

XR Standards



05.2021 Edition

English-Metric
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STANDARDS-XR

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XR General Training Standards Overview

I. Governing Standard and Standards Waiver

The online English-metric version of the SSI Training and Training Center Standards are the default global standards. Statements, written or oral, that are not processed in accordance with SSI Standards will not be considered the official position of SSI.

All waivers or deviations to the SSI Standards must be requested and approved in writing. SSI Standards are updated annually; if a waiver or deviation is approved, it expires with the new Standards year.

Overview

How To Use These Standards

All SSI Training Centers and SSI Professionals, are accountable for following all general and program-specific training standards when conducting SSI approved programs.

For the purpose of these standards, an SSI Professional is defined as a person holding any professional-level rating with SSI, or any staff member of an SSI Training Center.

For the purpose of these standards, an SSI Training Center is defined as any business that conducts SSI training, including but not limited to: Dive Centers, Dive Resorts, Dive Schools, Swim Centers, etc.

I. General Training Standards

These standards apply to all SSI programs unless otherwise specified in program-specific training standards.

II. Minimum Instructor Rating

Any active status SSI Professional with the minimum applicable instructor rating or higher may conduct training as specified in the program-specific standard.

III. Recommendations, Notes and Examples

These Training Standards include recommendations, notes and examples.

- RECOMMENDATIONS provide additional suggestions whenever student needs and abilities, environmental conditions or equipment make it possible to enhance the experience of the training activity.
- NOTES and EXAMPLES help clarify a specific standard or recommendation.

IV. Government Laws

If applicable, local, state and federal laws, bylaws and codes of practice supersede SSI Standards. SSI Training Centers and SSI Professionals are required to be familiar with these laws, and inform the responsible SSI Service Center, in writing, in the event of a conflict.

V. Waivers from Standards

Waivers or deviations to the SSI Standards must be requested, in writing, to the responsible SSI Service Center. The request must explain why the waiver is needed, and what will be done to ensure the quality of SSI training. Standards are updated annually; if a waiver or deviation is approved, it will expire with the new Standards year.

VI. SSI Flexibility Rule

Students participating in SSI programs must complete all training requirements as set forth in the current SSI Training Standards and the applicable instructor manual. SSI Professionals must follow 100% of the SSI Total Teaching System; including all academic, pool/confined water, and open water requirements as outlined in the program-specific instructor manual.

The SSI Flexibility Rule also means that SSI Professionals can develop their own teaching style and program schedules including; the order and number of classroom and pool/confined water sessions, and the order of skills in the pool/confined water sessions and open water training dives.

SSI Professionals are NOT allowed to add skills that SSI does not endorse. Teaching additional skills or skills that “challenge” your students violates SSI Training Standards and can make you liable in the case of an accident. If you have any questions about the SSI Flexibility Rule and what skills are or are not allowed, please contact the responsible SSI Service Center for guidance or interpretation.

EXAMPLE: Skills like ditching and recovering the scuba unit, breathing directly from the cylinder valve, and any ascents without the regulator in the mouth and/or the breathing gas turned off are not endorsed by SSI, and must NOT be taught during SSI training programs.

EXAMPLE: If environmental conditions and student ability permit, SSI Professionals may evaluate any and all required skills during any open water training dive. All required open water training dives must still be completed for all SSI programs.

VII. Exceeding Standards

SSI Professionals may exceed standards, may provide more detailed coverage of the materials, and may provide

additional in-water training sessions. Incorporating newer techniques and equipment is encouraged. Any specific knowledge and skills changes must be approved by the responsible SSI Service Center prior to incorporating the changes.

During XR training programs, SSI Professionals may combine skills to increase complexity and develop the student's problem-solving abilities. They must ensure students are not excessively task-loaded and that safety and control are maintained at all times.

a. Scenarios

Problem-solving scenarios may only be used after the student completes their initial shallow water skills development to test their ability to deal with problems at depth under simulated emergency conditions.

SSI Professionals are encouraged to use bubble guns and flash cards to simulate emergencies. They are not permitted to incapacitate, turn off, or disable any diver's equipment at any point during training.

Once a failure is resolved, all systems must be immediately restored to their normal operating condition. The SSI Professional must verify that the all systems are in normal operating condition, and that the student is ready to continue. The problem may only be simulated for the rest of the scenario.

Overview

Program Definitions

I. Entry-Level Program

Any SSI program where no prerequisite certifications or experience are needed to participate. Open water training for all entry-level programs must be conducted during daylight hours (between sunrise and sunset) in water that allows direct vertical access to the surface.

II. Certification Program

A digital certification card must be issued once a student completes all requirements of a specific SSI certification program.

SSI issues this verification upon receipt of the SSI Professional's and SSI Training Center's confirmation of satisfactory completion of all program requirements by the student, as documented in the student's training record and logbook.

Administration

Participation Criteria

I. Age

The minimum age to begin any SSI program is listed in the individual program's training standards.

The student or candidate may register for a program at any point, but they may not begin any SSI training prior to reaching the minimum age requirement.

For the following programs the minimum age is 16:

- Extended Range Nitrox Diving
- Extended Range Foundations
- Extended Range Sidemount
- Extended Range Wreck Diving
- Extended Range Cavern Diving

For any other Extended Range (XR) program, the minimum age is 18.

a. Minors

For the purpose of these standards, a minor is anyone younger than 18 years old who participates in an SSI training program unless local laws or regulations dictate a more-restrictive age (e.g. 15 years old).

II. Experience Prerequisites

The minimum experience prerequisites are listed in the individual program's training standards.

a. Credit for Experience Dives

Issuing credit for any or all portions of the qualifying dives is entirely at the certifying instructor's discretion. If dives are credited, the instructor must have direct and recent knowledge (within 180 days) of the student's skills, equipment configuration and experience.

III. Water Fitness Evaluation

SSI XR programs have required water skills and stamina evaluations. The specific program training standards will specify whether these evaluations must be successfully completed prior to any in-water training, prior to any open water training or prior to certification.

For a detailed description of a program's water fitness evaluation, see the applicable section in the program-specific standards.

Administration

Privacy Forms and Training Records

I. Completion Requirements

a. Training with an SSI Training Center

Training Records and required documentation are only valid for training conducted with the initiating SSI Training Center. If the student or candidate affiliates with another SSI Training Center, they must complete the required documentation for the new training center as well.

Duration of Validity

Some documentation is valid for the duration of the student/candidate's training with a single SSI Training Center. Other forms must be completed for individual training programs as outlined below.

II. Training Record Components

Each student or candidate must complete the required components of the SSI Training Record prior to participating in any SSI training program. The forms of minors must be reviewed and signed by a parent or guardian.

a. Prior to Training

Prior to beginning training, they must complete the:

Registration Form

- Permanently valid

Privacy Policy Form

- Permanently valid unless the students requests to withdraw their consent
- SSI recommends that all SSI Training Centers have individuals complete the SSI Privacy Policy form when they register for a MySSI account or affiliate their existing MySSI account to the training center

SSI Extended Range (XR) Responsible Diver Code

- Permanently valid within a category (scuba, freediving, XR, swim), and is re-affirmed by signing a completion record for any program in the same category
- Must be re-affirmed prior to starting any new training program in a different category

SSI Extended Range (XR) Technical Diving Scuba Training Assumption of Risk, Liability Release, & Hold Harmless Agreement (where required)

- Valid for one (1) year from the date of signing

NOTE: Signing an Assumption of Risk, Liability Release, & Hold Harmless Agreement is contradictory to liability regulations in some countries of the world.

EXAMPLE: The Assumption of Risk, Liability Release, & Hold Harmless Agreement is not valid in the European Union, so students should not be forced to sign it.

Youth Addendum (required for any student younger than 18 years old)

- Valid for one (1) year from the date of signing
- Must be signed by the responsible parent or guardian

b. Prior to In-Water Training

Prior to beginning any in-water training, they must complete the:

Diver Medical Statement & Questionnaire

- Valid for one (1) year from the date of signing
- Must be updated if their medical condition changes

Physician's Approval To Dive

- Valid for one (1) year from the date of signing

c. Prior to Certification

Prior to receiving their certification or recognition card, they must complete the:

Program-specific Completion Record

- Must be completed for each training program

Online Final Exam Record

- Must be completed if the program's final exam is completed online

d. Professional Program Candidates

Prior to beginning training, candidates participating in SSI professional training programs must also complete the:

SSI Professional Agreement

- Permanently valid
- Must be completed for each training program

XR Professional Assessment Form

- Permanently valid
- Must be completed for each training program

All candidates participating in professional level training must have digital copies of the following documents uploaded into MySSI before the final certification(s) can be issued:

- RSTC Medical Statement & Questionnaire signed by a physician within one (1) year
- Proof of CPR training within two (2) years
- Proof of First Aid training within two (2) years
- Proof of Oxygen First Aid training within (2) years

Administration

Medical History

I. Medical Statement & Questionnaire

Each student participating in XR-level training must provide a Medical Statement & Questionnaire, approved and signed by a licensed medical practitioner based on a diving medical examination, dated within one year of the training completion date.

If the Medical Statement & Questionnaire or the appearance/behavior of the student indicate any condition contrary to participation in any in-water activities, the student is required to provide the Physician's Approval to Dive form, signed by a licensed medical practitioner and based on a medical examination, prior to any in-water activity.

The Medical Statement & Questionnaires of minors must be reviewed and signed by a parent or guardian prior to any in-water activity.

Medical Statement & Questionnaires and the Physician's Approval to Dive form, or valid medical statements, are valid for 12 months from the date they are signed. Students may participate in multiple SSI training programs within the 12 months without completing another form.

If the student becomes ill or injured within the 12 months, they must complete a new Medical Statement & Questionnaire prior to any in-water activities, following the protocol outlined above.

II. Professional Program Candidates

Each candidate participating in professional-level training must provide to the responsible SSI Service Center a Medical Statement & Questionnaire and Physician's Approval to Dive form—or valid medical statement approved and signed by a licensed medical practitioner—based on a diving medical examination dated within one (1) year of the training completion date. These documents must be uploaded by the candidate via MySSI for approval.

Active status SSI Professionals are required to notify SSI if they develop a medical condition that interferes with their teaching ability. They must submit a new Medical Statement & Questionnaire to the responsible SSI Service Center (by uploading the form into their MySSI account) to maintain their active status.

Administration

SSI Materials

I. Student Materials

Each student must be issued the appropriate Digital Training Kit (if available) for every program they are participating in.

