim technique and buoyancy control through proper weight adjustment and distribution and buoyancy compensator operation.

E. Use of reels and guidelines in caves.

F. Management of valves and regulators.

The following shall to be performed competently by the student at least Once twice during this course:

G. Gas sharing during exit of the cave.

H. Gas sharing in a simulated out-of-gas scenario during exit from cave with simulated zero visibility and physical contact with the guideline. (Once as donor and once as recipient).

I. Simulating primary light failure requiring switching to back up light.

J. Lost diver drill, simulate recovery of lost diver with safety reel.

K. Lost line drill, simulate recovery of lost guideline with safety reel while under simulated zero visibility conditions.

2.2.8 Limits of Training

The participant will be encouraged through this training to develop a clear understanding of the safety limits of the Basic/Intro to Cave Diver level of training and will be expected to dive within the scope of these limits both during and upon successful completion of this training:

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

A. Penetration is limited to one-third (1/3) of a single diving cylinder or one-sixth (1/6) of a twin cylinder configuration.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000 psi/140 bar in a single tank or if in doubles, the doubles have to be a minimum of 72 cu. Ft./2039 L. each with a starting pressure of 1800 psi./124 bar.

C. 100 feet/30 m maximum depth.

D. 30 feet/9 m minimum starting visibility.

E. Main line penetration only with no jumps, gaps, circuits or traverses, dives begin and end at same point with no complex navigation.

F. No decompression.

G. Minor restrictions are permitted. A minor restriction is defined as one which, for a short distance, requires the team to travel in single-file profile and may require the diver to manipulate his body or equipment in order to pass through the area. No equipment removal is permitted at this training level.

H. No original exploration.

I. No goal oriented dives.

J. No diver propulsion vehicles in cave.

2.2.9 Equipment Requirements

Each diver shall be equipped with the following:

A. Mask and fins (straps taped if required), but no snorkel.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000 psi/140 bar in a single tank or if in doubles, the doubles have to be a minimum of 72 cu. Ft./2039 L. each with a starting pressure of 1800 psi./124 bar.

C. Exposure suit suitable for time and duration at location of training.

D. Dual-outlet valve on single cylinder (DIN-style recommended) or a twin cylinder configuration approved by instructor and at the instructor's discretion.

E. Two first-stage regulators, each with a single second-stage regulator. One first and second stage regulator shall be equipped with a minimal of a 5 ft/1.5m intermediate-pressure hose. Hoses for the submersible pressure gauge, power inflator for buoyancy compensator or other necessary devices can be configured at the student's and instructor's discretion.

F. Buoyancy compensator ("back-mounted inflation system" is recommended type).

G. One primary battery powered diving light with battery duration of at least expected

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

dive plan (shall meet instructor's approval).

H. Two battery-powered backup diving lights.

I. One (1) primary cave-diving line reel with minimum 350 feet/110 m of guideline per team.

J. Safety reel with at least 100 feet/30 m of guideline. (Instructor may dictate line volume in excess of 100 feet/30 m if local conditions dictate).

K. Dive computer or timing device, depth gauge, slate, pencil and submersible dive tables.

L. Knife configured so as to minimize entanglement. A small knife or a "Z" knife type line cutter is preferred.

M. At least three (3) line markers (non-directional markers or plastic line arrows).

2.2.10 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cave Diving Manual* (recommended).

C. *Basic Cave Diving: A Blueprint for Survival* (recommended- instructor may require).

2.2.11 Written Exam

Successful completion of a written exam is required.

2.2.12 Minimum Age

A. Minimum training age for participation in the NSS-CDS Basic/Intro Cave Diving course is eighteen (18) years of age. Applicants less than the minimum age may participate in this course at the discretion of the instructor.

B. *Minors as Participants:* Applicants may, at the discretion of the instructor, be less than eighteen (18) years of age but shall be at least (16) years of age. Upon successful completion of all phases of training, the minor diver shall qualify for a *Conditional Status Training Completion Card.* This condition states that the adolescent diver shall dive with an adult at least twenty-one (21) years of age who is trained to at least the same level. Prior to the beginning of training, applicants under eighteen (18) years of age shall supply, to the instructor, an NSS-CDS Training Course Registration form and Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement form signed by both parents or legal guardians in the presence of that instructor. If one or both parents or legal guardians are not present at the beginning of training, the absent parent/guardian(s) signature(s) shall be notarized. (If the minor student is legally recognized as having only one parent or legal guardian, a second parent/guardian signature is not needed.) An NSS-CDS Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement form and

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

a medical status form shall also be signed by at least one parent or legal guardian and notarized if not signed in the presence of the instructor.

2.2.13 Student Ratios and Instructor Requirements

A. Student/instructor ratio (in an overhead environment) maximum 4:1. In order for Instructors to teach with a 4:1 ratio they must have been a CDS Cave Instructor for a minimum of one (1) year and have taught at least six (6) Cavern Diver, six (6) Basic/Intro Cave courses and six (6) Cave Diver courses . Instructors not meeting the above requirement will still have a 3:1 ratio.

B. Maximum for field/open water exercises may not exceed a student/instructor ratio of 6:1.

C. To conduct this level of training an NSS-CDS instructor shall be "Active Status" and qualified to teach to at least the Basic/Intro to Cave Diver level.

2.2.14 Three-Day Cavern/Basic Programs

Some instructors, when instructing particularly accomplished divers, may choose to complete this program in three days instead of the normal four day span. In these instances, to insure consistency of high quality training, the completion of adequate in-water experience and in the interests of safety, the following additional Standards, requirements have been established:

A. A maximum of four (4) students per class or per instructor. In order for Instructors to teach with a 4:1 ratio they must have been a CDS Cave Instructor for a minimum of one (1) year and have taught at least six (6) Cavern Diver, six (6) Basic/Intro Cave courses and six (6) Cave Diver courses. Instructors not meeting the above requirement will still have a 3:1 ratio.

B. Dives shall be performed during each of the three days; all the dives shall not be done within a two-day period. Dives should be of normal length and not shortened or time-limited because of unnecessary and artificial time and scheduling constraints. Minimum total bottom time in the overhead required to complete this level of training is 185 minutes.

C. Students should be screened for diving proficiency and experience prior to the course and should also be familiar with basic equipment set-up for use during training. Complete as possible equipment set-up prior to the class start date is encouraged.

D. Under no circumstances shall any required dives, lecture topics, surface or underwater skill, drills and demonstrations be waived because of time limitations. It is strongly suggested to the instructor to reserve an extra half to full day buffer available when scheduling a three day Cavern/ Basic Cave program. Classroom is defined as any place time is spent presenting information, instruction or evaluations out of the water.

E. The instructor will have been a Basic Cave Instructor for at least one (1) year and will have taught at least six (6) Cavern Diver and six (6) Basic Cave courses of normal

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

duration prior to teaching a three-day Cavern/ Basic Cave programs.

2.3 Apprentice Cave Diver: Course Description and Standards

2.3.1 Purpose

This is the third in a series of cave diver development training courses. Emphasis is upon dive planning and skill development through actual cave dives. Techniques learned through the earlier Basic/Intro to Cave Diver and Cavern Diver courses are reviewed and expanded. Exposure to different cave diving scenarios is the foundation of this training. The Apprentice Cave Diver course level represents the first half of the training ultimately required to complete the Cave Diver level and is not intended to prepare divers for evaluating all facets of cave diving. A time-limited training card is issued upon completion. The Apprentice Cave Diver course is intended to expose students to basic fundamental principles of cave diving. Students are encouraged to move on to the next level of training before attempting to plan and execute complex cave dives.

2.3.2 Course Duration

This course usually takes two (2) days to complete. However, course duration is determined by completion of minimum dives, bottom time and required skills. Skills are to be performed to the satisfaction of the instructor. Minimum total bottom time in the overhead required to complete this level of training is 200 minutes.

2.3.3 Prerequisites

NSS-CDS Basic/Intro to Cave Diver or equivalent. A diver in possession of a Basic Cave card may not begin at this level of training without prior training in the use of a twin cylinder configuration. The decision to allow entrance to this level of training is to be made by the instructor. NSS-CDS Overhead Nitrox Diver certification or equivalent is strongly recommended.

2.3.4 Classroom Presentations

Required topics include:

A. The NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Accident Analysis.

D. Decompression policies and procedures and proper choice of breathing gasses to minimize decompression obligations.

E. Guidelines and navigational concerns.

F. Dive planning and procedures including gas management and the calculation of

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

dissimilar volume matching of team member's breathing gas cylinders.

G. Communications.

H. Psychological aspects and stress control.

I. Equipment including decompression cylinder configurations.

J. Problem solving and emergency procedures.

K. A final review and individual student critique to aid the student in their continuing education.

2.3.5 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cave Diving Manual* (recommended).

C. *Basic Cave Diving: A Blueprint for Survival* (recommended- instructor may require).

2.3.6 Written Test

None required at this level (instructor may require at his/ her discretion).

2.3.7 Land Drills

Demonstration and practice with jump/gap reels.

2.3.8 Cave Dives

A total of four (4) cave dives utilizing two (2) dive sites. At least one (1) of these sites will be a location not utilized in training during the Basic/Intro to Cave Diver or Cavern Diver courses. Minimum total bottom time in the overhead required to complete this level of training is 200 minutes.

The following skills shall be performed competently by the student in open water at least once during this course:

A. Mask removal and replacement while maintaining contact with a guideline or by maintaining a fixed position in the water column.

B. Management of cylinder valves and regulators while isolating regulators (simulating regulator failure).

The following skills shall be performed and/or developed on each dive:

A. Safety drill (equipment check, "bubble check" and gas share prior to each dive).

B. Calculating turn around pressures and decompression stop specifics.

C. Satisfactory performance of specialized propulsion techniques while demonstrating

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

efficiency and minimum cave impact.

D. Satisfactory trim technique and buoyancy control through proper weight adjustment and distribution and buoyancy compensator operation.

E. Use of reels and guidelines in caves.

F. Management of valves and regulators.

G. Referencing as back-up navigation.

The following shall be performed competently by the student at least once during this course:

H. Gas sharing during exit of the cave.

I. Gas sharing in a simulated out-of-gas scenario during exit from cave with simulated zero visibility and physical contact with the guideline (once as donor and once as recipient).

J. Simulating primary light failure requiring switching to back up light.

K. Lost diver drill, simulate recovery of lost diver with safety reel.

L. Lost line drill, simulate recovery of lost guideline with safety reel while under simulated zero-visibility conditions.

M. Use of reels for jumps and gaps.

2.3.9 Limits of Training

The participant will be encouraged through this training to develop a clear understanding of the safety limits of the Apprentice Cave Diver level of training and will be expected to dive within the scope of these limits both during and upon successful completion of this training.

A. Penetration limited to 1/3 or less of twin diving cylinders. No stage diving is permitted.

B. Doubles with a minimum of 72 cu. Ft./2039 L. each with a starting pressure of 1800 psi./124 bar

C. Depths not to exceed 130 feet/40 m.

D. 20 feet/6 m minimum starting visibility.

E. Simple penetrations only (limited to one jump or gap); no complex navigation plans, including circuits or traverses, dives begin and end at same point.

F. Limited decompression diving. The dive plan shall provide only for a single decompression stop with no staged decompression (multiple stop decompression profiles are not permitted). The dive plan should minimize the team's decompression

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

obligation by optimizing choices in breathing gasses, decompression gasses and dive computers or tables.

G. No major restrictions or equipment removal in cave (except for decompression cylinders).

H. No original exploration.

I. No goal oriented dives.

K. No use of diver propulsion vehicles in cave.

2.3.10 Equipment Requirements

All equipment listed in the Basic Cave Diving course with these additions and exceptions:

A. Twin-diving cylinders, Dive cylinder configurations may consist of any twin cylinder configuration agreed to by the instructor and student(s).

B. Primary light with appropriate intensity and burn time for the dives planned. The instructor reserves the right to establish minimum intensity and burn time for dives conducted under that instructor's control.

C. Jump/gap reel with minimum of 50 feet/16 m guideline (100 feet/30 m is recommended).

2.3.11 Minimum Age

The minimum age for participation in an NSS-CDS Apprentice Cave Diver training course is eighteen (18) years of age.

2.3.12 Time-Limited Training Completion Card

A. The Apprentice Cave Diver training completion card issued upon successful completion of this training level is a time-limited credential only.

B. This training completion card will expire (become invalid) exactly one (1) year from the date that it is issued.

2.3.13 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 3:1.

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor.

2.4 Cave Diver: Course Description and Standards

2.4.1 Purpose

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

This is the fourth in a series of cave diver development training courses. Exposure to more sophisticated cave-diving scenarios is the foundation of this training. Complex cave dive planning and execution is emphasized. Techniques presented during the previous training levels are further developed and refined in more challenging cave diving environments. Also included are techniques and protocols to maintain continuous line and navigational certainty to the exit in more complex cave-diving scenarios than those faced in earlier training, line jumps and gaps and their potential and/or actual application to circuits and traverses (when appropriate) and ensuring safe gas supply and reserves during all dives.

2.4.2 Course Duration

This course usually takes two (2) days to complete. However, course duration is determined by completion of ~~minimum dives~~, bottom time and required skills. Skills are to be performed to the satisfaction of the instructor.

2.4.3 Prerequisites

NSS-CDS Apprentice Cave Diver or equivalent. NSS-CDS Overhead Nitrox Diver or equivalent is strongly recommended.

2.4.4 Classroom Presentations

Required topics include:

A. The NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Accident Analysis.

D. Decompression policies and procedures along with proper choice of breathing gasses to minimize decompression obligations.

E. Common line configurations, including “Ts” and complex navigation including circuits and traverses.

F. Dive planning and procedures including gas management and the calculation of dissimilar volume matching of team member’s breathing gas cylinders.