II. Professional Materials

The SSI Training Standards, SSI Professional Training Materials and SSI Student Materials (digital learning and printable workbooks) form the basis of the SSI Teaching System and must be used for all SSI training programs. Whenever there is a discrepancy between these materials, the SSI Training Standards take precedence. If in doubt, contact the responsible SSI Service Center for guidance or interpretation.

Each SSI Professional has access to the most current Instructor Manual and Student Manual for the program they are conducting, as well as any additional training materials required by SSI or their affiliated Training Center.

Administration

Certification Procedures

I. Certifying Instructor

The certifying instructor is the SSI Professional who completes the final knowledge and skill assessment with the student. They are responsible for ensuring that the training record is properly completed, including all required verification signatures and dates, and will be the instructor-of-record on the student's certification.

II. Student Data Entry

Training Centers and SSI Professionals must confirm that the student or candidate's first and last name, contact data, birthdate, an acceptable photo that clearly shows the student's face, and email address are correctly entered into MySSI.

III. Processing Student Certifications and Recognitions

SSI certifications and recognitions must be issued to all students that successfully complete all SSI training requirements at all levels of training. Digital cards will be produced immediately after the certification or recognition is processed in MySSI. All certifications and recognitions must be processed within seven (7) days of the program's completion.

NOTE: Students are not required to achieve any program progress in the digital learning prior to receiving their certification or recognition card, as long as all requirements from the individual program standard are met.

NOTE: After a certification or recognition is processed in MySSI, the student will be sent an email including a copy of their certification or recognition card. The student can also access all their certification and recognition cards by logging into their MySSI account, or on the MySSI app.

IV. Processing Professional Certifications

Upon completion of all SSI training requirements for all professional programs, the candidate's training records or application form must be completed in full and sent to the responsible SSI Service Center within seven (7) days of the program's completion.

V. Issuing a Referral

If a student only completes a portion of an SSI program and chooses to complete the program with another Training Center, you must provide copies of all appropriate training documentation, as well as a copy of the student's Medical Statement & Questionnaire (or other valid medical document), to the student and/or the receiving Training Center.

All original training documentation and medical forms must stay with the referring Training Center.

VI. Replacing Lost Cards

1. If a student has lost their printed card, do a diver search in MySSI to see if they have a digital card in their MySSI profile.
1. If a digital card is found, have the student log in to access all their digital cards.
1. They can order and purchase a printed card from their Training Center.
1. If there is no record of a digital card, contact the responsible SSI Service Center.

RECOMMENDATION: Individuals that have not been diving for five (5) years or longer should be considered inactive. Inactive divers should enroll in a Scuba Skills Update program to be eligible to replace a lost certification card.

VII. Training Records and Logbooks

Training Records and logbooks must be used for monitoring and evaluating each student's progress. The instructor and student must initial and sign the training records and log pages upon completion of the applicable knowledge and skills.

Training records must be maintained and retained for a minimum of ten (10) years by the Training Center. If necessary for quality management or grievance resolution, SSI Training Centers are required to send the training records or legible copies to the responsible SSI Service Center within the given time limit.

RECOMMENDATION: If possible, the appropriate parts of the training completion record should be completed by the student/candidate and the responsible SSI Professional at the end of each session or training day.

NOTE: Local laws may require that training records must be retained for more than ten (10) years.

For any CCR training program:

- If the feature is available on a rebreather, download the logbooks from the student's dive computer and retain for a minimum of ten (10) years.
- The program-specific logbook and completion form must be submitted to the unit's manufacturer upon request once the student has given consent for the data transfer.

Administration

Equivalent Certifications

I. Certifications from Recognized Training Agencies

Certifications issued by an SSI-recognized training agency or federation are considered equivalent SSI certifications. The certification holder may advance to the next level of training in the SSI Education System.

If a customer requests an equivalent SSI rating for a certification they hold from an SSI-recognized training agency or federation, it is at the discretion and liability of the SSI Professional or Training Center to issue that certification.

II. Certifications from Non-Recognized Training Agencies

Students certified by training agencies or federations that are not recognized by SSI cannot be considered equivalent without an additional knowledge and skill evaluation administered by the SSI Professional.

These students must successfully pass the SSI Experienced Diver Test as outlined in the SSI Training Standards. Mastery of all diving skills of the level the diver is qualifying for must be displayed during the open water training dives.

After successful completion of the Experienced Diver Test, these students may be issued an equivalent SSI certification, and are eligible to attend the next higher program in the SSI Education System.

Training Centers may still elect to recognize students certified by non-recognized training agencies or federations as equivalent, but do so at their own risk, taking full responsibility for the student's judgment and the associated liability risk.

EXAMPLE: If an actively diving customer with your Training Center loses their Open Water Diver certification card that was issued by a certification agency that no longer exists, but the diver has other proof of diving experience (e.g. a signed logbook), then you may choose to issue this customer a new SSI certification based on your personal knowledge and verification of their diving experience.

The Training Center must issue a Digital Open Water Diver Kit and assess the diver's knowledge and skills before issuing a new certification. The Training Center must decide what level of assessment is required before issuing an equivalent SSI certification.

RECOMMENDATION: If a customer requests an equivalent SSI certification card, but does not have adequate verification of certification, issue a Digital Open Water Diver Kit and conduct an Experienced Diver Test.

III. SSI Recognition Criteria

To qualify as an SSI-recognized training agency or federation, all of the following requirements must be met:

- Be in business for at least five (5) years
- Provide a complete range of training materials in at least three (3) languages
- Have at least 250 instructors and 50 authorized training centers globally
- Hold an active global EUF/ISO certification
- Be an active member of at least one RSTC

After proof/fulfillment of these prerequisites, the organization will be added to the current version of the SSI Equivalency Chart, and will be treated as an SSI-recognized training agency or federation.

SSI Professional Duties

Professional Liability

Requirements

I. Professional Liability Insurance

Where required (e.g. the United States), the SSI Professional must maintain professional liability insurance.

The SSI Professional must:

- Verify SSI is listed as an Additional Insured on the professional liability policy
- Verify the professional liability insurance covers all SSI programs the SSI Professional is authorized to conduct (e.g. XR Instructors are required to have a Technical Diving insurance endorsement)
- Verify current proof of professional liability insurance is uploaded to the SSI Professional's MySSI profile
- Not provide any professional services in the absence of professional liability insurance
- Comply with all insurance policy terms, conditions, warranties and exclusions

SSI and SSI Service Centers are not responsible for verifying that an SSI Professional complies with professional liability insurance requirements. However, certifications may not be processed in the absence of proof of insurance where required.

SSI Professional Duties

SSI Professional Status

I. Active Status

SSI Professionals must fulfill the following prerequisites to maintain active status:

- Affiliate with an active status Training Center.
- Read and sign (online) the SSI Professional's Agreement and pay the annual membership dues.
- Maintain professional liability insurance (if required legally in the country). The SSI Professional must list SSI as an additional insured in the policy and must provide current proof-of-insurance to the responsible SSI Service Center.

SSI Professionals are responsible for uploading a current (less than two years old) copy of each of the following documents to their MySSI account:

- Medical exam for the applicable professional status, signed by a licensed medical practitioner.
- Proof of certification in First Aid and CPR.
- Proof of certification in emergency administration of oxygen. Training must include knowledge of the medical principles involved, and practical use of, an emergency oxygen unit.

II. Inactive Status

An SSI Professional who has met all the active status requirements but is not affiliated with an active status Training Center, and/or lacks current proof of professional liability insurance (where required).

The SSI Professional in inactive status will pay a reduced renewal fee and will still have access to training materials, but they cannot conduct any SSI programs until they return to active status.

III. Canceled Status

An individual who has been certified as an SSI Professional, but has not paid any annual fees to SSI.

IV. Administrative Hold Status

A temporary status assigned to an SSI Professional as the result of a Verified QMS Complaint, Alert, or Incident Report. The SSI Professional must not conduct SSI programs while in Administrative Hold status. This status is generally communicated to the professional by the International QMS Manager.

An SSI Professional involved in the death of a participant/student/candidate for which they were providing direct supervision is automatically placed on Administrative Hold at the time of the fatal incident.

V. Expelled Status

An individual who has been certified as an SSI Professional, but has been expelled from SSI due to severe breaches of SSI Ethical or Training Standards. A member in expelled status cannot obtain active teaching status again with SSI globally, and the individual's certification data cannot be verified any longer by the SSI Diver Verification system.

a. Individuals Expelled From Other Agencies

If a professional is expelled from another agency for any reason, they may be eligible to earn SSI active status. This decision is at the discretion of SSI International, and will be considered on an individual basis. See the SSI Quality Management System Manual for more information.

VI. Retired Status

SSI Professionals with XR Instructor Trainer certifications are placed in "Retired Status" if they do not meet the minimum active status requirements for maintaining their highest professional rating.

Retired status SSI Professionals can still conduct all student-level programs that they are qualified to teach.

Administration

Returning to Active Status

SSI Professionals in canceled status may return to active status by completing the following requirements, which are determined by the length of time the professional has been out of active status.

I. Duration of Inactivity

Any duration:

- If an SSI Professional is in canceled status with SSI for any period of time, but has maintained active status with a recognized training agency, the responsible SSI Service Center may—at their discretion—permit the SSI Professional to complete an SSI Crossover program to return to active status.

Less than two (2) years:

- Complete all components of the online renewal process.

Greater than two (2), but less than five (5) years:

Option 1

- Successfully complete an SSI Professional Crossover program for the applicable certification level.

Option 2

- Successfully complete a Professional Update for the applicable certification level as defined below.

Greater than five (5), but less than ten (10) years:

- Successfully complete a Professional Update for the applicable certification level as defined below.

Greater than ten (10) years:

- Complete all program requirements, including any water fitness evaluations, digital learning materials, academic assessments, final exams, and in-water training requirements as outlined in the program-specific instructor manual.

II. SSI Professional Update

a. Intent

The intent of the SSI Professional Update program is to update and reactivate SSI Professionals that have been in inactive or canceled status for at least two (2) years.

b. Purpose

The SSI Professional Update evaluates a candidate's knowledge of general diving theory, program-specific information, SSI training and teaching philosophies, in-water abilities, and any required teaching and evaluation requirements.

If there is any doubt or concern about a candidate's abilities, the Professional Update should be used to evaluate the candidate before issuing any SSI professional-level certification.