G. Understanding and using cave maps.

H. Psychological aspects and stress control.

I. Problem solving and emergency procedures.

J. Controversial practices such as visual jumps, “trust me” dives, blind traverses, visual entry without primary reels and solo diving.

K. A final review and individual student critique to aid the student in their continuing education.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.4.5 Open Water Drills

The instructor, in determining equivalent proficiency, may require open water evaluation of skills.

2.4.6 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cave Diving Manual* (recommended).

C. *Basic Cave Diving: A Blueprint for Survival* (recommended-instructor may require).

2.4.7 Written Test

Successful completion of a written exam is required.

2.4.8 Land Drills

A. Guideline and line marker use for circuits and traverses.

2.4.9 Cave Dives

Minimum total bottom time in the overhead required to complete this level of training is 250 minutes, if taught as a stand alone course.

The following skills shall be performed competently by the student in open water at least once during this course:

A. Mask removal and replacement while maintaining contact with a guideline or by maintaining a fixed position in the water column. This exercise should be conducted in confined open water only.

B. Management of cylinder valves and regulators while isolating regulators (simulating regulator failures).

The following skills shall be performed and/or developed on each dive:

A. Safety drill (equipment check, “bubble check” and gas share prior to each dive).

B. Calculating turn around pressures and decompression stop specifics.

C. Satisfactory performance of specialized propulsion techniques, demonstrating efficiency and minimum cave impact.

D. Satisfactory trim technique and buoyancy control through proper weight adjustment and distribution and buoyancy compensator operation.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

E. Use of reels and guidelines in caves.

F. Management of valves and regulators.

G. Referencing as back-up navigation.

The following shall be performed competently by the student at least once during this course:

H. Gas sharing during exit of the cave.

I. Gas sharing in a simulated out-of-gas scenario during exit from cave with simulated zero visibility and physical contact with the guideline (once as donor and once as recipient).

J. Simulating primary light failure requiring switching to back up light.

K. Lost diver drill, simulate recovery of lost diver with safety reel.

L. Lost line drill, simulate recovery of lost guideline with safety reel while under simulated zero-visibility conditions.

M. Use of reels for jumps and gaps.

Further considerations for cave dives are to include:

A. Students to critique their own dives and performance with instructor supervision and comment.

B. Techniques and protocols to maintain continuous line and navigational certainty to the exit in more complex cave-diving scenarios than faced in earlier training, line jumps and gaps and the potential and/or actual application to circuits and traverses (when appropriate) and ensuring safe gas supply and reserves during all dives. (Student completion of an actual circuit or traverse is not required at this level of training.)

C. Techniques and methods to deal with minimum outflow and potentially silty conditions when encountered during the course including:

1. Anti-silting techniques.
2. Emergency procedure planning.
3. Stress analysis.

D. Student will refine operation of their manifold/valve and regulator system and its proper manipulation in case of a valve/regulator-related failure or valve roll-off. Student should be able to turn off any one of their valve control knobs in thirty (30) seconds or less.

The following skills are optional and may be included at the instructor's discretion during this course:

E. (Optional) No-gas swim, share and exit swim drill. This controlled drill is to be done

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

in open water on a horizontal, distance-marked (knotted) guideline.

F. (Optional) Guideline repair and/or entanglement drill. (Problem-solving drill to be done in open water or well-lit cavern zone with instructor supervision).

2.4.10 Limits of Training

Divers trained to the NSS-CDS Cave Diver level should be generally recognized as free to engage in routine cave diving activities. However, in the interest of cave protection, conservation and general safety, the right of a cave diving site operator to require additional credentials and/or proof of experience for certain activities or access to certain cave environments is recognized by the NSS-CDS.

The single most important limitation for this level, as well as any level of diving, is self-comfort and the comfort level of the team. to proceed with a dive to the end of published limitations after exceeding comfort limitation is to invite complications that could prove fatal. Understand all of your limitations and plan your dive accordingly.

A. Penetration utilizing one third (1/3) or less of double cylinders.

B. Doubles with a minimum of 72 cu. Ft./2039 L. each with a starting pressure of

1800 psi./124 bar

C. Depths not to exceed 130 feet/40 m.

D. 20 feet/6 m minimum starting visibility.

E. Dives shall be planned to minimize decompression obligations during training.

F. No equipment removal in cave (except for decompression cylinders).

G. No diver propulsion vehicle use in a cave.

2.4.11 Equipment Requirements

All equipment listed in the Apprentice Cave Diving course.

2.4.12 Minimum Age

The minimum age for participation in an NSS-CDS Cave Diver training course is eighteen (18) years of age.

2.4.13 Summary

Summary of dive, lecture and training shall encompass at least 200 250 minutes of bottom time in the overhead environment if taught as a stand alone program or 635 minutes of bottom time in the overhead environment if taught as part of a continuous program: Cavern through Cave. All skills and drills must be mastered to the satisfaction of the instructor and the diver must be able to do them in a reasonably comfortable, fluid, and repeatable manner.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.4.14 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 3:1.

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor.

2.5 Advanced Cave Diver: Course Description and Standards

2.5.1 Purpose

This course is an alternative fourth step in the series of cave diver development training courses. It includes all of the training included in the cave diver course plus it also includes all the content and training of the NSS-CDS Stage Diving specialty course and the content and training of the IUCRR First Responder program.

2.5.2 Course Duration

This course usually takes two (2) days to complete. However, course duration is determined by completion of bottom time and required skills. Skills are to be performed to the satisfaction of the instructor. If this program is taught as part of a complete program rather than as a modular program it must be conducted over a minimum of seven days and a minimum of 735 minutes bottom time.

2.5.3 Prerequisites

NSS-CDS Apprentice Cave Diver or equivalent. NSS-CDS Overhead Nitrox Diver or equivalent is strongly recommended.

2.5.4 Classroom Presentations

Required topics include:

A. The NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Accident Analysis.

D. Decompression policies and procedures along with proper choice of breathing gasses to minimize decompression obligations.

E. Common line configurations, including "Ts" and complex navigation including

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

circuits and traverses.

F. Dive planning and procedures including gas management and the calculation of dissimilar volume matching of team members, Ago breathing gas cylinders.

G. Understanding and using cave maps.

H. Psychological aspects and stress control.

I. Problem solving and emergency procedures.

J. Controversial practices such as visual jumps, "trust me" dives, blind traverses, visual entry without primary reels and solo diving.

K. To expose the cave student to the basic fundamentals of the safe use of stage cylinders for extended range/safety diving in underwater caves.

L. IUCRR First Responder program

This is a topside/surface management-oriented program designed to introduce cave divers to the fundamentals of conducting, investigating and managing cave-diving related fatalities and recovery.

M. A final review and individual student critique to aid the student in their continuing education.

2.5.5 Open Water Drills

The instructor, in determining equivalent proficiency, may require open water evaluation of skills.

2.5.6 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cave Diving Manual* (recommended).

C. *Basic Cave Diving: A Blueprint for Survival* (recommended-instructor may require).

2.5.7 Written Test

Successful completion of a written exam is required.

2.5.8 Land Drills

A. Guideline and line marker use for circuits and traverses.

2.5.9 Cave Dives

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Minimum total bottom time in the overhead required to complete this level of training is 350 minutes if taught as a stand alone course.

The following skills shall be performed competently by the student in open water at least once during this course:

A. Mask removal and replacement while maintaining contact with a guideline or by maintaining a fixed position in the water column. This exercise should be conducted in confined open water only.

B. Management of cylinder valves and regulators while isolating regulators (simulating regulator failures).

The following skills shall be performed and/or developed on each dive:

A. Safety drill (equipment check, "bubble check" and gas share prior to each dive).

B. Calculating turn around pressures and decompression stop specifics.

C. Satisfactory performance of specialized propulsion techniques, demonstrating efficiency and minimum cave impact.

D. Satisfactory trim technique and buoyancy control through proper weight adjustment and distribution and buoyancy compensator operation.

E. Use of reels and guidelines in caves.

F. Management of valves and regulators.

G. Referencing as back-up navigation.

The following shall be performed competently by the student at least once during this course:

H. Gas sharing during exit of the cave.

I. Gas sharing in a simulated out-of-gas scenario during exit from cave with simulated zero visibility and physical contact with the guideline (once as donor and once as recipient).

J. Simulating primary light failure requiring switching to back up light.

K. Lost diver drill, simulate recovery of lost diver with safety reel.

L. Lost line drill, simulate recovery of lost guideline with safety reel while under simulated zero-visibility conditions.

M. Use of reels for jumps and gaps.

Further considerations for cave dives are to include:

A. Students to critique their own dives and performance with instructor supervision and

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

comment.

B. Techniques and protocols to maintain continuous line and navigational certainty to the exit in more complex cave-diving scenarios than faced in earlier training, line jumps and gaps and the potential and/or actual application to circuits and traverses (when appropriate) and ensuring safe gas supply and reserves during all dives. (Student completion of an actual circuit or traverse is not required at this level of training.)

C. Techniques and methods to deal with minimum outflow and potentially silty conditions when encountered during the course including:

1. Anti-silting techniques.
2. Emergency procedure planning.
3. Stress analysis.

D. Student will refine operation of their manifold/valve and regulator system and its proper manipulation in case of a valve/regulator-related failure or valve roll-off. Student should be able to turn off any one of their valve control knobs in thirty (30) seconds or less.

The following skills are optional and may be included at the instructor's discretion during this course:

E. (Optional) No-gas swim, share and exit swim drill. This controlled drill is to be done in open water on a horizontal, distance-marked (knotted) guideline.

F. (Optional) Guideline repair and/or entanglement drill. (Problem-solving drill to be done in open water or well-lit cavern zone with instructor supervision).

2.5.10 Limits of Training

Divers trained to the NSS-CDS Advanced Cave Diver level should be generally recognized as free to engage in routine cave diving activities. However, in the interest of cave protection, conservation and general safety, the right of a cave diving site operator to require additional credentials and/or proof of experience for certain activities or access to certain cave environments is recognized by the NSS-CDS.

The single most important limitation for this level, as well as any level of diving, is self-comfort and the comfort level of the team. to proceed with a dive to the end of published limitations after exceeding comfort limitation is to invite complications that could prove fatal. Understand all of your limitations and plan your dive accordingly.

A. Penetration utilizing one third (1/3) or less of double cylinders.

B. Doubles with a minimum of 72 cu. Ft./2039 L. each with a starting pressure of

1800 psi./124 bar

C. Depths not to exceed 130 feet/40 m.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

D. 20 feet/6 m minimum starting visibility.

E. Dives shall be planned to minimize decompression obligations during training.

F. No equipment removal in cave (except for decompression cylinders).

G. No diver propulsion vehicle use in a cave.

2.5.11 Equipment Requirements

All equipment listed in the Apprentice Cave Diving course plus all of the equipment listed in the Stage Diving specialty course.

2.5.12 Minimum Age

The minimum age for participation in an NSS-CDS Advanced Cave Diver training course is eighteen (18) years of age.

2.5.13 Summary

Summary of dive, lecture and training shall encompass at least 295 minutes of bottom time in the overhead environment if taught as a stand alone program or 735 minutes of bottom time in the overhead environment if taught as a continuous program: Cavern through Advanced Cave. All skills and drills must be mastered to the satisfaction of the instructor and the diver must be able to do them in a reasonably comfortable, fluid, and repeatable manner.

2.5.14 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 3:1.

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Advanced Cave Diver Instructor.

2.6 CCR Cave Diver: Course Description and Standards

2.6.1 Purpose

The purpose of the NSS-CDS CCR Cave Diver course is to train certified rebreather divers in the techniques, skills and methods of cave diving utilizing a closed circuit rebreather for cave dives.

2.6.2 Course Duration

This course requires a minimum of six (6) days to complete. However, course duration is determined by completion of bottom time of 600 minutes and required skills. All skills are to be completed and performed to the satisfaction of the Instructor. If this class is being taught as Advanced CCR cave minimum bottom time is 680 minutes and the First Responder coursework will be included.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.6.3 Prerequisites

A certified rebreather diver with a recognized training agency and a minimum of twenty five (25) dives and thirty five (35) hours of logged rebreather diving on the rebreather to be used during the course.

2.6.4 Classroom Presentations

Required topics include:

A. NSS-CDS organization, limits of training and course completion requirements.

B. Conservation.

C. Accident analysis.

D. Cave formations and terminology.

E. General and specific hazards of the cave environment.

F. Equipment and configuration.

G. Trim and propulsion techniques.

H. Communications.

I. Navigation techniques.

J. Guidelines and line laying.

K. Decompression policies and procedures, along with proper choice of breathing gasses and bailout gasses to minimize decompression obligations.

L. Line configurations.

M. "Ts," jumps and gaps.

N. Complex navigation including circuits and traverses.

O. Dive planning and procedures including O2, diluent and CO2 absorbent management and bailout gas requirements and matching Individual, team and staged bailout planning hypoxia, hyperoxia and hypercapnia.

P. A review of rebreather failures and recovery drills.

Q. Understanding and use of cave surveys.

R. Physiological aspects of cave diving and stress control.

S. Problem solving and emergency procedures.

T. Controversial subjects including visual jumps, trust me dives, blind traverses, visual

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

entry without primary reels and solo diving.

U. A final review and individual student critique to aid the student in their continuing education.

V.

2.6.5 Course Texts

A. *NSS-CDS Student Workbook* (required)
B. *NSS-CDS Cave Diving Manual* (recommended)
C. *NSS-CDS Blueprint for Survival* (recommended)

2.6.6 Written Test

Successful completion of a written exam is required.

2.6.7 Land Drills

The purpose of land drills is to demonstrate tie-offs, line placements, line traps, line following and line protocols. Each member of the team must demonstrate clear understanding of the techniques and demonstrate the ability to perform these skills on land before entering the water.

A. Guideline use and use of reels.

B. Guideline following.

C. Use of safety reel.

D. Jumps and gaps.

E. Use of line arrows and line markers.

F. Emergency procedures.

2.6.8 Open Water Drills

An Open Water dive will be conducted prior to any Cave Dives in order to introduce basic Cave Diver techniques and for the Instructor to review student rebreather skills. In the interest of diver safety CCR divers must always be able to monitor their PPO2 in any environment.

A. Guideline following with no visibility.

B. Guideline following with no visibility while simulating a rebreather failure and OC bailout, maintaining contact with the guideline.

C. No mask swim following guideline and mask removal and replacement while maintaining contact with the guideline.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.6.9 Cave Dives

In the interest of diver safety CCR divers must always be able to monitor their PPO2 in any environment.

The following skills are to be performed on each dive:

A. Pre-breathe and CCR checks.

B. Safety drill (leak check, equipment check and bailout gas check). Calculation of dive limits, turn time/pressure/scrubber time. Satisfactory performance of specialized propulsion techniques appropriate for the environment, demonstrating efficiency and minimum environmental impact. Satisfactory performance of buoyancy control and trim technique.

C. Use of reels and guidelines in the cave. Management of rebreather and all other equipment.

The following are to be performed competently by each student at least once during the course:

D. Simulate a primary light failure and exit the cave for a reasonable distance on back-up light.

E. Exit the cave in a lights out situation while maintaining contact with the guideline. (Allows the student to monitor their PO2).

F. Exit the cave whilst recovering from a simulated rebreather failure in a simulated zero visibility conditions while maintaining contact with the guideline.

G. Lost diver, simulate recovery of a lost diver with a safety reel.

H Lost line drill, simulate recovery of a lost guideline with safety reel while under simulated zero visibility conditions.

I. Use of reels for gaps and jumps.

J. Techniques and protocols to maintain continuous line and navigational certainty to the exit in more complex cave-diving scenarios than faced in earlier training, line jumps and gaps and the potential and/or actual application to circuits and traverses (when appropriate) and ensuring safe gas supply and reserves during all dives. (Student completion of an actual circuit or traverse is not required at this level of training.)

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

K. Open-circuit bailout exit from the cave for a reasonable distance to determine gas requirements and breathing rates.

L. Perform an SCR exit from a cave dive.

M. Manual control of the CCR for a complete cave dive.

N. Exit the cave while simulating a rebreather failure and exchanging bailout cylinders in accordance with team bailout procedures.

O. Perform a recovery from a simulated rebreather failure while maintain correct trim and demonstrating correct buoyancy control to maintain a fixed position in the water column.

P. Optional skills as per Cave Diver course.

Q. In the interest of diver safety CCR divers must always be able to monitor their PPO2 in any environment.

2.6.10 Limits of Training

A. Divers trained to the NSS-CDS CCR Cave Diver level should be recognized as free to engage in routine cave diving activities utilizing a closed circuit rebreather. However, in the interest of protection, conservation and general safety, the right of a cave diving site operator to require additional credentials and/or proof of experience for certain activities or access to certain cave environments is recognized by the NSS-CDS.

B. Unless otherwise previously qualified as a Cave Diver with the NSS-CDS or other recognized training agency the NSS-CDS CCR Cave Diver level does not qualify a diver to conduct open circuit cave dives.

C. The single most important limitation for this level is self-comfort and comfort level of the team. Divers should understand *all* limitations and plan dives accordingly.

D. *Oxygen:* All divers should exit the cave with 1/3 of onboard O2 remaining in their cylinder

E. *Diluent:* All divers should exit the cave with one third of their starting gas pressure remaining in their onboard diluent supply cylinder

F. *Bailout:* Sufficient bailout gas must be carried to ensure the safe exit of the dive team from the furthest point of penetration, including any planed deco and based on matching individual, team or staged bailout

G. The maximum dive PO2 must not exceed 1.3 bar PO2 and the maximum decompression PO2 must not exceed 1.4 bar PO2

H. *Scrubber:* All divers must not exceed the safe working limits of the CO2 scrubber for their rebreather

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

I. Where different units are used in the same team the rebreather with the lowest limit must be the limiting rebreather

J. Depth: Not to exceed 130 feet/40 meters

K. 20 feet/ 6 meters minimum starting visibility

L. Dives shall be planned to minimize decompression obligations during training

M. No removal of primary life support equipment during cave or open water dives

N. No diver propulsion vehicle use in a cave.

2.6.11 Equipment Requirements

A. An approved rebreather. (see note *1)

B. Back mounted buoyancy compensation system complete with backplate and harness/ mounting system for the rebreather (this can be an integral part of the rebreather where applicable).

C. Exposure suit/thermal protection suitable for the duration of dives and location of training.

D. One (1) primary cave diving reel with a minimum of 350 feet/110 meters of guideline per team.

E. One (1) safety reel with a minimum of 100 feet/30 meters of line per diver.

F. Three (3) directional line arrows and two (2) non-directional line markers per diver.

G. Knife and back-up line cutter configured to minimize entanglement.

2.6.12 Minimum Age

The minimum age for participating in an NSS-CDS CCR Cave Diver training course is eighteen (18) years of age.

2.6.13 Student Ratios and Instructor Requirements

A. Maximum student-to-Instructor ratio of 3:1

B. To conduct this level of training an NSS-CDS Instructor must be an "Active Status" NSS-CDS CCR Cave Diver Instructor.

Note 1: An approved rebreather is a rebreather that the student received their certification on from a recognized and insured training agency.

2.7 CCR Cave Diver Upgrade: Course Description and Standards

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.7.1 Purpose

The purpose of the CCR Cave Diver Upgrade program is to train open circuit Cave Divers who have sufficient CCR diving experience the techniques and methods of safely utilizing a closed circuit rebreather for cave diving.

2.7.2 Course Duration

The course usually takes four (4) days to complete. However course duration is determined by completion of minimum dives, bottom time and required skills. All skills are to be completed and performed to the satisfaction of the Instructor.

2.7.3 Prerequisites

As listed in the NSS-CDS CCR Cave Diver course plus NSS-CDS Cave Diver level or equivalent.

2.7.4 Classroom Presentations

Required topics include:

A. Equipment and configuration.

B. Decompression policies and procedures, along with proper choice of breathing gasses and bailout gasses to minimize decompression obligations.

C. Dive planning and procedures including O2, diluent and CO2 absorbent management and bailout gas requirements and matching individual, team and staged bailout planning, hypoxia, hyperoxia and hypercapnia.

D. A review of rebreather failures and recovery drills.

E. Problem solving and CCR emergency procedures.

F. A final review and individual student critique to aid the student in their continuing education.

2.7.5 Open Water Drills

An Open Water dive will be conducted prior to any Cave Dives in order to introduce basic Cave Diver techniques and for the Instructor to review student rebreather skills. In the interest of diver safety CCR divers must always be able to monitor their PPO2 in any environment.

A. Guideline following with no visibility.

B. Guideline following with no visibility while simulating a rebreather failure and OC bailout, maintaining contact with the guideline.

C. No mask swim following guideline and mask removal and replacement while maintaining contact with the guideline.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2.7.6 Course Texts

A. *NSS-CDS Student Workbook* (required).

B. *NSS-CDS Cave Diving Manual* (recommended)

C. *Basic Cave Diving: A Blueprint for Survival* (recommended)

2.7.7 Written Test

None required at this level. (Instructor may require at his/her discretion.)

2.7.8 Land Drills

At discretion of Instructor to review line/reel techniques.

2.7.9 Cave Dives

The minimum total bottom time in the cave environment to complete this level of training is 280 minutes.

2.7.10 Limits of Training

As listed in the CCR Cave Diver course.

2.7.11 Equipment Requirements

All equipment as listed in the CCR Cave Diver course.

2.7.12 Minimum Age

The minimum age for participating in an NSS-CDS CCR Cave Diver training course is eighteen (18) years of age.

2.7.13 Student Ratios and Instructor Requirements

A. Maximum student-to-Instructor ratio of 3:1. to conduct this level of training an NSS-CDS Instructor must be an "Active Status's-CDS CCR Cave Diver Instructor.

2.8 CCR Cave Instructor Crossover: Course Description and Standards

2.8.1 Purpose

The purpose of the NSS-CDS CCR Cave Instructor Crossover is to bring into the NSS-CDS skilled and experienced Instructors who are already NSS-CDS Cave Instructors in good standing with the NSS-CDS and the Training Committee and existing CCR Cave Instructors with a recognized training agency which runs a CCR Cave Diver program.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

This will allow the NSS-CDS to actively engage in teaching CCR Cave Diver courses until such time as the Training Committee issues Standards and Procedures for CCR Cave Instructor Intern and CCR Cave Instructor Institute.

2.8.2 Procedure

For a period of twelve (12) months from the Board of Directors approval of the CCR Cave Diver course Standards and Procedures, applications for appointment as an NSS-CDS CCR Cave Instructor will be considered by the Training Committee. Subject to approval by the Training Chairman and Training Committee successful applicants will be certified as NSS-CDS CCR Cave Instructors and able to teach the NSS-CDS CCR Cave Diver programs.

2.9 Appendix

2.9.1 Decompression Policies During Training Dives

2.9.2 Introduction

On occasion, during the Apprentice Cave Diver, Cave Diver and Specialty courses, the nature of the passageway configuration or routes selected may expose the student to bottom times beyond the "No Decompression Limits" of the U.S. Navy Standard Air Decompression Tables, other air/nitrox tables or air/nitrox diving computers. The following policies and procedures are provided for guidance of the instructor in planning and executing the cave dive. The policies reflect generally accepted practices within the cave diving community. Should any training dive exceed 80% of the no-decompression limit for the depth of the planned cave dive, these procedures shall prevail. In the interest of safety, dive tables and/or dive computer algorithms more conservative than the US Navy dive tables are recommended.

2.9.3 Definitions

A. *Actual Bottom Time* is defined as the time beginning from when team submerges until the team reaches its first decompression stop or begins a direct ascent to the surface, whichever is most appropriate for the dive.

B. *Actual Depth* of the dive is defined as the maximum depth achieved during the cave dive.

C. *Standard Dive Profile* is defined as the correlation between the Actual Bottom Time and Actual Depth of the dive to the listed or next greater depth and time figures as contained in the U.S. Navy Standard Air Decompression Tables or other diving tables.

D. *Surface Decompression* is defined as the time spent at rest on the surface after a dive which has exceeded 80% of the "No Decompression Limits." The minimum Surface Decompression shall be one-half of the shallowest required decompression stop or five (5) minutes, whichever is longer. Instructors are encouraged to use this time to review

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

the dive with the student(s). Should rope(s) and/or ladder(s) be required to exit the dive site, additional Surface Decompression is encouraged before exiting the water.

2.9.4 Equipment Requirements

A. Emergency oxygen supply is required to be on-site when training dives are expected to exceed 80% of the No Decompression Limits.

B. Liquids for diver hydration shall be available on-site at every cave dive in which training dives are expected to exceed 80% of the No Decompression Limits.

2.9.5 Site Limitations

Sites in which the divers must first descend after completing decompression in order to ascend to the surface are not permitted.

2.9.6 Other Provisions

Questions concerning conditions not specifically referenced above should be referred to the Training Committee Chairman and/or Training Committee.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Section 3 NSS-CDS Special Programs and Specialty Courses

3.1 Stage Diving: Course Description and Standards

3.1.1 Purpose

The purpose of the Stage Diving Specialty course is to expose the trained cave diver to the basic fundamentals of the safe use of stage cylinders for extended penetration diving in underwater caves while under the direct supervision of a qualified Stage Diving Specialty Instructor. The student is able to build practical experience in the field under controlled conditions. Safety and conversation practices, procedures and techniques common while stage diving the unique environment of a cave are covered to help develop the participant's skills and knowledge in extended range penetration diving. Longer decompression obligations and more complex navigation concerns are covered. This course may be integrated into the Advanced Cave course at the discretion of the instructor.

3.1.2 Course Duration

At least two (2) days.

3.1.3 Prerequisites

NSS-CDS Cave Diver level of training or equivalent.

3.1.4 Classroom Presentations

A. Motives.

B. Equipment.

C. Procedures and technique.

D. Task loading.

E. Decompression.

3.1.5 Land/Open Water Drills or Practice

A. Open water or in-cavern practice of dropping and recovering stage cylinder(s).

3.1.6 Cave Dives and Skills

A. At least three (3) cave dives utilizing stage cylinder(s) for extended penetration.

B. One gas-sharing drill to be done at instructor's discretion.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

3.1.7 Equipment Requirements

All equipment listed in the Cave Diver course with the following additions:

A. Dive cylinder configuration may consist of any twin cylinder configuration agreed to by the instructor and student(s).

B. Suitably rigged stage cylinder(s) with regulator.

3.1.8 Limits of Training

A. Penetration limited to 1/3 or less of twin diving cylinders and 1/3 or less of stage cylinders.

B. Doubles with a minimum of 72 cu. Ft./2039 L. each with a starting pressure of 1800 psi./124 bar.

C. Depths not to exceed 130 feet/40 m.

D. 20 feet/6 m minimum starting visibility.

E. No equipment removal in cave (except for decompression and stage cylinders).

F. No use of diver propulsion vehicles in caves.

3.1.9 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 2:1.

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor for at least one (1) year and have:

1. Taught at least four (4) complete Cave Diver courses.
2. Have at least twenty (20) logged non-training related stage dives.
3. Have at least two hundred (200) logged cave dives.
4. Co-taught at least one (1) Stage Diving course with an NSS-CDS Stage Diving Specialty Instructor.
5. Approval of Training Committee Chairman and Training Committee based on approved Standards and Procedures requirements.

C. Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

3.2 DPV (Diver Propulsion Vehicle) Pilot: Course Description and Standards

3.2.1 Purpose

The purpose of the DPV (Diver Propulsion Vehicle) Pilot specialty course is to expose the trained cave diver to the basic fundamentals of the safe operation of diver propulsion vehicles in underwater caves while under the direct supervision of a qualified DPV Pilot Instructor. The student is able to build practical experience in the field under controlled conditions. Safety practices, procedures and techniques common to most DPVs used in this unique environment are covered. Conservation considerations such as low-impact operation are emphasized. Potential emergency situations are simulated and practiced.

3.2.2 Course Duration

At least two (2) days.

3.2.3 Prerequisites

NSS-CDS Cave Diver level of training or equivalent and at least (50) logged cave dives beyond the Cave Diver level (not including training dives).

3.2.4 Classroom Presentations

A. Safety procedures.

B. Cave conservation.

C. DPV technique.

D. Gas management. Including stage as a safety bottle for DPV extended range

E. Team back-ups.

F. Mechanical advantages and disadvantages of DPVs.

3.2.5 Open Water Drills or Practice

A. Proper use and rigging of DPV.

B. Tow harness and simulated towing technique and associated rescue techniques.

3.2.6 Cave Dives and Skills

A. At least three (3) cave dives using a DPV.

B. Complete S-drill, “bubble check” and equipment check prior to each dive.

C. Exit cave while gas sharing and using DPVs in simulated limited visibility while maintaining visual/touch contact with the guideline as appropriate.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

D. Simulate the removal of a disabled DPV from the cave, both by utilizing DPV towing procedures with one active DPV and by swimming the disabled DPV for a distance within the cave.

E. Anti-silting techniques and guideline referencing.

F. Simulated total loss of visibility.

G. Restriction negotiation.

3.2.7 Equipment Requirements

All equipment listed in the Cave Diver course with the following additions:

A. Dive cylinder configuration may consist of any twin cylinder configuration agreed to by the instructor and student(s).

B. Suitably outfitted diver propulsion vehicle. DPV type should be compatible with the cave systems chosen for dives.

C. Tow strap or harness.

3.2.8 Limits of Training

A. Penetration limited to 1/3 or less of twin diving cylinders and 1/3 or less of stage cylinders.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000psi/140 bar.

C. Depths not to exceed 130 feet/40 m.

D. 20 feet/6 m minimum starting visibility.

E. No equipment removal in cave (except for decompression cylinders, stage cylinders and/or DPV).

3.2.9 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 2:1

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor for at least one (1) year and have:

1. Taught at least four (4) complete Cave Diver courses.
2. Have at least fifty (50) logged non-training related DPV dives.
3. Have at least two hundred (200) logged cave dives.
4. Co-taught at least two (2) DPV pilot training courses with an NSS-CDS DPV Pilot Specialty Instructor.
5. Approval of Training Committee Chairman and Training Committee based on approved Standards and Procedures requirements.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

C. Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

3.3 Advanced Sidemount Diving: Course Description and Standards

3.3.1 Purpose

This course is entitled advanced sidemount since sidemount is used in all levels of overhead environment training. This course covers the use of stage cylinders, how to ride a DPV in sidemount configuration, how to deal with restrictions advanced gas management techniques and smaller areas where real sidemount techniques are required under the direct supervision of a qualified Advanced Sidemount Diving Specialty Instructor.

3.3.2 Course Duration

At least two (2) days.

3.3.3 Prerequisites

NSS-CDS Cave Diver level of training or equivalent.

Cave DPV Pilot

Sidemount experience

3.3.4 Classroom Presentations

A. Analysis of the limitations of back-mounted cylinder configurations.

B. Sidemount cylinders as an alternative considering such factors as steep climbs, the need to lower equipment, limited gas fills, remote sites, long walks to the site and rough terrain.

C. Equipment setup including outfitting of cylinders with rings and snaps as required, regulators and hoses, lights, use of reels and buoyancy compensator.

D. Physical aspects including tunnel size, visibility, line traps, restrictions and independent team members.

E. Gas management including low visibility and balancing reserve in cylinders.

F. Dive team relations.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

G. Conservation including small cave passage and damage avoidance, avoiding unusual formations and route selection.

3.3.5 Land/Open Water Drills or Practice

None required. A sidemount familiarization dive may be performed in open water or the cavern zone at the discretion of the instructor.

3.3.6 Cave Dives and Skills

At least three (3) sidemount cave dives will be made.

3.3.7 Equipment Requirements

All equipment listed in the Cave Diver course with the following additions:

A. Suitably rigged sidemount harness and buoyancy compensator or jacket BC rigged for sidemount.

B. Two single cylinders with regulators suitably rigged for sidemount diving.

C. A variety of snaps, clips, rings and any optional special mounting plates or devices as required.

D. Note a 5 foot/1.5 m intermediate-pressure hose is not required.

3.3.8 Limits of Training

A. Penetration limited to 1/3 or less of twin diving cylinders and 1/3 or less of stage cylinders.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000psi/140 bar.

C. Depths not to exceed 130 feet/40 m.

D. No training will be conducted in those sites in which visibility is expected to drop below ten (10) feet.

Note: The nature of sidemount diving could expose the student(s) to situations in which low visibility may be encountered. Therefore, visibility during training shall never be allowed to deteriorate beyond the point in which the student(s) can clearly see and identify the instructor or the instructor can clearly see and identify the student(s). Should visibility deteriorate, the dive shall end at once.

3.3.9 Student Ratios and Instructor Requirements

A. Maximum student-to-instructor ratio of 2:1 with at least 20 foot visibility and 1:1 with visibility of less than twenty (20) feet but more than ten (10) feet..

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

B. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor for at least one (1) year and meet the following criteria:

1. The instructor shall have completed teaching at least four (4) complete Cave Diver courses.
2. The instructor shall have logged at least fifty (50) non-training related sidemount dives.
3. Have at least two hundred (200) logged cave dives.
4. Co-taught at least one (1) Sidemount Diving Specialty course with an NSS-CDS Sidemount Diving Specialty Instructor.
5. The instructor shall have sidemount experience with more than one type or size of sidemount cylinders.
6. Approval of Training Committee Chairman and Training Committee based on approved Standards and Procedures requirements.

C. Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

3.4 Underwater Cave Surveying: Course Description and Standards

3.4.1 Purpose

The purpose of the Underwater Cave Surveying specialty course is to introduce the trained cave diver to the basic fundamentals of surveying underwater caves while under the direct supervision of a qualified Underwater Cave Surveying Specialty Instructor. This course is intended to motivate more divers to survey caves, encourage the use of cave maps in dive planning and increase the quantity and quality of published cave maps. Additionally, this program is designed to assist in promoting standardization for all survey projects.

The course material reviews early surveys and the development of standards and procedures. The seven phases of the survey process, from conception to completion of a survey, are discussed. Topics covered in full detail include accuracy standards, composition of the survey team, use and fabrication of special tools, survey techniques and methodology, safety considerations, data manipulation and mathematical calculations, symbology, cartography, copyright and publication.

3.4.2 Program Duration

Approximately two (2) days.

3.4.3 Prerequisites

NSS-CDS Cave Diver level of training or equivalent.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

3.4.4 Classroom Presentations

A. History of surveys.

B. Motivations to survey.

C. The survey process, including dive planning and survey dives.

D. Accuracy.

E. The survey team including communications.

F. Special tools, equipment and techniques including compass reading and compass errors.

G. Techniques including tie-off/station selection, vertical surveying, large chambers, long passages, radial surveys and sketching.

H. Safety.

I. Reducing data including verification and data preparation.

J. Cartography including single line maps and higher grade maps.

K. Copyright and publication.

3.4.5 Land Drills

Practical application of the techniques and mathematical procedures presented in the classroom will be conducted on dry land.

3.4.6 Cave Dives and Skills

At least two (2) cave survey dives are required. The instructor may require more than two (2) cave survey dives.

3.4.7 Equipment Requirements

A. Note pad, pen and pencils.

B. Graph paper.

C. Scaling ruler.

D. Circular protractor.

E. Basic calculator (can square and extract square roots) or scientific calculator.

3.4.8 Course Texts and References

Basic Underwater Cave Surveying by John Burge, NSS-CDS, 1989.

3.4.9 Limits of Training

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

A. Penetration limited to 1/3 or less of twin diving cylinders and 1/3 or less of stage cylinders.

B. Minimum of a 72 cu. Ft./2039 L. tank with a starting pressure of 2000psi/140 bar.

C. Depths not to exceed 130 feet/40 m.

D. 20 feet/6 m. minimum starting visibility.

E. No equipment removal in cave (except for decompression cylinder).

F. No diver propulsion vehicles in caves.

3.4.10 Instructor Requirements

A. To conduct this level of training an NSS-CDS instructor shall be an "Active Status" Cave Diver Instructor for at least one (1) year and meet the following criteria:

1. The instructor shall have completed teaching at least four (4) complete Cave Diver courses.
2. The instructor shall have logged at least twenty (20) non-training related survey dives.
3. Have at least two hundred (200) logged cave dives.
4. Been a principal or key individual with at least one underwater cave survey project (name should be listed on final map), having displayed the resulting cave map at an NSS-CDS Workshop, published it in "Underwater Speleology," donated it to the NSS-CDS or entered it in competition at the national NSS Cartography Salon.

B. Approval of Training Committee Chairman and Training Committee based on approved Standards and Procedures requirements.

C. Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

3.5 Cartography: Program Description and Standards

3.5.1 Purpose

This NSS-CDS Special Program is data management-oriented and is designed to introduce the basics of underwater cave map presentations. The program's goal is to develop the ability to complete the surveying and map-making process and actually produce a map.

This program includes a brief review of surveying technique, manual and computer-aided data reduction, verifying data and correcting for errors, necessary materials and supplies and transforming data into the finished map.

Participation is open to anyone with an interest in underwater cave mapping. Participants

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

are expected to have knowledge of cave diving and underwater surveying. While underwater activities and techniques are discussed, no underwater skill training or evaluation is provided.

3.5.2 Program Duration

At least one (1) day.

3.5.3 Prerequisites

A. None required.

3.5.4 Classroom Presentations

A. Safety, conservation, educational and scientific roles of maps.

B. Analysis of current cave maps.

C. Planning for map making.

D. Materials selection.

E. Data reduction.

F. The basic rough plot and draft.

G. Error detection and loop closure.

H. Proportionality, style, labeling and map symbology.

I. Adding data to the rough draft.

J. Finalizing the map.

K. Publishing.

3.5.5 Land/Open Water Drills or Practice

None required.

3.5.6 Cave Dives and Skills

None required.

3.5.7 Equipment Requirements

A. Student provided materials:

1. Note pad, pen and pencils.
2. Graph paper.
3. Scientific calculator.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

4. Other materials as specified by program instructor. Data reduction, drafting and inking supplies may be required for program use.

B. Instructor provided materials:

1. Program outline.
2. Sample maps, references to survey grades and symbols. Supplemental reference list, data collection form and specifications for drawing supplies and media.

3.5.8 Course Texts and References

Basic Underwater Cave Surveying by John Burge, NSS-CDS, 1989.

3.5.9 Instructor Requirements

A. To conduct the NSS-CDS Cartography Special Program, the Program Instructor shall be:

1. "Active Status" Cavern, Basic Cave, or Cave Diving Instructor. The NSS-CDS instructor shall have completed teaching at least four (4) complete NSS-CDS courses and have at least twenty (20) logged survey dives and have completed the Underwater Cave Surveying Course. (Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.), or…
2. An active NSS-CDS member who has been approved by the NSS-CDS Cartography Committee Chairman and Training Committee. The NSS-CDS member shall be trained to at least the Cave Diver level, possess the Abe Davis Award and have at least (20) logged survey dives.

B. In addition to the above, the Program Instructor shall have:

1. Completed and published an underwater cave map for which he/she was the single or a principal cartographer.
2. Displayed an underwater cave map at an NSS-CDS Workshop, published a map in *Underwater Speleology* or entered competition in the national NSS Cartography Salon for which they were the single or a principal cartographer.

C. An NSS-CDS Cartography Program Instructor who is not a regular "Active Instructor" shall renew with the Training Committee annually. There are no fees for this renewal.

3.6 First Responder Program Description and Standards

3.6.1 Purpose

First Responder Program is a Management-oriented program designed to introduce cave divers to the fundamentals of conducting, investigating and managing cave-diving related fatalities and recovery. NSS-CDS Instructor

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Sponsors will be trained to conduct this program initially. Sponsors will then be tasked to provide this coursework to the instructors that they sponsored. Instructors may also be qualified by working with approved IUCRR representatives. Notification to the training chairman that the coursework has been completed is required so as to update the instructor training database.

A. This program may be conducted by any "Active Status" NSS-CDS Advanced Cave Diver Instructor.

3.6.2 Program Duration

A. Classroom presentations.

3.6.3 Instructor Requirements

Must be an Advanced cave instructor

3.7 Trimix Cave Diver: Open Circuit or Closed Circuit Rebreather Course Description and Standards

3.7.1 Purpose

The purpose of the Trimix Cave Diver course is to provide the Cave Diver training for the safe planning and execution of mixed gas diving in caves to depths not exceeding three hundred (300) fsw/ninety (90) msw. The diver will be introduced to the proper and safe use of helium as a breathing gas, along with oxygen and nitrox for staged decompression. This course will emphasize precision and accuracy in all aspects of the dive beginning with advanced pre-dive planning. Safety will be a primary focus of this course due to the depths to which dives will be made.

Course Duration

Course duration shall be a minimum of four (4) days.