III. Requirements For Completion

- Purchase and complete the Crossover/Update Kit

Attend and successfully complete an SSI Professional Update, including:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials for the highest applicable professional certification.
- The applicable final exams with a passing score of at least 90%.
- An academic presentation on a topic from the highest applicable professional certification.

- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Water Fitness Evaluation.
- A pool/confined water session that includes the presentation and evaluation of all required program skills from the highest applicable professional certification. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic from the highest applicable professional certification.
- While acting as an instructor, plan and conduct at least one (1) full dive from the highest applicable professional certification.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

IV. Certification

Upon completion of the Professional Crossover or Update, send the candidate's professional application form with all required documentation to the responsible SSI Service Center.

SSI Professional Duties

Ethical Standards

As an SSI Professional, you are accountable for your decisions and actions when working with the public. SSI expects you to display appropriate and professional behavior at all times while involved in training or other related activities. Refer to the guidelines listed below:

- Notify SSI prior to renewal or any training if previously convicted of a felony or a crime of moral regret (e.g. honesty, integrity, morals).
- Be a professional role model at all times during training and other business-related activities.
- Be a role model to the public, practicing and promoting safe diving, environmental awareness, and minimal ecological impact.
- Conduct all SSI programs with a high degree of integrity and honesty, and with the goal of providing the best possible customer experience.
- Adhere to SSI Training Standards, and attend SSI Professional updates on a regular basis.
- Do not negatively communicate publicly or otherwise about SSI Training Centers, Instructors or SSI Professionals or any other member of the diving industry.
- Notify SSI if a Training Center, Instructor or SSI Professional has been, or is currently the subject of, any ethical or standards violation, investigation, action or proceeding brought by any recognized training agency or governmental bodies.
- Indemnify and hold harmless SSI, its officers, directors and assignee for any loss, claim or damage resulting from action of the SSI Professional or his/her agents, students or assignees.
- Comply with all quality management and compliance procedures outlined in the SSI Quality Management System Manual.

The SSI Professional understands that any breach of these Ethical Standards may make them ineligible for active status or renewal.

SSI Quality Management

Note: SSI has implemented a completely new Quality Management System (QMS). The new Quality Management System (QMS) replaces previous versions of the Monitor Assessment Program (MAP), SSI Grievance Procedure and associated components with immediate effect. For definitions of terminology and a detailed description of SSI Quality Management procedures, please see the SSI Quality Management System Manual.

Equipment Definitions

XR Programs - Breathing Gas

I. Open-Circuit Breathing Gas

Extended Range Nitrox Diving students may breathe air or optimized nitrox for bottom gases at a maximum ppO_2 of 1.4 bar and hyperoxic nitrox stage gases up to 50% O_2 with a maximum ppO_2 of 1.6 bar when the program allows staged decompression.

For all other XR programs, divers may breathe air or optimized nitrox for bottom gases at a maximum ppO_2 of 1.4 bar and hyperoxic nitrox stage gases up to and including 100% oxygen with a maximum ppO_2 of 1.6 bar when the program allows staged decompression.

Trimix divers have the same restrictions as all other XR programs, but they may add a helium-based trimix for bottom gases. The minimum oxygen content for the Extended Range Trimix program is 21%, and 18% for the Technical Extended Range Trimix program. The maximum END (Equivalent Narcotic Depth) for all trimix programs is 30 meters. The recommended END for colder water, poor visibility or strenuous conditions is 24 meters.

In addition to all other limits during XR program training dives, both the primary and contingency dive plans must expose divers to no more than 80% of the limits for CNS toxicity as calculated using the SSI Extended Range/Technical Extended Range materials and the pertinent NOAA tables for both single dive and multiple dive exposures. Where environmental or dive conditions are less than ideal, the instructor must choose more conservative limits.

II. Closed-Circuit (CCR) Breathing Gas

The minimum oxygen content for the CCR Extended Range Trimix program is 20% with a maximum helium content of 35%.

The minimum oxygen content for the CCR Technical Extended Range program is 16% with no limit for helium content.

The maximum gas density limit is 6.0 grams/liter. The recommended gas density limit is 5.2 grams/liter.

The maximum Equivalent Narcotic Depth (END) for all trimix training is 30 meters. The recommended END for colder water, poor visibility, or strenuous conditions is 24 meters.

Divers should not carry an onboard diluent gas with a ppO_2 higher than 1.1 bar at the bottom.

Divers using an mCCR should not carry an onboard diluent with a ppO_2 higher than 1.3 at the bottom

The maximum loop set point is 1.3 bar.

For CCR divers, both the primary and contingency dive plans must expose divers to no more than 80% for a single dive, or 80% in 24 hours.

III. Semi-Closed Circuit (SCR) Breathing Gas

The minimum oxygen content for SCR training programs is 30%.

Divers must not carry a bottom gas with a ppO_2 higher than 1.6 at the bottom.

Equipment Definitions

XR Programs - Dive Professional Equipment

I. Minimum XR Professional Equipment

During all in-water training, each SSI XR Professional must be equipped with at least all student equipment.

During the open water training dives, the instructor may supervise students in open-circuit, non-overhead environment programs up to Hypoxic Trimix using an XR CCR Total Diving System if they have at least the following certifications:

- CCR Technical Extended Range Instructor
- The student-level CCR certification for the program being conducted

Example: An active status CCR Technical Extended Range Instructor with the CCR Hypoxic Trimix student certification may supervise the open water training dives from the open-circuit Hypoxic Trimix program while using their XR CCR Total Diving System.

During the open water training dives, the instructor may supervise students in open-circuit, non-overhead environment programs up to Extended Range using an XR SCR Total Diving System if they have at least the following certifications:

- SCR Extended Range Instructor

Example: An active status SCR Extended Range Instructor may supervise the open water training dives from the open-circuit Extended Range program while using their XR SCR Total Diving System.

Equipment Definitions

XR Open-Circuit Equipment Configurations

I. Backmount Configurations

a. Minimum Single-Cylinder Total Diving System

- Buoyancy compensator including power inflator and D-rings appropriate for stage cylinders
- Delivery system with a primary (1.8- to 2.1-meter hose is recommended) and an alternate air source
- Primary cylinder (high capacity is recommended if using a single cylinder)
- Submersible pressure gauge (all cylinders must have an attached SPG)
- Integrated depth gauge and timing device or dive computer
- Single-stage cylinder with a delivery system and submersible pressure gauge

NOTE: A stage cylinder is not required if the primary cylinder had a dual-outlet valve (H or Y)

And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook

b. Minimum Twinset Total Diving System

- A backplate or soft pack with a harness
- A buoyancy wing with appropriate lifting capacity for the planned dive
- A backup buoyancy device: dry suit, double-bladder wing, or lift bag
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose, neck retainer, and an attached SPG
- One set of double cylinders with an isolation manifold
- Two integrated depth and timing devices
- Stage cylinder(s) with delivery systems that each have a 15- to 25-centimeter hose and attached SPG

And

- Two masks
- Fins

- Exposure suit appropriate for the environment
- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook

NOTE: The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.

II. Sidemount Configurations

a. Minimum Sidemount Total Diving System

- Buoyancy compensator with sufficient lift capacity for the planned dive
- An industry-approved sidemount harness
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose and neck retainer
- Two cylinders with independent valves
- Submersible pressure gauge with a 15- to 25-centimeter high-pressure hose (all cylinders must have an SPG attached)
- Integrated depth gauge and timing device or dive computer

And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook

b. Minimum Extended Range Sidemount Total Diving System

- Buoyancy compensator with sufficient lift capacity for the planned dive
- A backup buoyancy device: dry suit, double-bladder wing, or lift bag
- An industry-approved sidemount harness
- One delivery system that has a regulator with a 1.8- to 2.1-meter hose
- One delivery system that has a regulator with a 50- to 75-centimeter hose and neck retainer
- Two cylinders with independent valves

- Submersible pressure gauge with a 15- to 25-centimeter high-pressure hose (all cylinders must have an SPG attached)
- Two integrated depth and timing devices
- Stage cylinder(s) with delivery systems that each have a 15- to 25-centimeter hose and attached SPG

And

- Two masks
- Fins
- Exposure suit appropriate for the environment
- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook

NOTE: The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.

Equipment Definitions

XR Rebreather Equipment Configurations

I. Closed-Circuit Rebreather (CCR) Configurations

a. Minimum CCR Total Diving System

- A closed-circuit rebreather that has CE-type and SSI approval

A single bailout cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and attached SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A cutting device
- One signaling device for deploying from depth (red surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

b. Minimum XR CCR Total Diving System

- A closed-circuit rebreather that has CE-type and SSI approval

A single bailout cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and attached SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required
- Backup OC/CCR computer for bailout in the event of a system failure

And

- Two masks
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- Two cutting devices

- A compass
- Two signaling devices for deploying from depth (red and yellow surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

NOTE: The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.

II. Semi-Closed Circuit Rebreather (SCR) Configurations

a. SCR Total Diving System

- A semi-closed rebreather that has CE-type and SSI approval

A single bottom gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

And

- Mask
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- A cutting device
- One signaling device for deploying from depth (red surface marker buoy is recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

b. XR SCR Total Diving System

- A semi-closed rebreather that has CE-type and SSI approval

A single bottom gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit
- Oxygen cleaned as required

A single decompression gas cylinder (minimum volume: 5.7 liters) and bailout regulator with:

- Second stage with 1- to 2-meter hose and SPG
- Low-pressure inflator hose or quick-connect compatible with the unit

- Oxygen cleaned as required
- Backup OC computer for bailout in the event of a system failure

And

- Two masks
- Fins
- Exposure suit appropriate for the environment
- A backup buoyancy device: dry suit or lift bag
- Two cutting devices
- A compass
- Two signaling devices for deploying from depth (red and yellow surface marker buoys are recommended, but follow local guidelines)
- A reel or spool (appropriate for the maximum planned depth)
- One surface signaling device (whistle or similar)
- Extended Range Dive Planning Sheets, and either wet notes or slate for dive plans
- Logbook
- Manufacturer and/or SSI Pre-Dive Checklist

NOTE: The second signaling device for deploying from depth is only required to be carried when the dive plan requires an open water decompression obligation.

Conducting SSI Programs

Assessing Knowledge and Skill

SSI Training Centers and SSI Professionals must ensure that each student receives the required knowledge, skills and experience to comfortably and confidently dive at the specified level of training before conducting open water training dives.

It is the SSI Professional's duty to ensure that all students achieve mastery of all required skills before issuing a certification. To achieve mastery the student must be able to comfortably repeat the skill in diverse and adverse conditions.

I. Skill Mastery Definitions

Expert-Level Quality

- The skill is completed without pauses or mistakes, and can be repeated without noticeable effort.

Demonstration-Level Quality

- The skill is completed without hesitation or mistakes, and can be repeated without noticeable effort.
- Each key point of the skill is clearly identified and demonstrated during the exercise with pauses for emphasis.

II. Final Exam

If a final exam is required for certification, the following requirements must be met:

- The student/candidate must complete the exam without outside assistance or personal notes
- A qualified SSI Professional must directly supervise written final exams
- The professional administering the exam may only provide clarification to help explain the question
- Minimum passing score for student-level programs (written exam): 80%
- Minimum passing score for student-level programs (when an online exam is available): 100%
- Minimum passing score for professional-level programs: 90%

a. Approved Materials

Students and candidates may use the following materials to complete the final exam:

- SSI Training Standards
- Calculator
- Air/Nitrox tables (if applicable)

b. Instructor Assistance

If the final exam is not available in the student's native language, or the student has a documented learning disability, the SSI Professional conducting training may administer the exam orally. The answer sheet must still be completed by the student and signed by both the student and SSI Professional.

Conducting SSI Programs

Program Duration and Time Limits

I. Program Duration

There is no maximum time limit for the duration of any SSI program. Some SSI programs may have minimum program hours listed in their standards.

II. Time Limit to Complete a Program

Open water training for all SSI programs must be completed within six (6) months of the last academic or in-water training session. If it has been more than six (6) months, an SSI Professional must conduct a reevaluation (both knowledge and skill review) to determine if the student is sufficiently proficient to continue to the open water training.

III. Dives per Day

The maximum number of XR training dives is three (3) per day if none of the dives require the completion of staged decompression stops.

The maximum number of XR training dives is two (2) per day if any dive on a given day is planned to, or actually requires staged decompression stops. An optional third shallow training dive may be performed.

IV. Duration of a Dive

Dive durations are specified in each program's individual standard.

XR training dives must have a minimum duration of 30 minutes of in-water time.

CCR open water training dives must include putting on the CCR unit, entering the water, exiting the water, and removing the CCR unit.

Conducting SSI Programs

Specialized Equipment

I. Guidelines for Specialized Diving Equipment

If specialized equipment or additional equipment is incorporated into SSI training programs, you must conduct an equipment orientation prior to taking students into the open water. Additional training is intended to provide practice and basic proficiency with the equipment, and should include a review of specialty materials, academic sessions, and pool/confined water training sessions.

NOTE: Additional cylinders and buoyancy systems or specialized configurations like full face masks and dry suits must be introduced to students in pool/confined water prior to taking students into open water.

II. Use of Surface Floats and Flags

Follow the local requirements for using surface floats or diver down buoys whenever open water training is conducted.

III. Staged Decompression

A guideline, physical structure or a reel and surface marker buoy must be used for ascents on dives where staged decompression is simulated or conducted.

Conducting SSI Programs

Using Certified Assistants

- An active status SSI Professional certified in the applicable program may act as a certified assistant for some XR training programs.
- Using certified assistants is recommended, but they cannot not be used to increase student-to-instructor ratios.

Conducting SSI Programs

Supervision

SSI Professionals must not engage in any activities other than supervision during in-water training for all entry-level programs.

Activities that do not affect the SSI Professional's ability to supervise and assist their students (e.g. taking a class photo with a pocket-sized camera) are permitted.

I. Direct Supervision

An active SSI Professional certified to conduct the applicable SSI program must personally supervise and evaluate all students during any training. They may not delegate the supervision to a certified assistant.

II. Indirect Supervision

An active SSI Professional certified to conduct the applicable SSI program is not required to personally observe all student knowledge and skills, but they must manage all program activities and be present at the training location.

In some SSI programs, an active status SSI Professional may delegate some supervision to a certified assistant, but the instructor must still be present at the location, and managing all program activities.

III. Distance Learning

With distance learning, the academic portion of the program is conducted by correspondence or over the internet, without the student's physical presence at the SSI Training Center.

All academic sessions for all SSI programs can be conducted using distance learning.

IV. Proximity

Some program-specific standards require a minimum proximity (physical distance) between the SSI Professional and their students during in-water training.

V. Student-To-Instructor Ratios

The student-to-instructor ratio for academic sessions is set by the individual instructor, based on the ability of the instructor to deal effectively with all student needs.

The maximum student-to-instructor ratio for in-water training is provided in each specific program standard. Any certified divers that dive with a class during open water training dives must be counted towards the student-to-instructor ratios.

If conditions dictate, decrease the student-to-instructor ratio.

RECOMMENDATION: Whenever possible, additional certified assistants should be used during training.

VI. Emergency Ascent Skills

An SSI Open Water Instructor must directly conduct all simulated emergency ascent skills during in-water training.

Any ascent training done during open water scuba training dives that simulates any emergency condition must be done from depths of ten (10) meters or less.

During simulated emergency ascents, the Open Water Instructor must establish physical contact with the student or buddy team before the ascent begins, and maintain direct physical contact during the entire ascent.

Conducting SSI Programs

Duty of Care

I. Obligation of Care

All SSI Professionals must inform students that if they become excessively cold or tired, are under undue stress, are low on gas, injured, not feeling well, or have recently been sick, they must not dive, or must not continue the dive, as is appropriate.

II. Environmental Conditions

Instructors have an obligation to cancel or modify open water training dives when environmental conditions, a student's physical or mental condition or equipment difficulties make it advisable.

NOTE: This judgment can only be made by the SSI Professional at the time and place of the open water training dive. Students who do not successfully complete the required skills during a training dive may complete those skills during a later training dive.

III. Skill Level

Only realistic skills may be presented when students reach a level of SSI training where they are capable of dealing with underwater problems. The students should solve these problems as they would in real-world diving situations.

IV. Forcing Students

SSI Professionals must never force students to perform skills if the student indicates (verbally or physically) that they do not want to perform the skill.

V. Emergency Plan

Any SSI Professional conducting in-water training must have a written emergency plan for accidents for each location where training is conducted.

VI. First Aid Equipment

Emergency equipment must be available in the vicinity of the dive site, including a first aid kit, oxygen unit and communications equipment. This equipment must be accessible at all times while training is being conducted.

VII. Reporting Procedures

In the event that an SSI Professional is involved in, or is witness to an incident or accident, or if a claim or suit is filed against them or their Training Center, they must immediately notify the responsible SSI Service Center, their Insurance Agent and their affiliated Training Center's Insurance Agent.

RECOMMENDATION: Use the SSI Accident Incident Report form found in the MySSI download section.

Conducting SSI Programs

Environmental Definitions

I. Shallow Water

Water shallow enough to stand with the head out of the water.

II. Deep Water

Water too deep to stand in with the head out of the water.

III. Deep Diving

Defined as any dive deeper than 18 meters.

IV. Diving At Altitude

SSI Professionals must plan all dives conducted above 300 meters in elevation using specific altitude tables/software or altitude-compatible dive computers.

V. Diving in Cold Water

SSI Professionals must ensure that proper exposure protection is available to all students before conducting training in cold water. If dry suits are being used during open water training dives, the student must have an SSI Dry Suit Diving Specialty certification (or equivalent) or proof of dry suit diving experience. If the student does not have previous dry suit experience, then they must complete a pool/confined water dry suit orientation session before any open water training dives.

NOTE: When training in cold water, always adhere to the equipment manufacturer's guidelines.

VI. Excursion Dive

A dive without formal performance requirements made prior to completion of all open water training dives. Entry-level students must be directly supervised during excursion dives.

VII. Night Diving

Any dive conducted after sunset and before sunrise. SSI Professionals must make underwater dive lights available to all students when conducting training at night.

Conducting SSI Programs

Training Environments and Depth Limits

I. Pool

An enclosed artificial structure filled with water that is used for swimming and dive skills development. It must have adequate visibility to ensure an instructor can observe their students at all times.

- The maximum depth for all pool/confined water training is 12 meters unless specified in the program-specific standard.

II. Confined Water

Any body of water with a depth appropriate to the activity that offers conditions similar to those of a pool including visibility, depth, water movement, and access.

- The maximum depth for all pool/confined water training is 12 meters unless specified in the program-specific standard.

The instructor may conduct XR program water skills evaluations and pool/confined water practice sessions in open water environments, as long as conditions give the instructor adequate visibility and control.

There must be a minimum of five (5) meters of horizontal visibility, and the bottom composition must not compromise visibility.

The training area must have an ascent line attached to a solid structure on the bottom, and no surface traffic is allowed in the training area during class.

For all SCR/CCR entry-level programs, the pool/confined water should have depths that are both shallow enough to stand up in, and deep enough to adequately perform the required skills for the program.

III. Open Water

An outdoor body of water suitable for swimming or diving activities with depths greater than five (5) meters. Environmental conditions must be consistent with the requirements for the training program.

- The minimum depth for open water training dives is 5 meters.
- The maximum depths of open water training dives are listed in each program's specific standards.

All open water training sessions must have direct vertical access to the surface, and must be conducted during daylight hours (between sunrise and sunset).

Open water training for all CCR and SCR entry-level programs must be conducted as no-decompression dives that allow direct vertical access to the surface.

IV. Recommended Depth Limits After Certification

After certification, SSI certified divers should dive with an equally- or more-qualified buddy, in environments and to a depth equivalent with their experience and level of training.

Conducting SSI Programs

Overhead Environments

I. Linear Distance

The standards for SSI Overhead Environment programs include limitations for linear distances. Linear distance is defined as the sum of the vertical distance, plus the horizontal distance, that the diver must swim to reach the surface.

II. Restrictions

The standards for SSI Overhead Environment programs include limitations on restrictions.

- A minor restriction is an area where divers are required to swim one in front of the other without having to manipulate or remove any equipment.
- A major restriction is an area where divers are required to manipulate or remove equipment in order to pass.

III. Swim Through

A natural or artificial structure that restricts direct vertical access to the surface. A swim through must:

- Be less than ten (10) meters in length
- At depths shallower than 30 meters
- Have separate and clearly visible entry and exit points, free of obstruction or entanglement hazards

During non entry-level programs, active status SSI Professionals may accompany students through a swim through as defined above.