3.7.2 Prerequisites

A. Minimum of twenty-one (21) years of age.

B. NSS-CDS Cave Diver or the equivalent.

C. Minimum of fifty (50) logged non-training cave dives after completion of Cave Diver.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

D. Must be trimix certified from a recognized training agency or taking this course in conjunction with a trimix course.

E. Rebreather option: Must be qualified as a Normoxic Rebreather Diver, or if entering the Program based on equivalent experience, must be qualified as either open circuit Normoxic Trimix Diver or open circuit Trimix Diver or must be taking the Normoxic Rebreather Diver and Trimix Diver course on an approved Rebreather for mixed gas diving, with all dives other than confined water made on Trimix or Heliox. Note all Rebreather Trimix Divers must have completed the Normoxic Rebreather knowledge development program and skills.

F. Rebreather option: 50 hours of dive time, post rebreather certification is required on the specific Rebreather for which the diver is being trained.

3.7.3 Classroom Presentations

Class presentation with a field exercises and pre-dive planning and briefing including the following topics:

A. Physics review

B. Physiology, including:

1. Equivalent Narcosis Depth
2. Hypoxia
3. Hyperoxia
4. Pulmonary (Whole Body) and Central Nervous System Toxicity
5. Anoxia
6. Narcosis (nitrogen, oxygen and helium)
7. Decompression Sickness
8. Nitrogen and helium absorption and elimination
9. Helium and nitrogen “bends”
10. Carbon dioxide
11. Sources, effects and prevention
12. Contributing factor to DCS, oxygen toxicity and nitrogen narcosis
13. Carbon monoxide- sources and effects
14. Helium
15. Properties
16. HPNS
17. Effects on respiration
18. Effectiveness as an insulator/alternatives
19. Inert gas isobaric counter-diffusion

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

20. Comparative rate of absorption and elimination
21. Purpose of use
22. Gas consumption while breathing helium based gas mixtures
23. Hyperthermia
24. Hypothermia

C. Psychological aspects

D. Decompression gas options
   1. Oxygen
   2. Nitrox
   3. Air
   4. Helium

E. Equipment considerations
   1. Equipment marking
   2. Gas analyzers
   3. Travel gas
   4. Regulator performance and helium mixes
   5. Suit inflation options
   6. Dual buoyancy requirements
   7. Rigging/configuration
   8. Redundancy

F. Dive computers, tables and available software

G. Dive planning
   1. Dive plan
   2. Contingency planning
   3. Gas analysis and labeling
   4. Gas requirements
   5. Gas switches
   6. Oxygen and decompression cylinder placement
   7. Stage cylinder use, including gas contingency planning
   8. Oxygen limits
   9.Inert gas limits

H. Emergency procedures
   1. Omitted decompression/DCS

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2. Regulator and other equipment failure
3. Loss of gas
4. Nitrogen narcosis
5. Oxygen toxicity
6. Psychological aspects

I. Accident Analysis

J. Specific hazards of deep cave diving

K. Mixing and Blending (Optional)

1. Optimal mixes
2. Trimix, heliair and heliox
3. Hypoxic, normoxic and hyperoxic gas mixes
4. Blending options
5. Stratification
6. Gas boosting with oxygen and/or helium
7. Gas analysis
8. Cylinder top-offs and calculations

L. Rebreather option: For those who are already OC Trimix Divers this class must include a confined water session and a minimum of 150 minutes of in water training time, using Trimix or Heliox, completed within at least two (2) open-water or overhead-environment dives.

3.7.4 Land/Open Water Drills

Minimum of one (1) open water dive during which designated drills will be conducted.

Prior to the execution of any cave dive, the student shall satisfactorily complete the following open water drills:

A. Swim a measured line for ten (10) minutes in full equipment- including staged decompression and oxygen cylinders.

B. Execute a series of decompression and oxygen cylinder drops and retrievals along a measured line. This drill shall be performed both in good visibility conditions and in simulated zero visibility by use of a blacked out mask or other technique.

C. Initiate a gas share and swim a measured line in full equipment for a period of ten (10) minutes.

D. Simulate an out of gas ascent from a depth of no greater than sixty (60)/eighteen (18) meters feet with simulated decompression stops. Under no circumstance shall this drill be performed at a point that any diver in the team has accumulated required

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

decompression.

E. Perform a timed valve shutdown. The diver should have the ability to complete this exercise in no more than sixty (60) seconds.

3.7.5 Cave Dives and Skills

Minimum of one shallow (less than one hundred and thirty (130) fsw/thirty-nine (39) msw) cave dive during which SAC and foot per minute travel rates are measured, cylinder drops and retrievals are executed and a gas share procedure is executed. Minimum of three (3) deep caves dives at a minimum of. All dives must have a minimum depth of 180 feet and a maximum depth of 300 feet. Each member of the dive team shall:

A. Prepare and precisely execute a dive plan.

B. Participate in a complete detailed pre-dive briefing.

C. Properly analyze and label all cylinders to be used for the dive.

D. Properly calculate gas turns based on pressure and volume of all team members.

E. Execute full and complete in-water pre-dive safety checks.

F. Demonstrate the ability to safely and efficiently execute oxygen and decompression cylinder drops and retrievals.

G. If stage cylinders are utilized, proper gas planning, cylinder drops and retrievals and contingency planning for cylinder placement for depths greater than the MOD of stage cylinder gas and gas use at higher than expected rates.

H. Demonstrate the ability to safely and efficiently execute required gas switches.

I. During the dive, demonstrate above-average execution of cave trim, technique and awareness.

J. At the conclusion of each dive, convey to the instructor a level of awareness and confidence consistent with the advanced nature of the dive.

No emergency drills shall be conducted at any time during the course of a deep cave dive and no equipment removal shall occur except for oxygen and decompression cylinders.

3.7.6 Equipment Requirements

In addition to all equipment required as a Cave Diver, the following:

A. Properly rigged and labeled decompression cylinder(s) of a minimum rated volume of 80 cubic feet/2265 L.

B. Properly rigged and cleaned oxygen cylinder(s) of a minimum rated volume of 40 cubic feet/1130 L.

C. Trimix computer and backup bottom timer/depth gauge and backup tables appropriate

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

for the planned dive or two bottom timer/depth gauges and tables appropriate for the planned dive.

D. Spare mask.

E. Oxygen and helium gas analyzers (may be provided by instructor).

F. Text as prescribed by the NSS-CDS Deep Cave Diver Specialty Instructor.

G. Rebreather Option: The student being trained must own or have unlimited access to the rebreather on which they are being trained.

3.7.7 Limits of Training

A. Equivalent Narcosis Depth (END) shall not exceed 100-130 fsw/ 30-39msw.

B. Pre-dive planning will provide for a PPO2 not to exceed 1.4 ATA for the working portion of the dive or 1.6 ATA for decompression purposes.

C. Minimum starting visibility shall be twenty (20) feet.

D. Penetration shall be limited to not greater than one-third (1/3) of doubles and one-third (1/3) of stage cylinder(s) if used.

E. Maximum depth shall not exceed three hundred (300) fsw/ninety (90) msw.

F. One-third (1/3) gas rule is the maximum rule for all cylinders- except for decompression cylinders- on all dives. This maximum rule may be reduced to less than one-third (1/3) at the instructor's discretion. The dive plan shall provide for a 1.5 margin of reserve for decompression gas for the planned dives.

F. No equipment removal in cave except for decompression and stage cylinders.

G. No use of diver propulsion vehicles.

H. Rebreather option: (CCR) Inspired oxygen partial pressure may not exceed 1.3 PO2 on a dive or 1.4 PO2 on decompression. At 20 fsw (6 msw) a flush to 1.6 may be used to check cell performance.

H. (CCR) If using a CCR dives must be conducted using an on board diluent mixture containing not more than 1.1 PO2 .

3.7.8 Completion Requirements

A. Completion of all requirements of the NSS-CDS Deep Cave Diver course.

B. Completion of the NSS-CDS Deep Cave Diver written examination with a grade of 80% or higher.

C. During the course, demonstration of a high proficiency level in all phases of dive

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

planning and execution.

D. Demonstration of a clear awareness and appreciation of the heightened level of risk involved in the activity of deep cave diving. A cavalier or otherwise disrespectful attitude is grounds for incompletion of this course.

E. Rebreather Option:
1. Perform Leak test
2. Perform Lost gas drill
3. Perform simulated bailout procedures with OC and buddy OC
4. Following a means of reference (pool wall, guide line, ship railing, etc.) with eyes closed, remove stage cylinders and swim a distance of at least 15 feet (4.5 meters). Reverse direction, return to stage cylinders and replace them on correct sides, identifying each cylinder by feel.
5. Simulate the rescue of a diver. Tow the diver on the surface for a distance of at least 40 feet (12 meters) while simulating mouth-to-mouth resuscitation.
6. Ascend or swim laterally using bailout for at least 30 fsw (9 msw) from a depth of at least 200 fsw (60 msw). Record time lapsed and gas used.
7. Perform SCR bailout for a minimum of ten minutes on at least one dive.
8. Exchange bailout cylinders or deploy long hose to a buddy on at least one dive.

Note: The NSS-CDS Deep Cave Instructor shall require rigorous precision and accuracy from the students at this level of training. Only those students who demonstrate high proficiency and awareness levels and the utmost respect for the deep cave environment will be issued a training completion card at this level.

3.7.9 Instructor Requirements

A. NSS-CDS Cave Instructor in current teaching status for a minimum of at least two (2) years, have completed a minimum of eight (8) Cave courses, a minimum of six (6) TDI, IANTD or equivalent Advanced Trimix (or equivalent) courses and approved by the Training Committee Chairman to teach the Deep Cave Diver Specialty Course.

B. IANTD or TDI Advanced Trimix Instructor or the equivalent.

C. Proof, either by logbook, referral by a current teaching status NSS-CDS Deep Cave Diver Instructor or approval on review of the Training Director, of a minimum of fifty (50) cave dives to depths exceeding two hundred (200) fsw/ (60) msw, twenty (20) of which shall have been to depths greater than two hundred and fifty (250) fsw/(76) msw.

D. Final approval by the Training Director to teach this course based on approved Standards and Procedures requirements.

E. Maximum student to instructor ratios:

1. Classroom- 6:1

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2. Open Water- 6:1
3. Shallow cave drills- 3:1
4. Deep cave dives- 3:1

F. When emergency drills are conducted, the instructor shall be within easy and manageable swimming distance of the students.

G. Instructor shall use cave configured equipment with double tanks and dual outlet manifold mandatory. Unless the rebreather option is being used. The instructor's gas supply- both as to quantity and content- in all cylinders, including decompression and stage cylinders, shall be consistent with that used by the students.

H. Instructor shall have a first aid kit and oxygen available for surface support.

I. Refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

J. Rebreather option: A Trimix Instructor or higher may teach this course.
To teach Rebreather Trimix, the Instructor must be a Trimix Rebreather Instructor or higher. The instructor may teach only the category Rebreather CCR, SCR, or PSCR their Trimix rebreather instructor qualification is on. Once qualified as a Rebreather Trimix Instructor, the instructor may use any rebreather they are at least diver-qualified on to teach Trimix Rebreather Diver programs. For example: A Rebreather Trimix Instructor who trained as a Rebreather Trimix Instructor on a CCR O2ptima may teach a Trimix Diver-level course while using any other CCR that the instructor, at minimum, is diver-qualified on. The Rebreather Trimix Instructor may teach students on all rebreathers the Instructor is diver-qualified on, provided they are a Rebreather Trimix Instructor in that category; CCR, SCR.

3.8 Overhead Nitrox Diver: Course Description and Standards

3.8.1 Purpose

The purpose of the Overhead Nitrox Diver course is to provide divers with the basic knowledge and skills necessary to safely use enhanced air nitrox (Nitrox) as a breathing medium. The course covers the use of Nitrox mixtures with an oxygen content ranging from twenty two percent (22%) to forty percent (40%) and may be taught as a single specialty or combined with other NSS-CDS courses.

3.8.2 Course Duration

Course duration shall be a minimum of four (4) hours.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

3.8.3 Prerequisites

A. Minimum of eighteen (18) years of age or, if at least sixteen (16) years of age, have obtained the appropriate NSS-CDS minor waiver as specifically set out in these Standards properly signed and, if required, notarized prior to the course start date.

B. Open Water Diver and enrolled in at least an NSS-CDS Cavern Diver course or, if this course is to be taught as a separate course, NSS-CDS Cavern Diver or equivalent.

3.8.4 Classroom Presentations

A. The origins, development and recognition of Nitrox as a breathing medium.

B. Physiology, including:

1. Hypoxia
2. Hyperoxia to include pulmonary and central nervous system toxicity
3. Anoxia
4. Nitrogen narcosis
5. Decompression sickness
6. Nitrogen absorption and elimination
7. Carbon dioxide
    a. Hypercarbia/hypercapnia
    b. Carbon dioxide as a contributing factor to DCS, oxygen toxicity and nitrogen narcosis
8. Carbon monoxide sources and effects
9. Hyperthermia
10. Hypothermia

C. Physics

1. Review of pressures-gauge and absolute
2. Understanding partial pressures, both PO2 and N2
3. Methods and formulas
    a. Maximum Operating Depth (MOD)
    b. Best Mix
    c. Equivalent Air Depth

D. Use of dive tables with Nitrox

1. Nitrox dive tables
2. Using an air table with the equivalent air depth formula

E. Use of dive computers with Nitrox

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

F. Advantages and disadvantages of Nitrox use
   1. Nitrox myths and misconceptions
   2. Extending no-decompression bottom times
   3. Shortening surface interval times
   4. Oxygen toxicity risks
   5. Strict adherence to maximum depth limits

G. Gas analysis procedures
   1. Oxygen analyzer functionality
   2. Proper use of an oxygen analyzer
   3. Performing gas analysis
   4. Proper cylinder marking
   5. Logging analyzed gas
   6. Methods of mixing Nitrox
      a. Partial pressure blending
      b. Membrane separation system
      c. Continuous blending

3.8.5 Land/Open Water Drills

No specific land or open water drills are required as a part of this course. In the event such dives are performed, all gasses utilized shall be properly analyzed and all cylinders clearly marked for contents and MOD.