IV. Daylight Zone Overhead Environments

A natural or artificial structure that restricts direct vertical access to the surface. It has a clearly visible entry point, and at all times the student can see a safe window of natural day light, large enough to allow access to the surface in an emergency. All daylight zone overhead environment dives require a fixed guideline that leads back to the entry point. The line must be suitable to the environment, be tied outside of any overhead restriction, and must not require navigation decisions to be made.

Active status SSI Professionals certified to teach SSI Overhead Environment Specialties or XR Overhead Environment programs may accompany students during these specific programs in overhead environments that meet the above definition.

V. Dives Outside the Daylight Zone

A dive in a natural or artificial structure that restricts direct vertical access to the surface. The diver may be any distance from a safe exit, provided enough gas has been planned to allow 1/3 of the total gas volume to be held in reserve upon exit (assuming no emergencies). All overhead environment dives require a fixed guideline that leads to an entry/exit point. The line must be suitable to the environment and be tied outside of any overhead restriction.

Active status SSI Professionals certified to teach SSI XR Overhead Environment programs may accompany students during these specific programs in overhead environments that meet the above definition.

Conducting SSI Programs

SSI In-Water Training Philosophy

I. Teaching Air Sharing Skills

For entry-level SSI programs, SSI Professionals may teach either method of air sharing (passing the primary or passing the alternate regulator).

a. Air Sharing Skills During Entry-Level Training

Due to the wide variety of equipment configurations, SSI encourages SSI Professionals to teach both methods of air sharing to entry-level divers.

As dive professionals, we have an obligation to provide students with the knowledge and training necessary to dive autonomously with an equally- or more-qualified buddy in environments consistent with their training. This includes equipment configurations they may encounter in equipment they purchase, rent, or see on their buddy.

This includes equipment configurations they may encounter in equipment they purchase, rent, or see on their buddy.

b. Rationale For Passing The Primary Air Source

There are four common Delivery System configurations in modern recreational scuba:

1. A first stage and primary second-stage with a traditional alternate air source (additional second-stage regulator)
1. A first stage and primary second-stage with an integrated alternate air source and BC inflator
1. A first stage and long hose primary second-stage with an alternate air source (additional second-stage regulator) on a necklace
1. A first stage and primary second-stage, and an additional first stage with alternate air source (additional second-stage regulator)

c. Air Sharing During Professional-Level Training

Since passing the primary works with most equipment configurations, it is SSI's preferred method, and is a required and evaluated skill for all SSI Professional training programs.

Attention:

Read the owner's manual of the regulator before performing air sharing exercises. If the manual explicitly says that the regulator is for the use of only one person, at minimum the instructor needs to be equipped with an independent redundant breathing system to perform this exercise. If that regulator is designed for only one person, the instructor must be the donor during this exercise and equipped with a redundant breathing system.

II. Diving Position

SSI's "Comfort through Repetition" in-water training philosophy is student-centered, and gradually increases the complexity of skills as students demonstrate mastery.

New skills are introduced in the shallow water, where the students develop their technique and motor skills. Once they demonstrate comfort and confidence with the skill, they can transition to performing the skill in deeper water, and incorporate more complex buddy team and emergency skills.

a. Kneeling vs. The Diving Position

The position of the student during skill practice and demonstration plays an important role in their progression, in-water comfort, and eventual autonomy. Skills are usually introduced to students who are kneeling and/or negatively buoyant to minimize stress and increase stability. This is an effective technique for the initial skill introduction, but it is not a realistic or natural diving position.

In the Diving Position, the diver's body stays horizontal to the bottom, with their fins and legs extended behind their body. This keeps their mouth and lungs horizontal, which is the optimal position for breathing, and improves streamlining and kicking technique.

Students who are new to the Diving Position may maintain slight contact between fins and the bottom, but the objective of the position is to maintain the Diving Position while neutrally buoyant. This is the desired position for a certified diver,

and students should be introduced to the skill as soon as they are ready, so they have sufficient time to practice and master it during pool/confined water training.

SSI strongly encourages instructors to have their students practice all applicable skills in the Diving Position during their pool/confined water training. The decision to transition a student from the kneeling position to the Diving Position is always at the instructor's discretion, and must be based on the student's comfort level and ability to complete the skill.

All XR level programs should be taught neutrally buoyant in trim with minimal movement of the hands and feet.

XR Programs

XR Water Fitness Evaluation

For all XR programs, each student must complete a water fitness evaluation that includes:

I. Equipment Swim

- A 400-meter surface swim while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

II. Underwater Swim

Option 1

- Swim underwater for 25 meters using a mask, fins and snorkel.

Option 2

- Swim horizontally without breathing at a constant depth underwater for 15 meters while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

a. Notes

- The underwater swim must be conducted in a pool/confined water environment.
- Option 2 must be completed using a horizontal reference line.
- The regulator must remain in the mouth at all times.
- The responsible instructor must directly supervise the student and be prepared to provide assistance if necessary.

III. Diver Rescue

- Perform a full, unconscious-diver-on-the-surface rescue with a total distance of 100 meters within eight (8) minutes. Both parties must use a Total Diving System.

XR Programs

Extended Range Foundations

I. Intent

The SSI Extended Range Foundations program provides divers with a workshop environment to improve their skills to a high level using Extended Range Total Diving Systems and procedures.

II. Minimum Instructor Rating

An active status Extended Range Foundations Instructor may conduct the Extended Range Foundations program.

Equipment Configurations

They must also meet at least one of the following conditions:

- Have an active status SSI Recreational Sidemount Specialty Instructor certification to teach using a Sidemount Total Diving System
- Have an active status SSI Extended Range Instructor or SSI Extended Range Foundations Instructor (Twinset) certification to teach using a Twinset Total Diving System
- Have an active status SSI CCR Diving Instructor certification and at least the diver-level certification in the applicable CCR unit to teach using a CCR Total Diving System
- Have an active status SSI SCR Diving Instructor certification and at least the diver-level certification in the applicable SCR unit to teach using a SCR Total Diving System

III. Student Prerequisites

- Minimum age: 16 years old.

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Open Water Diver

They must also meet at least one of the following conditions:

- Have a Recreational Sidemount Diving Specialty certification to use a sidemount configuration
- Have a CCR Diving certification to use a CCR configuration
- Have an SCR Diving certification to use an SCR configuration

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions are set by the individual instructor, based on student needs, student ability and water conditions.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Single-Cylinder Total Diving System.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete SCR Total Diving System.

- A complete CCR Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.

VIII. Requirements For Completion

- Complete an equipment configuration session for the applicable certification level.
- Complete at least four (4) pool/confined water sessions, with a cumulative time of at least 240 minutes, that include all skills for the applicable certification level.

IX. Passing Criteria

At the recreational level:

- Demonstrate the ability to maintain trim at +/- 30 degrees throughout the entire program.
- Demonstrate the ability to perform all skills adequately with little shift in buoyancy or trim.
- Demonstrate basic awareness of buoyancy, trim, stability, propulsion, and teamwork.

At the Extended Range level:

- Demonstrate the ability to maintain trim at +/- 15 degrees throughout the entire program.
- Demonstrate the ability to perform all skills perfectly with almost no shift in buoyancy or trim.
- Demonstrate advanced awareness of buoyancy, trim, stability, propulsion, and teamwork.

X. Certification

- Completing the Extended Range Foundations program means that the student has demonstrated good buoyancy, trim, stability, propulsion and teamwork in the equipment configuration used during the program, and that they have successfully passed the skill circuit for the applicable certification level.

XR Programs

Gas Blender (ISO 13293)

I. Intent

The SSI Gas Blender program provides students with the ability to blend nitrox and helium-based trimix blends.

There are two possible certifications for this program:

- Nitrox Gas Blender
- Trimix Gas Blender

II. Minimum Instructor Rating

An active status Gas Blender Instructor may conduct the Gas Blender program.

III. Student Prerequisites

- Minimum age: 18 years old.

IV. Duration

- Recommended hours for completion: 6-8.

V. Minimum Equipment

- Access to a blending station with gases capable of producing nitrox blends.
- Access to a partial pressure blending station (Trimix Gas Blender certification only).
- Gas analyzer(s) suitable for blends up to 100% oxygen and a helium analyzer if producing any helium-based trimix blends.

VI. Requirements For Completion

a. Nitrox Gas Blender

- Complete Academic Sections 1-5 and assessments as outlined in the instructor manual for Gas Blender.
- Complete a Nitrox Gas Blender final exam.
- Complete Practical Application Sessions 1 and 2 as outlined in the instructor manual for Gas Blender.

b. Trimix Gas Blender

- Complete all Academic Sessions and assessments as outlined in the instructor manual for Gas Blender.
- Complete a Trimix Gas Blender final exam.
- Complete Practical Application Sessions 1 through 4 as outlined in the instructor manual for Gas Blender.

VII. Sequence

- Academic presentations must be completed prior to conducting the practical application sessions.
- For Trimix Gas Blender students, the requirements for Nitrox Gas Blender must be completed before conducting the Trimix practical application sessions.

VIII. Certification

- Nitrox Gas Blender certification entitles the holder to blend nitrox-based gases.
- Trimix Gas Blender certification entitles the holder to blend nitrox- and helium-based trimix gases.

Open-Circuit Programs

Extended Range Sidemount

I. Intent

The SSI Extended Range Sidemount program provides divers with the training necessary to independently plan and conduct dives, using extended range sidemount equipment configurations and techniques, within the depth limits allowed by their certification levels, and with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status SSI Extended Range Sidemount Instructor may conduct the Extended Range Sidemount program.

III. Student Prerequisites

- Minimum age: 16 years old.

Have the following SSI certifications or an equivalent from a recognized training agency:

- Open Water Diver

IV. Duration

- Recommended hours for completion: 16-24.

V. Minimum Equipment

- A complete Extended Range Sidemount Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the student, whichever is shallower.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Sidemount Diving.
- Complete a Sidemount Diving final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete a pool/confined water skill development session of at least one (1) hour.
- Complete at least four (4) open water training dives, with a cumulative time of at least 120 minutes, as outlined in the instructor manual for Sidemount Diving.

NOTE: All in-water training must be planned and conducted within the no-decompression limits.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

X. Credit

A diver with the SSI Recreational Sidemount Diving certification may earn the Extended Range Sidemount certification by completing the additional skill requirements for the Pool/Confined Water Session in an Extended Range Sidemount Total Diving System, and the requirements for Open Water Training Dive 4, as outlined in the instructor manual for Sidemount Diving.

XI. Certification

The Extended Range Sidemount certification allows the diver to use a two-cylinder sidemount configuration and stage cylinders (appropriate to their certification level) on extended range dives in environments and to depths equivalent to their certification and experience level.

Open-Circuit Programs

Extended Range Nitrox Diving

I. Intent

The SSI Extended Range Nitrox Diving program provides divers with the training necessary to independently plan and conduct limited decompression dives to a maximum depth of 40 meters, using nitrox mixtures of up to 50% and Extended Range Total Diving Systems and procedures with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status Extended Range Nitrox Diving Instructor may conduct the Extended Range Nitrox Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor certification with the Twinset configuration.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

III. Student Prerequisites

- Minimum age: 16 years old.

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Deep Diving
- Enriched Air Nitrox 40

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

IV. Duration

- Recommended hours for completion: 16.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.

Including:

- One (1) stage cylinder.

VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.

- Maximum depth limit for Open Water Training Dives 1 and 2: 30 meters.
- Depth range for Open Water Training Dives 3 and 4: 30 to 40 meters.
- At least one (1) dive must be to a depth of 35 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program's final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete at least one (1) pool/confined water skill development session lasting at least one (1) hour as outlined in the instructor manual for Extended Range.
- Complete at least four (4) open water training dives as outlined in the instructor manual for Extended Range.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 and 4, and any remaining training dives.
- The total time for all required stage stops must not exceed 15 minutes per dive, based on back gas decompression profile.
- Divers are not allowed to accelerate the decompression plan.
- Divers may carry a decompression mixture of up to 50% oxygen.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

X. Certification

Extended Range Nitrox Diving certification entitles the holder to dive with an equally- or more-qualified buddy, on dives using the equipment configuration used during training and extended range procedures to depths of up to 40 meters, and requiring staged decompression stops of no longer than 15 minutes based on a back gas profile; providing that dives are conducted in environments similar to those of the diver's training and experience.

XI. Credit

Extended Range Nitrox Diving students may credit dives in this program to Open Water Training Dives 1 through 4 of the Extended Range program, providing that the program was successfully completed in a Twinset Total Diving System or Extended Range Sidemount Total Diving System. If Extended Range Nitrox Diving was completed in a Single-Cylinder Total Diving System only academic credit for the Extended Range Nitrox Diving portion of the program can be given.

Open-Circuit Programs

Extended Range

I. Intent

The SSI Extended Range program provides divers with the training necessary to independently plan and conduct limited decompression dives to a maximum depth of 45 meters, using decompression mixtures of up to 100% oxygen and specialized diving equipment and procedures, for a maximum accumulated decompression time of 25 minutes, with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status Extended Range Instructor may conduct the Extended Range program.

The instructor must be qualified as an Extended Range Trimix Instructor to conduct the Extended Range Trimix program.

NOTE: The Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.

Equipment Configurations

- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

III. Student Prerequisites

Have logged at least:

- 50 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Deep Diving
- Enriched Air Nitrox 40

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

IV. Duration

- Recommended hours for completion: 18.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.

Including:

- One (1) stage cylinder.

VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth limit for Open Water Training Dives 1 and 2: 30 meters.
- Depth range for Open Water Training Dives 3 and 4: 30 to 40 meters.

- Depth range for Open Water Training Dives 5 and 6: 30 to 45 meters.
- At least one (1) dive must be to a depth of 40 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program's final exam.
- If qualifying for Extended Range Trimix, complete an Extended Range Trimix final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least two (2) hours as outlined in the instructor manual for Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Extended Range.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 through 6.
- If qualifying for Extended Range Trimix, Open Water Training Dives 5 and 6 must be conducted using a trimix gas.
- The total time for all required decompression stops on Open Water Training Dives 3 and 4 must not exceed 15 minutes per dive.
- The total time for all required decompression stops on Open Water Training Dives 5 and 6 must not exceed 25 minutes per dive.
- The total combined time for Open Water Training Dives 1 through 4 must be a minimum of two (2) hours.
- The total combined time for Open Water Training Dives 5 and 6 must be a minimum of 90 minutes.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

X. Upgrade

To upgrade to Extended Range Trimix, Extended Range students must:

- Complete all academic sessions and assessments as outlined in the instructor manual for Extended Range.
- Complete the program-specific final exam.
- Independently plan a full trimix dive plan using the Extended Range Dive Planning sheets.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for Extended Range using trimix.

XI. Certification

Extended Range (with or without trimix) certification entitles the holder to dive with an equally- or more-qualified buddy, on dives using specialized diving equipment and procedures to depths of up to 45 meters and requiring staged decompression stops of no longer than 25 minutes, providing that dives are conducted in environments similar to those of the diver's training and experience.

XII. Credit

At the instructor's discretion, Open Water Training Dives 1 and 2 of the Technical Extended Range program may be credited from the Extended Range program.

Open-Circuit Programs

Technical Extended Range

I. Intent

The SSI Technical Extended Range program provides divers with the training necessary to independently plan and conduct two-gas switch, multiple-stop decompression dives to depths of up to 50 meters (60 meters when using trimix), using specialized diving equipment and procedures with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status Technical Extended Range Instructor may conduct the Technical Extended Range program.

To conduct the Technical Extended Range Trimix program, the instructor must be qualified as a Technical Extended Range Trimix Instructor.

NOTE: The Technical Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.

Equipment Configurations

- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.

III. Student Prerequisites

Have logged at least:

- 70 total dives
- 20 dives deeper than 30 meters
- 10 dives requiring staged decompression with at least one (1) gas switch (not including training dives)

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range
- Full Cave Diving
- Technical Wreck Diving

IV. Duration

- Recommended hours for completion: 18.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.

Including:

- Two (2) stage cylinders.

VI. In-Water Ratios

- The student-to-instructor ratio is 4:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.

- Maximum depth for Open Water Training Dives 3 and 4: 45 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 50 meters.
- At least one (1) dive must be to a depth of 45 meters.

a. If Using Trimix

- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth for Open Water Training Dives 3 and 4: 45 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 60 meters.
- At least one (1) dive must be to a depth of 55 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Extended Range.
- Complete the program's final exam.
- If qualifying for Technical Extended Range Trimix, complete a Technical Extended Range Trimix final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least 90 minutes as outlined in the instructor manual for Technical Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Technical Extended Range.

a. Notes

- Open Water Training Dives 1 and 2 are preliminary dives, and may be waived at the instructor's discretion if the student has completed the SSI Extended Range program within 180 days.
- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- If qualifying for Technical Extended Range Trimix, Open Water Training Dives 5 and 6 must be conducted using a trimix gas.
- The total cumulative time for Open Water Training Dives 3-6 must be a minimum of three (3) hours.
- The primary planned decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 30 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 60 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- At least one (1) dive must have a total run time greater than 60 minutes.
- Open Water Training Dives 3-6 must include at least two (2) gas switches.
- If environmental or water conditions make it unsafe or impractical to meet the cumulative time requirement, additional training dives should be scheduled.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes Open Water Training Dives 1 and 2.

- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 3 and 4.

X. Upgrade

To upgrade to Technical Extended Range Trimix, Technical Extended Range students must:

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Extended Range.
- Complete the program-specific final exam.
- Independently plan a full trimix dive plan using the Extended Range Dive Planning sheets.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for Technical Extended Range using trimix.

XI. Certification

Technical Extended Range certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, on dives using specialized diving equipment and procedures, to depths of 50 meters (for Technical Extended Range) or 60 meters (for Technical Extended Range Trimix), and requiring unlimited staged decompression stops with a maximum of two gas switches, providing that dives are conducted in environments similar to those of the diver's training and experience.

XII. Credit

This program may be combined with the Technical Wreck Diving program or Full Cave Diving program.

If combined with the Technical Wreck Diving program:

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Students must complete all of the prerequisites, skill development sessions, and academic requirements for both programs.
- The recommended maximum depth for overhead training dives is 45 meters, and under no circumstances may any overhead environment dives be conducted at depths deeper than 60 meters during the program.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox.

If combined with the Full Cave Diving program:

- Overhead Training Dives 1 through 4 of the Full Cave Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Divers must complete all of the prerequisites, skill development sessions, and academic requirements for both programs.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox or 60 meters on trimix.

Open-Circuit Programs

Hypoxic Trimix

I. Intent

The SSI Hypoxic Trimix program provides divers with the training necessary to independently plan and conduct limited decompression dives to depths of up to 100 meters, using specialized diving equipment and procedures with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status Hypoxic Trimix Instructor may conduct the Hypoxic Trimix program.

III. Student Prerequisites

Have logged at least:

- 100 total dives
- 30 dives deeper than 30 meters
- 10 dives deeper than 45 meters
- 20 dives requiring staged decompression with at least two (2) gas switches (not including training dives)

Have the following SSI certifications or an equivalent from a recognized training agency:

- Technical Extended Range

IV. Duration

- Recommended hours for completion: 18.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

- A complete Twinset Total Diving System.

Including:

- Three (3) stage cylinders.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum depth for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth for Open Water Training Dives 3 and 4: 80 meters, with at least one dive deeper than 75 meters.
- Maximum depth for Open Water Training Dives 5 and 6: 100 meters.
- At least one (1) dive must be to a depth of 90 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Hypoxic Trimix.
- Complete the program's final exam.
- Independently plan a full dive plan using the Extended Range Dive Planning sheets.

- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session, with a cumulative time of at least 90 minutes as outlined in the instructor manual for Hypoxic Trimix.
- Complete at least six (6) open water training dives as outlined in the instructor manual for Hypoxic Trimix.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The total cumulative time for Open Water Training Dives 3-6 must be at least five (5) hours.
- The primary plan decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 60 minutes for Open Water Training Dives 3 and 4.
- The primary plan decompression obligation (total time of all decompression stops including deep stops, if used) must not exceed 90 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- Each open water training dive must include at least three (3) gas switches.
- If environmental or water conditions make it unsafe or impractical to meet the cumulative time requirement, additional training dives should be scheduled.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completes Open Water Training Dives 1 and 2.
- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 3 and 4.

X. Certification

The Hypoxic Trimix certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, on dives using specialized diving equipment and procedures to depths of either 80 or 100 meters, depending on the certification achieved, in environments similar to those of the diver's training and experience.