3.8.6 Cavern or Cave Dives and Skills

No specific cavern or cave dives or drills are required as a part of this course.

Since this is an entry level Nitrox course and is an academic based course, no dives are specifically required as there are no water skills to evaluate. As an option, the Basic Nitrox instructor may, at his/her discretion, require students to perform Nitrox dives in conjunction with any other NSS-CDS course as a requirement for course completion.

In the event such dives are performed, all gasses utilized shall be properly analyzed and all cylinders clearly marked for contents and MOD.

3.8.7 Equipment Requirements

In addition to the equipment for the NSS-CDS course in conjunction with which this specialty course is taught, the following additional equipment:

A. Nitrox computer.

B. Accelerated U.S. Navy Air Decompression Tables.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

C. NOAA Nitrox I and II tables.

D. Oxygen analyzer. The Overhead Nitrox Diver Instructor may supply the analyzer for course purposes, but shall emphasize the need for the Overhead Nitrox Diver to own a suitable oxygen analyzer.

E. Text as prescribed by the NSS-CDS Overhead Nitrox Instructor.

3.8.8 Limits of Training

A. All limitations appropriate to the NSS-CDS course in conjunction with which this specialty course is taught.

B. If dives are to be conducted as part of the course then all dive planning shall provide for a not to exceed 1.4 ATA for the working portion of the dive and a of 1.6 ATA for decompression purposes. Staged decompression is permitted only if this course is combined with other courses that permit decompression. If training is delivered as a stand alone course then only dives requiring no decompression stops shall be utilized.

3.8.9 Completion Requirements

A. Completion of all the requirements of the NSS-CDS Overhead Nitrox Diver course.

B. Completion of the NSS-CDS Overhead Nitrox Diver examination with a grade of 80% or higher.

3.8.10 Student Ratios and Instructor Requirements

A. Maximum student to instructor ratios:

1. Classroom: 6:1.
2. Open water dives: 4:1.
3. Cavern or cave dives: 3:1.

B. Active Status NSS-CDS Cavern Instructor (or above) for at least one (1) year, have completed a minimum of four (4) NSS-CDS courses at any level, logged a minimum of one hundred (100) dives, fifty (50) of which must be at least Cavern dives, twenty (20) having been completed using a nitrox mixture and received approval of the Training Committee Chairman based on approved Standards and Procedures requirements.

C. Please refer to Section 4.6 of the NSS-CDS Standards and Procedures Manual for general procedures and requirements regarding NSS-CDS Specialty Instructor ratings.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Section 4 NSS-CDS Instructor Status and Training

4.1 Relationship of NSS-CDS Instructors to the NSS-CDS Board of Directors

All NSS-CDS instructors serve at the reasonable discretion of the Board of Directors of the NSS-CDS. The status of any NSS-CDS instructor is ultimately controlled by the NSS-CDS Board of Directors and could be subject to change at any time for appropriate reasons or concerns of the Board.

4.2 Active Status Instructor

To conduct NSS-CDS sanctioned training courses, instructors shall maintain Active Status. In order to maintain Active Status, an NSS-CDS instructor shall meet all of the following Annual Renewal and Minimum Requirements, plus at least one of the Additional Requirements listed below.

A. Annual Renewal and Minimum Requirements. Annual Instructor Membership Renewal Application and Medical Statement are e-mailed or mailed to the last known address of Active Status Instructors by the Training Committee Chairman on or about June 1 of each year. Instructors have until August 31 to renew. Failure to respond with properly completed Renewal Application, Medical Statement, supporting documents and dues/fees will result in the instructor being dropped from Active Status. The instructor shall also meet each of the following requirements:

1. Shall provide proof of "active instructor status" with a nationally recognized open water or technical diving training agency. This proof may be in the form of a photocopy of the current year's certification card or letter from the training agency acknowledging the instructor's current status.

   (*Exception:* An NSS-CDS Cave Instructor in good standing with at least four (4) years experience as an NSS-CDS Cave Instructor is not required to maintain an open water/technical training agency rating for NSS-CDS purposes, as long as the appropriate professional liability insurance and other NSS-CDS requirements are met).

2. Insurance Requirements:

   a. Shall provide proof of current professional liability insurance for dive instructional and supervisory activities with a nationally recognized insurance provider. This insurance shall include coverage for "technical" diving and have the NSS-CDS listed as an additional insured. The certificate of insurance submitted shall show the insured instructor's name.

   b. Shall abide by the standards and policies of the agency that is providing their insurance. Failure to do so may result in the instructor being dropped from Active Status.

3. Shall maintain "member in good standing" status with both the NSS and the NSS-

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

CDS. Proof of this status is acceptable with the signature of the instructor below a statement to this effect. Membership status is confirmed by the Section's Administrative Manager.

4. Perform a minimum of twelve (12) non-training related cave dives during the previous twelve (12) months. Proof of this activity shall be provided if requested by the Training Committee Chairman. (Contact the Training Committee Chairman for waiver or modification of this requirement. Diving instructors should also be active cave divers).
5. Meet at least one of the following requirements:
   a. Teach to completion at least one (1) NSS-CDS training course with a minimum of two (2) students within the previous calendar year, or
   b. Assist an NSS-CDS Instructor Sponsor with at least two (2) complete courses within the previous calendar year. These courses shall include at least four (4) students.

B. Additional Requirements.

In addition to the Minimum Requirements listed above, the instructor shall meet at least one (1) of the following to maintain Active Status. Proof of this status is acceptable with the signature of the instructor below a statement to this effect.

1. Attend at least one (1) instructor mini-workshop within a twenty-four (24) month period or attend the NSS-CDS Annual Workshop or any NSS-CDS Mini Workshop of the previous calendar year.
2. Attend any scheduled instructor meeting where all instructors are invited by formal notice in UWS magazine or by written or electronic mail notification to all instructors of the previous calendar year.
3. Publish at least one (1) training related article for an NSS sponsored publication within the previous year.
4. Provide at least one (1) presentation for an NSS-sponsored workshop within the previous calendar year pending approval of the Training Committee Chairman.
5. Completes a status update on line or by mail.
6. Attends a NSS-CDS Instructor Institute.

4.3 Inactive Status Instructor

A. An instructor who fails to meet the requirements for Active Status will revert to Inactive Status. During the first year of Inactive Status, the instructor may apply to the Training Committee Chairman for reinstatement. In addition to meeting all of the regular requirements (and fees) for Active Status, the instructor shall provide proof of having all current training materials issued to date.

B. Should the period of Inactive Status exceed one (1) year, the inactive instructor shall meet all of the requirements listed above plus:

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

1. Provide proof of having co-taught a class (with an Instructor Sponsor) at the level to which the inactive instructor wishes to be reinstated. The Instructor Sponsor and Training Committee Chairman have the right to request additional training and/or co-teaching on the part of the Inactive Status instructor. The Instructor Sponsor will sign an Instructor Intern Application form only when satisfied that the Inactive Status instructor is ready to resume Active Status.
2. Attend an administrative session in order to be updated on current Standards and Procedures.

C. An instructor can renew as Inactive Status for a maximum of three (3) years. If during the fourth year, the instructor does not reactivate to Active Status, he/she may be considered for Instructor Emeritus.

D. Inactive Status instructors shall first be reinstated to Active Status before they may request any other change in their status.

4.4 Provisional Status Instructor

This denotes any instructor with a written provision to be completed in order to qualify for Active Status. The instructor has ninety (90) days to complete such provisions or he/she shall apply to the Training Committee Chairman for an extension. The application shall be in writing and explain why the extension should be granted.

4.5 Instructor Intern Status

Instructor Interns represent those open-water instructors who have applied and been accepted into an NSS-CDS instructor training program. Instructor Interns neither increase nor decrease in-cave student-to-instructor ratios. Instructor Interns shall never take the place of an NSS-CDS instructor. Participants are issued certification cards as Instructor Interns and shall always be under the direct supervision of an Instructor Sponsor or other CDS Instructors who they are conducting co-teaches with, during NSS-CDS sanctioned training courses. The Instructor Intern status is temporary and must be renewed annually. An Instructor Intern Application, along with supporting documentation, shall be submitted to the Training Committee Chairman for this status to be in effect. Any person who has not made an application as a Instructor Intern and been approved by the Training Chairman will count as a student if diving with a class and must complete and sign an NSS-CDS Training Course Registration form, an NSS-CDS Assumption of Risk, Waiver, Release of Liability, Hold Harmless and Indemnification Agreement and any other form that may be required for a particular NSS-CDS course prior to the start of the dive. and will count in-cave student-to-instructor ratios.

4.6 Instructor Emeritus

Instructor Emeritus describes a retired instructor who has maintained a continuous and active interest in the NSS-CDS training program. An Instructor Emeritus may apply for

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

reinstatement as an Active Status instructor. The Instructor Emeritus shall meet all normal requirements for Active Status plus co-teach, with an Instructor Sponsor, at least three classes at each level of training at which the Instructor Emeritus retired. The Instructor Emeritus, his/her Instructor Sponsor and the Training Committee Chairman have the right to request additional training and/or co-teaching on the part of Instructor Emeritus. The Instructor Sponsor shall sign an Instructor Intern Application indicating that he/she is satisfied and that the Instructor Emeritus is ready to resume Active Status.

Once all paperwork has been received by the Training Committee Chairman, a new certification card will be issued to the Instructor Emeritus. The certification card issued will include original instructor number, certification dates and certifying instructor. There are no NSS-CDS reinstatement fees for the Instructor Emeritus.

4.7 Specialty Instructor

This denotes an Active Status Cave Diver Instructor who has taken an interest in teaching a specific area of cave diving activity. The Specialty Instructor will have developed and demonstrated special knowledge and skills and have an ongoing personal involvement regarding the specialty subject. The applicant should already possess a standard Training Completion Card for that particular specialty.

To obtain a Specialty Instructor rating for a Specialty Course, the Cave Diver Instructor shall:

A. Meet the instructor requirements listed for that Specialty Course.

B. Submit a completed NSS-CDS Specialty Instructor Application, with all requested supporting documentation, including course descriptions and outlines that will be used to teach the Specialty.

C. Be approved by the NSS-CDS Training Committee based on approved Standards and Procedures requirements.

D. The ability to teach the Specialty Course will renew automatically with instructor renewal. If an instructor becomes inactive for more that one year, all Specialty Course teaching credentials will be subject to review by the Training Committee.

Note: Specialty Courses include Stage Diving, DPV Pilot, Sidemount Diving, Underwater Cave Surveying, Deep Cave Diver and Overhead Nitrox Diver.

4.8 Special Program Instructor

This denotes an Active Status Cave Diver Instructor or NSS-CDS member who has taken an interest in teaching a specific area of cave diving activity that does not involve the supervision of divers underwater during any training. The Program Instructor will have developed and demonstrated special knowledge and skills and have an ongoing personal involvement regarding the Program subject. to obtain a Program Instructor Rating for a

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Special Program, the Cave Diver Instructor or member shall:

A. Meet the experience requirements listed for that Special Program. The applicant should already possess a standard Training Completion Card for the Special Program.

B. Submit a completed NSS-CDS Specialty Instructor Application, with all requested supporting documentation, including course descriptions and outlines that will be used to teach the Special Program.

C. Be approved by the NSS-CDS Training Committee, or the appropriate NSS-CDS Committee Chairman. (NSS-CDS BOD approval is required for the Recovery Program).

D. The ability to teach a Special Program will renew automatically with instructor renewal. Those NSS-CDS members and non-active instructors who are Program Instructors should renew with the Training Committee annually. There is no fee for renewing solely as a Program Instructor.

Note: Special Programs include Cartography.

4.9 Instructor Sponsor

This denotes an Active Status Cave Diver Instructor who has taken a special interest in the development of future NSS-CDS instructors. The Instructor Sponsor's primary responsibility includes the indoctrination of Instructor Interns with NSS-CDS policies and philosophy on cave and cavern diving. In addition, the Instructor Sponsor aids in the reinstatement of non-active status instructors to Active Status.

A. To obtain Instructor Sponsor Status, the instructor shall:

1. Be an NSS-CDS Cave Diver Instructor for a minimum of one (1) year prior to participating in the program.
2. Complete and submit an NSS-CDS Specialty Instructor Application. (List *Sponsor* in the blank marked *Other*.)
3. Approval by the Training Committee.
4. Shall complete to the satisfaction of the Training Committee Chairman or his/her appointed representative, a sponsor orientation session with the Training Committee Chairman or his/her appointed representative.
5. Have trained at least four (4) NSS-CDS students within the prior twelve (12) months.
6. Participate in one (2) Instructor Institute as assisting staff/observer.
7. To the satisfaction of the Training Committee Chairman or his/her appointed representative Complete a sponsor training program that includes screening and evaluation of Instructor candidates while displaying the proper attitude, knowledge and skills of a NSS-CDS Instructor Sponsor.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

B. To maintain Instructor Sponsor Status, the sponsor shall:

1. Maintain Active Status. If inactive for more than one (1) year, then at least one (1) year must pass after reinstatement to Active Status before he/she is eligible for Sponsor participation again.
2. Participate in at least one (1) instructor institute every three (3) years or attend a Sponsor Workshop conducted by the Training Chairman or anyone appointed by the Training Chairman with in the last year or have sponsored at less One (1) Instructor Intern who completed the program and was upgrade to "Instructor" in the past 24 months.
3. Have trained at least four (4) NSS-CDS students within the past twelve (12) months or have staffed a instructor institute that year.
4. Sponsors having two (2) Instructor Interns fail, or having three (3) Instructor Interns placed on provisional status as candidates at an Instructor Institute, may be dismissed from the Sponsor program.