- The Hypoxic Trimix 80m certification is the same as the 100m certification, with one exception: if conditions do not permit, or the students cannot make the deepest dives, they may become certified at 80 meters after the first four (4) dives.
- After developing experience, and with an equally- or more-qualified buddy, a diver qualified to 100 meters may dive to depths deeper than 100 meters.

XR Overhead Programs

Extended Range Wreck Diving

I. Intent

The SSI Extended Range Wreck Diving program provides divers with the training necessary to independently plan and conduct limited wreck penetration dives within the daylight zone, at depths shallower than 40 meters, using specialized wreck diving equipment and procedures with an equally- or more-qualified buddy.

NOTE: See Scuba Specialty Programs>Overhead Environment Programs>Advanced Wreck Diving for a detailed description of the Advanced Wreck Diving program.

II. Minimum Instructor Rating

An active status Extended Range Wreck Diving Instructor may conduct the Extended Range Wreck Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

Note: The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.

III. Student Prerequisites

- Minimum age: 16 years old.

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40

For students using a twinset configuration (in addition to the above):

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Foundations (Twinset)
- Extended Range

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

For students using a CCR unit (in addition to the above):

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

NOTE: The CCR certification must be on the same unit that will be used for this program.

For students using an SCR unit (in addition to the above):

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving

NOTE: The SCR certification must be on the same unit that will be used for this program.

IV. Duration

- Recommended hours for completion: 12.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

And

- Primary and back-up lights.
- One (1) reel or spool with a minimum of 45 meters of line.
- One (1) primary line reel per dive team (team reels may be provided by the instructor).
- A minimum of two (2) line arrows or referencing exit markers (REM).

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the diver, whichever is shallower.

VIII. Training Conditions

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.

IX. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for XR Overhead Environment.
- Complete the XR Overhead Environment final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for XR Overhead Environment
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for XR Overhead Environment.

- Complete at least four (4) overhead training dives as outlined in the instructor manual for XR Overhead Environment.

a. Notes

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- No penetration may exceed one-third (1/3) of the diver's bottom gas supply.
- Once any diver consumes one-third (1/3) of their available bottom gas, the dive must be turned, leaving one-third (1/3) for the exit, and one-third (1/3) for contingencies.
- Each stage cylinder must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on the diver's SAC rate, planned bottom time, and any planned stops.

NOTE: CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters/minute, planned bottom time, and any planned stops.

X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the dry land skill development session.
- Overhead Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 and 2.

XI. Certification

The SSI Extended Range Wreck Diving certification entitles the holder to dive with an equally- or more-qualified buddy, on limited penetration, no-decompression dives in the daylight zone, using specialized wreck diving equipment and procedures to depths shallower than 40 meters (or to their maximum certification level, whichever is shallower), providing that dives are conducted in environments similar to those of the diver's training and experience.

XII. Credit

- The Extended Range Wreck Diving certification may be credited to the dry land skill development session, the pool/confined water skill development session, and Overhead Training Dives 1 and 2 of the Extended Range Cavern Diving program, if the program begins within 90 days of completing the Extended Range Wreck Diving program.
- Issuing credit is entirely at the instructor's discretion. If credit is issued, the instructor must either have direct and recent knowledge (within 90 days) of the student's abilities, or the instructor must conduct both a pool/confined water session and at least one evaluation dive prior to any dives in an actual overhead environment.

XR Overhead Programs

Technical Wreck Diving

I. Intent

The SSI Technical Wreck Diving program provides divers with the training necessary to independently plan and conduct full penetration dives inside ship wrecks or other structures, using specialized technical wreck diving equipment and procedures with an equally- or more-qualified dive buddy.

II. Minimum Instructor Rating

An active status Technical Wreck Diving Instructor may conduct the Technical Wreck Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) certification.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.
- They may use an XR CCR or XR SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Extended Range Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

Note: The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.

III. Student Prerequisites

Have logged at least:

- 75 total dives

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Wreck Diving
- Extended Range Cavern Diving

For students using a twinset configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

For students using a CCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range

For students using an SCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range

IV. Duration

- Recommended hours for completion: 20.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.
- A complete XR CCR Total Diving System.
- A complete XR SCR Total Diving System.

And

- A suitable primary light and a minimum of two back-up lights.
- Three (3) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- Three (3) line arrows and three (3) non-directional cookies, or six (6) referencing exit markers (REM).
- One primary line reel per team.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 80 meters or the maximum certification depth of the student, whichever is shallower.

VIII. Training Conditions

- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.
- A guideline to open water must be maintained during all phases of any overhead training dive.
- Minor restrictions (where two divers must swim single file without removing or manipulating equipment to navigate the restriction) are permitted.
- Dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

IX. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for Technical Wreck Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Technical Wreck Diving.
- Complete at least one (1) pool/confined water skill development session lasting at least one (1) hour as outlined in the instructor manual for Technical Wreck Diving.
- Complete at least six (6) overhead training dives as outlined in the instructor manual for Technical Wreck Diving.

a. Notes

- Overhead Training Dives 1 through 6 must be planned within the decompression limits specified by the diver's current certification limits.
- Complex navigation patterns including jumps, circuits and other multiple line navigational systems are permitted.
- No penetration may exceed 1/3 of the diver's breathing gas supply for the penetration phase on any overhead training dive, with 1/3 remaining for the exit and 1/3 left in reserve for emergencies.
- Gas matching formulas must be used and applied to the dive plan.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox or 60 meters on trimix.

NOTE: CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters/minute, planned bottom time, and any planned stops.

X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

XI. Certification

Technical Wreck Diving certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, on full penetration dives using specialized technical wreck diving equipment and procedures, providing that dives are conducted in environments similar to those of the diver's training and experience.

The Rule of Thirds concept of gas management must be applied to all dives.

XII. Credit

If combined with the Technical Extended Range program:

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the Technical Extended Range program.
- Divers must complete all of the prerequisites, skills development and academic requirements for both programs.

XR Overhead Programs

Extended Range Cavern Diving

I. Intent

The SSI Extended Range Cavern Diving program provides divers with the training necessary to independently plan and conduct limited cavern penetration dives within the daylight zone, at depths shallower than 40 meters, using specialized cavern diving equipment and procedures with an equally- or more-qualified buddy.

II. Minimum Instructor Rating

An active status Extended Range Cavern Diving Instructor may conduct the Extended Range Cavern Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

Note: The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.

III. Student Prerequisites

- Minimum age: 16 years old.

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40

For students using a twinset configuration (in addition to the above):

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Foundations (Twinset)
- Extended Range

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

For students using a CCR unit (in addition to the above):

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

NOTE: The CCR certification must be on the same unit that will be used for this program.

For students using an SCR unit (in addition to the above):

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving

NOTE: The SCR certification must be on the same unit that will be used for this program.

IV. Duration

- Recommended hours for completion: 12.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Single-Cylinder Total Diving System as outlined in the XR General Training Standards.
- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

And

- Primary and back-up lights.
- One (1) reel or spool with a minimum of 45 meters of line.
- One (1) primary line reel per dive team (team reels may be provided by the instructor).
- A minimum of two (2) line arrows or referencing exit markers (REM).

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the diver, whichever is shallower.

VIII. Training Conditions

- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.

IX. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the instructor manual for XR Overhead Environment.
- Complete the XR Overhead Environment final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for XR Overhead Environment
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for XR Overhead Environment.
- Complete at least four (4) overhead training dives as outlined in the instructor manual for XR Overhead Environment.

a. Notes

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- A guideline to open water must be maintained during all phases of any overhead training dive.
- Penetrations must be limited to the daylight zone, as defined in the SSI General Training Standards.
- Navigation patterns must be limited to simple, single-line linear patterns.
- No penetration may exceed one-third (1/3) of the diver's bottom gas supply.
- Once any diver consumes one-third (1/3) of their available bottom gas, the dive must be turned, leaving one-third (1/3) for the exit, and one-third (1/3) for contingencies.
- Each stage cylinder must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on the diver's SAC rate, planned bottom time, and any planned stops.

NOTE: CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters/minute, planned bottom time, and any planned stops.

X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the dry land skill development session.
- Overhead Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 3 and 4 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 and 2.

XI. Certification

The SSI Extended Range Cavern Diving certification entitles the holder to dive with an equally- or more-qualified buddy, on limited penetration, no-decompression dives in the daylight zone, using specialized cavern diving equipment and procedures to depths shallower than 40 meters (or to their maximum certification level, whichever is shallower), providing that dives are conducted in environments similar to those of the diver's training and experience.

XII. Credit

- The Extended Range Cavern Diving certification may be credited to the dry-land skill development session, the pool/confined water skill development session, and Overhead Environment Training Dives 1 and 2 of the Extended Range Wreck Diving program, if the program begins within 90 days of completing the Extended Range Cavern Diving program.
- Issuing credit is entirely at the instructor's discretion. If credit is issued, the instructor must either have direct and recent knowledge (within 90 days) of the student's abilities, or the instructor must conduct both a pool/confined water session and at least one evaluation dive prior to any dives in an actual overhead environment.

XR Overhead Programs

Cave Diving

I. Intent

The SSI Cave Diving program provides divers with the training necessary to independently plan and conduct cave penetration dives using the Rule of Thirds concept of gas management, at depths less than 40 meters, using specialized cave diving equipment and procedures, with an equally-qualified dive buddy.

II. Minimum Instructor Rating

An active status Cave Diving Instructor may conduct the Cave Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) or Extended Range Foundations Instructor (Twinset) certification.
- They may use a Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Recreational Sidemount Diving Specialty Instructor certification.
- They may use a CCR or SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Diving Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

Note: The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.

III. Student Prerequisites

Have logged at least:

- 50 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Cavern Diving
- Enriched Air Nitrox 40

For students using a twinset configuration (in addition to the above):

Have at least one (1) of the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range
- Extended Range Foundations (Twinset)

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

For students using a CCR unit (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

Have logged at least:

- 50 hours on the applicable unit

NOTE: The CCR certification must be on the same unit that will be used for this program.

For students using an SCR unit (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving

Have logged at least:

- 50 hours on the applicable unit

NOTE: The SCR certification must be on the same unit that will be used for this program.

IV. Duration

- Recommended hours for completion: 18.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Twinset Total Diving System.
- A complete Sidemount Total Diving System.
- A complete CCR Total Diving System.
- A complete SCR Total Diving System.

And

- A suitable primary light and a minimum of two back-up lights.
- Three (3) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- Three (3) line arrows and three (3) non-directional cookies, or six (6) referencing exit markers (REM).
- One primary line reel per team.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters or the maximum certification depth of the student, whichever is shallower.