4.10 Cavern Diver Instructor Intern: Program Requirements and Description

4.10.1 Purpose

Development of a trained Cavern Diver Instructor requires hands-on internship under the guidance of a seasoned Cave Diver Instructor. The Cavern Diver Instructor Intern program is designed to allow the certified Open Water Instructor to gain experience in the overhead environment by working hand-in-hand with a Cave Diver Instructor who is well-versed at developing the required level of experience.

4.10.2 4.8.2 Training Duration

Training is highly individualistic. The amount of time invested by both the Instructor Intern and the Instructor Sponsor is normally dependent on the Intern's background and motivation. The Intern shall observe and co-teach at least three (3) NSS-CDS Cavern courses with a minimum of three (3) NSS-CDS Cave Diver Instructors, of which one shall be the Intern's sponsor, before attending the Cavern Diver Instructor Evaluation Institute.

4.10.3 Instructor Intern Background

To enter the Cavern Diver Instructor Intern program, a person shall:

A. Provide proof to the Training Committee Chairman that he/she is an Active Status Open Water Instructor as defined by one of the nationally/internationally recognized scuba training agencies. The applicant shall also have been an active status instructor for at least one (1) year and provide proof of having trained at least forty (40) divers to open water-related levels.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

B. Be trained to at least the NSS-CDS Cave Diver level of training for at least one (1) year.

C. Provide proof of having completed at least one hundred (100) non-training related cave dives.

D. Provide proof current membership in the NSS and the NSS -CDS prior to entering the program.

4.10.4 Instructor Intern's Responsibilities

A. Select an authorized Instructor Sponsor to do the internship with. If the applicant does not know any of the current Instructor Sponsors, the Training Committee Chairman will help in the sponsor selection process.

B. Complete an orientation/Evaluation Session with an Instructor Sponsor.

C. Obtain and become completely familiar with all current NSS-CDS training related materials and procedures.

D. Develop and deliver, under the direction of the Instructor Sponsor and two (2) additional Instructor Evaluators, lectures, field exercises and in-water skills for all phases of the Cavern Diver course.

E. Insure that the Evaluating Instructor provides an Instructor Internship Record to the Instructor Intern upon completion of each co-teaching requirement.

F. Upon completion of three (3) Cavern Diver courses with at least three (3) NSS-CDS Cave Diver Instructors (including Sponsor), the Intern shall submit all internship paperwork, registration material and fees to the Training Committee Chairman. This is required before the Intern can be accepted as a candidate for the Cavern Diver Instructor Evaluation Institute. Paperwork should be submitted at least two (2) weeks before an Institute.

G. The Intern shall submit prior to, or at the Institute, a medical evaluation showing approval for diving instruction activities. A medical evaluation will be effective for a period of two (2) years after it was performed.

H. Upon successful completion of the Institute, pay a $250.00 NSS-CDS instructor instatement fee. (This is waived for instructors who in the past were NSS-CDS instructors and have an NSS-CDS instructor number. If this applies, please document this when applying.)

4.10.5 Instructor Sponsor's Responsibilities

A. Conduct or verify that another Sponsor has conducted an orientation/Evaluation Session with the potential Instructor Intern. This orientation/Evaluation Session should consist of the following items:

1. Review of Intern Applicant's teaching and cave diving background.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2. Present NSS-CDS requirements and Standards, making the Intern Applicant fully aware of all of the specifics of the NSS-CDS instructor development program.
3. Demonstration of Intern Applicant's teaching skills and classroom style.
4. Demonstration of Intern Applicant's cave diving skills during an actual cave dive.
5. Demonstration of Intern Applicant's ability to handle a cave diving emergency situation.

B. Submit to the Training Committee Chairman an NSS-CDS Instructor Intern Application form that has been completed by the applying Instructor Intern. No dives with students as part of the Instructor Intern program shall be conducted until the NSS-CDS Instructor Intern Application form has been approved by the Training Chairman.

C. Assist the Intern in becoming knowledgeable about NSS-CDS training related materials by reviewing and testing the Instructor Intern. Indoctrinate the Intern on current NSS-CDS policy and procedures.

D. Provide the Intern with supervised hands-on experience at presenting classroom, field exercises and water works skills to students.

E. Provide the Intern with Instructor Internship Records for all phases of co-teaching that have been completed.

F. Monitor the Intern's progress with other instructors. Review the Intern's Internship Record after co-teaching with other instructors to see if improvement is required.

G. Provide a final review of the Intern's paperwork before it is submitted to the Training Committee Chairman.

4.10.6 Cavern Diver Instructor Institute

The purpose of the NSS Cavern Diver Instructor Institute is to review and evaluate the competency of NSS-CDS Cavern Diver Instructor candidates. The institute will be under the direction of an Institute Coordinator appointed by the Training Committee Chairman. The Institute Coordinator will organize and administrate the Institute. Duties and material presented at the Institute will include:

A. The Institute Coordinator will select a minimum of two (2) Cave Diver Instructors to act as evaluators. The Training Committee Chairman shall approve the evaluators. The evaluator-to-instructor ratio shall not exceed 3:1

B. Candidates will receive an orientation to NSS-CDS policy regarding cavern training and current NSS-CDS Standards and Procedures.

C. To be certified as an NSS-CDS Cavern Diver Instructor, an instructor candidate shall be able to:

1. Demonstrate instructor-level knowledge and comprehension of the material contained in the appropriate NSS-CDS diving manuals and Student Workbook.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

2. Accurately present, explain and answer any student questions pertaining to the subject matter as outlined in the current edition of the NSS-CDS Student Workbook.
3. Properly address student questions pertaining to subject matter that goes beyond the scope of the Cavern Diver course material.
4. Perform all in-water skills at demonstration quality levels.
5. Properly control and supervise student dive teams during all phases of in-water training.
6. Demonstrate proper attitude and professionalism.
7. Pass a written exam

D. Instructor candidates can receive only one of three ratings:

1. Pass. This indicates that the candidate may immediately conduct NSS-CDS approved Cavern Diver Courses (pending processing of completed paperwork.)
2. Provisional. This indicates that, in the opinion of the Institute Staff, the candidate requires additional development in one or more areas before conducting approved training. In this event, the Institute Coordinator may return the candidate to his original Instructor Sponsor or assign the candidate to another Sponsor to complete the internship.
3. Failure. This indicates that, in the opinion of the Institute Staff, the candidate is not ready to conduct sanctioned training and should repeat the institute at a later time.

E. Method of evaluation.

1. The method of evaluating will be via polling of the Institute Staff by the Institute Coordinator.
2. In the event that a decision regarding the candidate is not agreed to by the majority of Institute Staff, then the decision made by the Institute Coordinator is final.
3. The Institute Coordinator will provide each of the candidates with a verbal summary. A written follow-up of decisions made at the institute is available upon request.

F. Institute length. Approximately two (2) days.

G. Institute frequency. A minimum of once per calendar year.

4.10.7 Exceptions and Waivers

The Training Committee Chairman may, on a case-by-case basis, make exceptions or grant waivers for any or all of the above requirements (unless otherwise specified) with the approval of the Training Committee. These exceptions and waivers must be reviewed and approved by a majority of the Training Committee and documented.

4.10.8 Certification Card

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

No certification card is issued to participants of the Cavern Diver Instructor Intern program. Certification comes only upon the successful completion of an Instructor Institute.

4.10.9 Time Limitations

Should a Cavern Diver Instructor Intern not complete an Instructor Institute during the year in which he/she initially registered with the Training Committee Chairman as a Cavern Diver Instructor Intern, he/she should renew his/her Cavern Diver Instructor Intern membership with the NSS-CDS in the next calendar year. Renewal forms are available from the Training Committee Chairman.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Section 5 Cave Diver Supervisor

Purpose

This program is designed to provide training in dive leadership to competent, certified cave divers who will lead or guide other certified cave divers on cave dives. A Cave Diver Supervisor is a leadership or instructor-in-training rating.
Certified cave diver supervisors are placed in a role to continue developing the proficiency of certified cavern and cave divers in the overhead environment.
All NSS-CDS Cave Diver instructor candidates must complete this class at the beginning of their internship, and prior to being issued an internship card.
All guides are encouraged to take this program as part of their development as a guide.
Cave Diver Supervisors may supervise dives with any level of certified cavern and cave divers from a recognized cave diver training agency where the cave diver supervisor also possesses that qualification or rating.
Cave Diver Supervisor certifications must be renewed annually by demonstrating continued proficiency and with proof of renewed professional liability insurance with the NSS and NSS-CDS named as an additional insured.
Cave Diver Supervisor certifications must be renewed through the NSS-CDS training director.
The program is designed to assist in the development of a formal guide training program for the various properties with cave diving sites owned and/or managed by the NSS-CDS, so as to ensure consistency in regards to cave diving skills and techniques.
The program is designed to develop a formal mentoring program for cave divers so as to ensure consistency in regards to cave diving skills and techniques.
It will be the responsibility of the training committee to screen any guides, guided activities or guided trips promoted or advertised by the CDS to ensure they comply with these standards.

5.1.1 Prerequisites

Must be a minimum of 21 years of age on the date of certification.
Must be qualified and current as a dive master or instructor through an internationally recognized training agency.
Must be certified and current in First Aid, CPR, and Oxygen Administration.
Supervisors who are supervising CCR cave divers must hold an NSS-CDS CCR Cave diver certification or equivalent through another recognized CCR cave diver training agency.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Supervisors must hold equivalent specialty certifications if supervising a cave dive during the execution of a specialty dive. i.e. DPV, Sidemount, Deep, Stage.

5.1.2 Program

The candidate must assist a current NSS-CDS full cave instructor in at least one complete full cave class. The candidate must spend a minimum of 200 minutes bottom time in direct supervision of Full cave divers or Full cave diver students under the guidance of an NSS-CDS Full cave instructor.
The program must include at least three evaluation dives before certification can be issued.
Pass a written exam with a score of at least 85%.
It is solely at the discretion of the teaching instructor to certify cave diver supervisor candidates.
All participants, whether they are candidates for this program or divers being supervised must be required to sign an NSS-CDS Liability Release Form.
All participants, whether they are candidates for this program or divers being supervised must be required to fill out and sign a Medical Questionnaire. Divers answering YES to any items must seek the clearance of a physician prior to cave diving activities. If the diver is a physician s/he may not grant him/herself clearance.
Graduates of this program are not allowed to supervise dives with anyone beyond their current level of supervision or the participants being supervised current level of certification.

5.1.3 Equipment Requirements and Program Materials

NSS-CDS Student Workbook.
Basic Cave Diving: A BluePrint for Survival (recommended)
All equipment required for any cave dive planned in accordance with NSS-CDS Standards.
DAN, or equivalent Emergency Oxygen Kit
Cellular Phone
Emergency action plan

5.1.4 Water Skills Development

Participate and assist on all dives and classroom topics with a full cave course.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Demonstrate, set up and conduct at least two drills taught in the program. Included but not limited to: Lost Line, Lost Buddy, Gas Sharing, lights off/zero visibility exit drills.
Demonstrate overall cave diving technique, proper student in-water control and supervisory skills to the satisfaction of the instructor.
Demonstration quality techniques are expected from all candidates.
Demonstrate the ability to smoothly and properly install a primary reel into a cave.
Demonstrate the ability to properly carry and secure stage and/or oxygen bottles.
Demonstrate the ability to supervise cave divers properly executing circuits and/or traverses.
Demonstrate and explain proper cave conservation, cave etiquette and landowner relations to the satisfaction of the instructor.

5.2 Basic/Intro to Cave Diver Instructor Intern: Program Requirements and Description

5.2.1 Purpose

Development of a trained Basic/Intro to Cave Diver Instructor requires hands-on internship under the guidance of a seasoned Cave Diver Instructor. The Basic/Intro to Cave Diver Instructor Intern program is designed to allow an NSS-CDS Cavern Diver Instructor or a certified Open Water Instructor to gain experience in the overhead environment by working hand-in-hand with a Cave Diver Instructor who is well-versed at developing the required level of experience.

5.2.2 Training Duration

Training is highly individualistic. The amount of time invested by both the Instructor Intern and the Instructor Sponsor is normally dependent on the Intern's background and motivation. The Intern shall observe and co-teach at least three (3) NSS-CDS Basic/Intro to Cave Diver courses with a minimum of three (3) NSS-CDS Cave Diver Instructors, of which one shall be the Intern's sponsor, before attending the Basic/Intro to Cave Diver Instructor Institute.

5.2.3 Instructor Intern Background

To enter the Basic/Intro to Cave Diver Instructor Intern program, a person shall:

A. Provide proof to the Training Committee Chairman that he/she is an NSS-CDS Cavern Diver Instructor and an Active Status Open Water Instructor as defined by one of the nationally/ internationally recognized scuba training agencies. The applicant shall also have been an active status Open Water instructor for at least one (1) year and provide

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

proof of having trained at least forty (40) divers to open water-related levels.

B. Be trained to at least the NSS-CDS Cave Diver level of training for at least one (1) year.

C. Provide proof of having completed at least one hundred (100) non-training related cave dives.

D. Provide proof of current membership of the NSS and the NSS-CDS prior to entering the program.

5.2.4 Instructor Intern's Responsibilities

A. Select an authorized Instructor Sponsor to do the internship with. If the applicant does not know any of the current Instructor Sponsors, the Training Committee Chairman will help in the sponsor selection process.

B. Complete an orientation/Evaluation Session with an Instructor Sponsor.

C. Obtain and become completely familiar with all current NSS-CDS training related materials and procedures.

D. Develop and deliver, under the direction of the Instructor Sponsor and two (2) additional Instructor Evaluators, lectures, field exercises and in-water skills for all phases of the Basic/Intro to Cave Diver course.

E. Insure that the Evaluating Instructor provides an Instructor Internship Record to the Instructor Intern upon completion of co-teaching requirements.

F. Upon completion of three (3) Basic/Intro to Cave Diver courses with at least three (3) NSS Cave Diver Instructors (including Sponsor), the Intern shall submit all internship paperwork, registration material and fees to the Training Committee Chairman. This is required before the Intern can be accepted as a candidate for the Basic/Intro to Cave Diver Instructor Institute. Paperwork should be submitted at least two (2) weeks before an Institute.

G. The Intern shall submit prior to, or at the Institute, a medical evaluation showing approval for diving instruction activities. A medical evaluation will be effective for a period of two (2) years after it was performed.

H. Upon successful completion of the Institute, pay a $250.00 NSS-CDS Instructor instatement fee. This is not required if the Intern is already an NSS-CDS Cavern Instructor. (This is waived for instructors who in the past were NSS-CDS instructors and have an NSS-CDS instructor number. If this applies, please document this when applying.)

5.2.5 Instructor Sponsor's Responsibilities

A. Conduct, or verify that another Sponsor has conducted an orientation/Evaluation

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

Session with the potential Instructor Intern. This orientation/Evaluation Session should consist of the following items:

1. Review of Intern Applicant's teaching and cave diving background.
2. Present NSS-CDS requirements and Standards, making the Intern Applicant fully aware of all of the specifics of the NSS-CDS instructor development program.
3. Demonstration of Intern Applicant's teaching skills and classroom style.*
4. Demonstration of Intern Applicant's cave diving skills during an actual cave dive.*
5. Demonstration of Intern Applicant's ability to handle a cave diving emergency situation.*

*These items may be waived if the Intern applicant is an NSS-CDS Cavern Diver instructor.

B. Submit to the Training Committee Chairman an NSS-CDS Instructor Intern Application form that has been completed by the applying Instructor Intern. No dives with students as part of the Instructor Intern program shall be conducted until the NSS-CDS Instructor Intern Application form has been approved by the Training Chairman.

C. Assist the Instructor Intern in becoming knowledgeable about NSS-CDS training related materials by reviewing and testing the Intern. Indoctrinate the Intern on current NSS-CDS policy and procedures.

D. Provide the Intern with supervised hands-on experience at presenting classroom, field exercises and water work skills to students.

E. Provide the Intern with Instructor Internship Records for all phases of co-teaching that has been completed.

F. Monitor the Intern's progress with other instructors. Review the Intern's Internship Record after co-teaching with other instructors to see if improvement is required.

G. Provide a final review of the Intern's paperwork before it is submitted to the Training Committee Chairman.

5.2.6 Basic/Intro to Cave Diver Instructor Institute

The purpose of the NSS-CDS Basic/Intro to Cave Diver Instructor Institute is to review and evaluate the competency of NSS-CDS Basic/Intro to Cave Diver Instructor candidates. The institute will be under the direction of an Institute Coordinator appointed by the Training Committee Chairman. The Institute Coordinator will organize and administrate the Institute. Duties and material presented at the Institute will include:

A. The Institute Coordinator will select a minimum of two (2) Cave Diver Instructors to act as evaluators. The Training Committee Chairman shall approve the evaluators. The evaluator-to-instructor ratio shall not exceed 3:1

B. Candidates will receive an orientation to NSS-CDS policy regarding cave training and

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

on current NSS-CDS Standards and Procedures.

C. To be certified as an NSS-CDS Basic/Intro to Cave Diver Instructor, an instructor candidate shall be able to:

1. Demonstrate instructor-level knowledge and comprehension of the material contained in the NSS-CDS Cave Diving Manuals and Student Workbook.
2. Accurately present, explain and answer any student questions pertaining to the subject matter as outlined in the current edition of the NSS-CDS Student Workbook.
3. Properly address student questions pertaining to subject matter that goes beyond the scope of the Basic/Intro to Cave Diver course material.
4. Perform all in-water skills at demonstration quality levels.
5. Properly control and supervise student dive teams during all phases of in-water training.
6. Demonstrate proper attitude and professionalism.
7. Pass a written exam

D. Candidates can receive only one of three ratings:

1. Pass. This indicates that the candidate may immediately conduct NSS-CDS approved Basic/Intro to Cave Diver Courses (pending processing of completed paperwork.)
2. Provisional. This indicates that, in the opinion of the Institute Staff, the candidate needs additional development in one or more areas before conducting approved training. In this event, the Institute Coordinator may return the candidate to his original Instructor Sponsor or assign the candidate to another Sponsor to complete the internship.
3. Failure. This indicates that, in the opinion of the Institute Staff, the candidate is not ready to conduct sanctioned training and should repeat the institute at a later time.

E. Method of evaluation.

1. The method of evaluating will be via polling of the Institute Staff by the Institute Coordinator.
2. In the event that a decision regarding the candidate is not agreed to by the majority of Institute Staff, then the decision made by the Institute Coordinator is final.
3. The Institute Coordinator will provide each of the candidates with a verbal summary and a written follow-up of decisions made at the institute is available upon request.

F. Institute length. Approximately two (2) days.

G. Institute frequency. A minimum of once per calendar year.

5.2.7 Exceptions and Waivers

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

The Training Committee Chairman may, on a case-by-case basis, make exceptions or grant waivers for any or all of the above (unless otherwise specified) with the approval of the Training Committee. These exceptions and waivers must be reviewed and approved by a majority of the Training Committee and documented.

5.2.8 Certification Card

No certification card is issued to participants of the Basic/Intro to Cave Diver Instructor Intern program. Certification comes only upon the successful completion of an Instructor Institute.

5.2.9 Time Limitations

Should an Basic/Intro to Cave Diver Instructor Intern not complete an Instructor Institute during the year in which he/she initially registered with the Training Committee Chairman as an Basic/Intro to Cave Diver Instructor Intern, he/she should renew his/her Basic/Intro to Cave Diver Instructor Intern membership with the NSS-CDS in the next calendar year. Renewal forms are available from the Training Committee Chairman.

5.3 Cave Diver Instructor Intern: Program Requirements and Description

5.3.1 Purpose

Development of a trained Cave Diver Instructor requires hands-on internship under the guidance of a seasoned Cave Diver Instructor. The Cave Diver Instructor Intern program is designed to allow the NSS-CDS Basic/Intro to Cave Diver Instructor to gain experience in the overhead environment by working hand-in-hand with a Cave Diver Instructor who is well-versed at developing the required level of experience.

5.3.2 Training Duration

Training is highly individualistic. The amount of time invested by both the Instructor Intern and the Instructor Sponsor is normally dependent on the Intern's background and motivation. The Intern shall observe and co-teach at least three (3) NSS-CDS Apprentice/Cave Diver courses with a minimum of three (3) NSS-CDS Cave Diver Instructors, of which one shall be the Intern' sponsor, before attending the Cave Diver Instructor Institute.

5.3.3 Instructor Intern Background

To enter the Cave Diver Instructor Intern program, a person shall:

A. Provide proof to the Training Committee Chairman that he/she is an Active Status NSS-CDS Basic/Intro to Cave Diver Instructor and has completed teaching at least six (6) separate NSS-CDS Basic/Intro to Cave Diver courses.

B. Be a member in good standing with the NSS and the NSS-CDS.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

C. Provide proof of having completed at least two hundred (200) non-training related cave dives.

5.3.4 Instructor Intern's Responsibilities

A. Select an authorized Instructor Sponsor to do the internship with. If the applicant does not know any of the current Instructor Sponsors, the Training Committee Chairman will help in the sponsor selection process.

B. Obtain and become completely familiar with all current NSS-CDS training related materials and procedures.

C. Develop and deliver, under the direction of the Instructor Sponsor and two (2) additional Instructor Evaluators, lectures, field exercises and in-water skills for all phases of the Cave Diver course.

D. Insure that the Evaluating Instructor provides an Instructor Internship Record to the Intern upon completion of co-teaching requirements.

E. Upon completion of a minimum of three (3) Apprentice Cave Diver and three (3) Cave Diver courses with at least three (3) NSS-CDS Cave Diver Instructors (including Sponsor), the Intern shall submit all internship paperwork, registration material and fees to the Training Committee Chairman. This is required before the Intern can be accepted as a candidate for the Cave Diver Instructor Evaluation Institute. Paperwork should be submitted at least two (2) weeks before an Institute.

F. The Intern shall submit prior to, or at the Institute, a medical evaluation showing approval for diving instruction activities. A medical evaluation will be effective for a period of two (2) years after it was performed.

5.3.5 Instructor Sponsor's Responsibilities

A. Submit to the Training Committee Chairman an NSS-CDS Instructor Intern Application form that has been completed by the Intern. No dives with students as part of the Instructor Intern program shall be conducted until the NSS-CDS Instructor Intern Application form has been approved by the Training Chairman.

B. Assist the Intern in becoming knowledgeable about NSS-CDS training related materials by reviewing and testing the Intern. Indoctrinate the Intern on current NSS-CDS policy and procedures.

C. Provide the Intern with supervised hands-on experience at presenting classroom, field exercises and water works skills to students.

D. Provide the Intern with Instructor Internship Records for all phases of co-teaching that have been completed.

E. Monitor the Intern's progress with other instructors. Review the Intern's Internship Record after co-teaching with other instructors to see if improvement is required.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

F. Provide a final review of the Intern's paperwork before it is submitted to the Training Committee Chairman.

5.3.6 Cave Diver Instructor Institute

The purpose of the NSS-CDS Cave Diver Instructor Institute is to review and evaluate the competency of NSS-CDS Cave Diver Instructor candidates. The institute will be under the direction of an Institute Coordinator appointed by the Training Committee Chairman. The Institute Coordinator will organize and administrate the Institute. Duties and material presented at the Institute will include:

A. The Institute Coordinator will select a minimum of two (2) Cave Diver Instructors to act as evaluators. The Training Committee Chairman shall approve evaluators. The evaluator-to-instructor ratio shall not exceed 3:1

B. Candidates will receive an orientation to NSS-CDS policy regarding cave training and current NSS-CDS Standards and Procedures.

C. To be certified as an NSS-CDS Cave Diver Instructor, an instructor candidate shall be able to:

1. Demonstrate instructor-level knowledge and comprehension of the material contained in the appropriate NSS-CDS diving manuals and Student Workbook.
2. Accurately present, explain and answer any student questions pertaining to the subject matter as outlined in the current edition of the *NSS-CDS Student Workbook*.
3. Properly address student questions pertaining to subject matter that goes beyond the scope of the Cave course material.
4. Perform all in-water skills at demonstration-quality levels.
5. Properly control and supervise student dive teams during all phases of in- water training.
6. Demonstrate proper attitude and professionalism.
7. Pass a written exam.

D. Candidates can receive only one of three ratings:

1. Pass. This indicates that the candidate may immediately conduct NSS-CDS approved Apprentice Cave Diver and Cave Diver Courses (pending processing of completed paperwork.)
2. Provisional. This indicates that, in the opinion of the Institute Staff, the candidate requires additional development in one or more areas before conducting approved training. In this event, the Institute Coordinator may return the candidate to his original Instructor Sponsor or assign the candidate to another Sponsor to complete the internship.
3. Failure. This indicates that, in the opinion of the Institute Staff, the candidate is not ready to conduct sanctioned training and should repeat the institute at a later time.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

E. Method of evaluation.

1. The method of evaluating will be via polling of the Institute Staff by the Institute Coordinator.
2. In the event that a decision regarding the candidate is not agreed to by the majority of the Institute Staff, then the decision made by the Institute Coordinator is final.
3. The Institute Coordinator will provide each of the candidates with a verbal summary. A written follow-up of decisions made at the institute is available upon request.

F. Institute length. Approximately two (2) days.

G. Institute frequency. A minimum of once per calendar year.

5.3.7 Exceptions and Waivers

The Training Committee Chairman may, on a case-by-case basis, make exceptions or grant waivers to any or all of the above requirements (unless otherwise specified) with the approval of the Training Committee. These exceptions and waivers must be reviewed and approved by a majority of the Training Committee and documented.

5.3.8 Certification Card

No certification card is issued to participants of the Cave Instructor Intern program. Certification comes only with the successful completion of an Instructor Institute.

5.3.9 Time Limitations

Should a Cave Diver Instructor Intern not complete an Instructor Institute during the year in which he/she initially registered with the Training Committee Chairman as a Cave Diver Instructor Intern, he/she should renew his/her Cave Diver Instructor Intern membership with the NSS-CDS in the next calendar year. Renewal forms are available from the Training Committee Chairman.

5.4 Instructor Crossover Programs: Program Requirements and Description

The NSS-CDS invites any active Cave Diver Instructor wishing to take part in the NSS-CDS training program to do so. The following criteria shall be met.

A. Crossover Candidate shall have current status of:

1. Active Status Open Water instructor for at least one (1) year and provide proof of having trained at least forty (40) divers to open water-related levels.
2. Have completed at least one hundred (100) non-training related cave dives for Basic/Intro to Cave Diver Instructor and at least two hundred (200) non-training related cave dives for Cave Diver Instructor. All such dives must have been completed after the Crossover Candidate's completion of (Full) Cave Diver

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved

training.

3. Current member of the NSS and the NSS-CDS prior to entering the program.
4. Minimum of one (1) year as a Cave Diver Instructor in current Active Status. This rating shall be equivalent to the NSS-CDS Cave Diver Instructor rating.
5. Completed teaching a minimum of six (6) courses at the Cave Diver level.
6. In good standing with the crossover candidate's current agency as both instructor and member.

B. Candidate will be required to:

1. Have one (1) NSS-CDS Sponsor.
2. Attend an NSS-CDS Instructor Institute staffed by a minimum of two (2) instructors.
3. Pay a $250.00 NSS-CDS Instructor instatement fee.
4. Sign a statement agreeing to abide by NSS-CDS Standards and Procedures.
5. Submit a medical evaluation showing approval for diving instruction activities. A medical evaluation will be effective for a period of two (2) years after it was performed.

Copyright (©) 2015, National Speleological Society Cave Diving Section • All Rights Reserved