VIII. Training Conditions

- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.
- A guideline to open water must be maintained during all phases of any overhead training dive.
- A maximum of one (1) tee or jump may be passed.
- Dives are limited to areas where two divers can swim without restriction.
- Dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

IX. Requirements For Completion

- Complete academic sessions and assessments as outlined in the instructor manual for Cave Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the General Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Cave Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Cave Diving.

- Complete at least six (6) overhead training dives as outlined in the instructor manual for Cave Diving.

a. Notes

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Training dives 1 through 6 must be conducted in overhead environments.
- No penetration may exceed 1/3 of the diver's bottom gas supply.
- Upon any diver consuming 1/3 of the available bottom gas, the dive must be turned, leaving 1/3 for the exit and 1/3 for contingencies.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox or 40 meters on trimix.

NOTE: CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters/minute, planned bottom time, and any planned stops.

X. Sequence

- The pool/confined water skill development session may only be conducted after the student successfully completes the dry land skill development session.
- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

XI. Certification

The SSI Cave Diving certification entitles the holder to dive autonomously with an equally- or more-qualified buddy on cave dives using specialized cave diving equipment and procedures, providing that dives are conducted in environments similar to those of the diver's training and experience.

A maximum of one tee or jump may be passed.

The Rule of Thirds gas management concept must be applied to all dives.

XR Overhead Programs

Full Cave Diving

I. Intent

The SSI Full Cave Diving program provides divers with the training necessary to independently plan and conduct cave penetration dives using the Rule of Thirds concept of gas management, at depths within the diver's current certification, using specialized cave diving equipment and procedures with an equally-qualified dive buddy.

II. Minimum Instructor Rating

An active status Full Cave Diving Instructor may conduct the Full Cave Diving program.

Equipment Configurations

- They may use a Twinset Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Instructor (Twinset) certification.
- They may use an Extended Range Sidemount Total Diving System as outlined in the SSI Training Standards if they have the Extended Range Sidemount Instructor certification.
- They may use an XR CCR or XR SCR Total Diving system as outlined in the SSI Training Standards if they have the applicable CCR or SCR Extended Range Instructor certification and the CCR or SCR Diving certification on the unit used by the student.

Note: The SSI Professional teaching the program must have an instructor certification in the equipment configuration used by the student.

III. Student Prerequisites

Have logged at least:

- 75 total dives
- 10 cave dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Cave Diving

For students using a twinset configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

For students using a sidemount configuration (in addition to the above):

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

For students using a CCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range

NOTE: The CCR certification must be on the same unit that will be used for this program.

For students using an SCR unit (in addition to the above):

Have logged at least:

- 100 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range

NOTE: The SCR certification must be on the same unit that will be used for this program.

IV. Duration

- Recommended hours for completion: 20.

V. Minimum Equipment

Students participating in this program must use at least one of the following equipment configurations:

- A complete Twinset Total Diving System.
- A complete Extended Range Sidemount Total Diving System.
- A complete XR CCR Total Diving System.
- A complete XR SCR Total Diving System.

And

- A suitable primary light and a minimum of two back-up lights.
- Two (2) reels or spools per diver (one should be a safety spool with a minimum of 45 meters of line).
- One (1) jump/gap reel per diver.
- Three (3) line arrows or referencing exit markers (REM), and five (5) non-directional cookies.
- One primary line reel per team.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum depth limit for Overhead Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Overhead Training Dives 3 through 6: The maximum certification depth of the student.

VIII. Training Conditions

- All overhead training dives must be conducted in water with at least five (5) meters of visibility at the start of the dive.
- A guideline to open water must be maintained during all phases of any overhead training dive.
- Minor restrictions (where two divers must swim single file without removing or manipulating equipment to navigate the restriction) are permitted.
- Dives must be completed on at least two (2) different sites unless the site is large enough to have multiple entry and exit points and interior routes.

IX. Requirements For Completion

- Complete academic sessions and assessments as outlined in the instructor manual for Full Cave Diving.
- Complete the program's final exam.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) dry land skill development session as outlined in the instructor manual for Full Cave Diving.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for Full Cave Diving.
- Complete at least six (6) overhead training dives as outlined in the instructor manual for Full Cave Diving.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Overhead Training Dives 3 through 6 must be planned within the decompression limited specified by the student's current certification limits.
- No penetration may exceed 1/3 of the diver's breathing gas supply for the penetration phase on any cave dive, with 1/3 remaining for the exit and 1/3 left in reserve for emergencies.
- Gas matching formulas must be used and applied to the dive plan.
- Any staged decompression longer than 15 minutes requires the use of a decompression gas, which may be staged if there is no alternative exit.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox or 60 meters on trimix.

NOTE: CCR bailout cylinders must have enough gas for the diver to return to the surface from the deepest planned penetration point, based on a SAC rate of 40 liters/minute, planned bottom time, and any planned stops.

X. Sequence

- Overhead Training Dives 1 through 4 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Overhead Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Overhead Training Dives 1 through 4.

XI. Certification

Full Cave Diving certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, on cave dives using specialized cave diving equipment and procedures, providing that dives are conducted in environments similar to those of the diver's training and experience. The Rule of Thirds concept of gas management must be used on all dives.

XII. Credit

If combined with the Technical Extended Range program:

- Training Dives 5 and 6 of the Technical Extended Range program must be conducted in open water.
- Divers must complete all of the prerequisites, skills development and academic requirements for both programs.

XR SCR Programs

SCR Diving

I. Intent

The SSI SCR Diving program provides divers with the knowledge and training necessary to independently plan and conduct semi-closed rebreather (SCR) dives to a maximum depth of 30 meters, using an SCR Total Diving System and SCR diving procedures with an equally- or more-qualified dive buddy.

Beyond the SSI Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.

II. Minimum Instructor Rating

An active status, unit-specific SCR Diving Instructor may conduct the unit-specific SCR Diving program.

III. Student Prerequisites

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40
- Deep Diving

Note: If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.

IV. Duration

- Recommended hours for completion: 24-30.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

- A complete SCR Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum depth limit for Open Water Training Dive 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 30 meters.
- At least one (1) dive must be to a depth of 25 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of

at least one (1) hour as outlined in the instructor manual for SCR Extended Range.

- Complete at least four (4) open water training dives as outlined in the instructor manual for SCR Extended Range.
- Complete at least 300 minutes of in-water runtime on the applicable SCR unit.

a. Notes

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 1 through 3 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dive 4 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 through 3.

X. Certification

The SCR Diving certification entitles the holder to dive with an equally- or more-qualified buddy, with the equipment configuration used during training and SCR diving procedures, to depths of up to 30 meters, not requiring decompression stops, providing that dives are conducted in environments similar to those of the diver's training and experience.

XI. Unit Crossovers

Students crossing over to SCR Diving from another electronically-controlled SCR unit, or a CCR unit, must complete the following:

a. Student Prerequisites

Have logged at least:

- 24 CCR dives

OR

- 12 SCR dives

b. Requirements For Completion

Prior to certification, student must complete:

- All unit-specific theory and procedures, including a final exam with a passing score of at least 80%.
- An equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- The XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- At least one (1) additional pool/confined water skill development session lasting at least one (1) hour.
- Open Water Training Dives 3 and 4 as outlined in the instructor manual for SCR Extended Range.
- At least 120 minutes of open water runtime on the applicable SCR unit.

XR SCR Programs

SCR Extended Range

I. Intent

The SCR Extended Range program provides divers with the training necessary to independently plan and conduct limited decompression dives, using nitrox to a maximum depth of 40 meters and specialized diving equipment and procedures, for a maximum accumulated decompression time of 25 minutes, with an equally-or more-qualified dive buddy.

Beyond the SSI Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.

II. Minimum Instructor Rating

An active status, unit-specific SCR Extended Range Instructor may conduct the unit-specific SCR Extended Range program.

III. Student Prerequisites

Have logged at least:

- 24 total dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40
- Deep Diving

Note: If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.

IV. Duration

- Recommended hours for completion: 32-40.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

- A complete XR SCR Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum depth limit for Open Water Training Dive 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dives 4 and 5: 30 meters.
- Maximum depth limit for Open Water Training Dive 6: 40 meters.
- At least one (1) dive must be to a depth of 35 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.

- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for SCR Extended Range.
- Complete at least 420 minutes of in-water runtime on the applicable SCR unit.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The total time for all required decompression stops on all training dives must not exceed 25 minutes per dive.
- The volume of the carried bailout gas should be based on each individual diver's gas calculations plus 30% for reserve, and sufficient to complete a gas-sharing ascent and all required decompression.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 1 through 4 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 5 and 6 may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 through 4.

X. Certification

The SCR Extended Range certification entitles the holder to dive with an equally- or more-qualified buddy, with the equipment configuration used during training and SCR diving procedures, to depths of up to 40 meters with a maximum of 25 minutes decompression, providing that dives are conducted in environments similar to those of the diver's training and experience.

SCR Extended Range Upgrade

I. SCR Diving to SCR Extended Range (Horizon)

a. Requirements For Completion

Students upgrading from SCR Diving (Horizon) to SCR Extended Range (Horizon) must:

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 120 minutes of open water runtime on the applicable SCR unit.

II. SCR Diving (other SCR units) to SCR Extended Range (Horizon)

a. Student Prerequisites

Have logged at least:

- 24 SCR dives

b. Requirements For Completion

Students upgrading from SCR Diving (other SCR units) to SCR Extended Range (Horizon) must:

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 4 through 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 180 minutes of open water runtime on the applicable SCR unit.

III. CCR Diving (any unit) to SCR Extended Range (Horizon)

a. Student Prerequisites

Have logged at least:

- 24 CCR dives

b. Requirements For Completion

Students upgrading from any CCR Diving certification to SCR Extended Range (Horizon) must:

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.

- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 4 through 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 180 minutes of open water runtime on the applicable SCR unit.

IV. CCR Extended Range (any unit) to SCR Extended Range (Horizon)

a. Student Prerequisites

Have logged at least:

- 24 CCR dives

b. Requirements For Completion

Students upgrading from any CCR Diving certification to SCR Extended Range (Horizon) must:

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for SCR Extended Range.
- Complete the program's final exam.
- Complete an equipment configuration session as outlined in the instructor manual for SCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for SCR Extended Range.
- Complete Open Water Training Dives 5 and 6 as outlined in the instructor manual for SCR Extended Range.
- Complete at least 120 minutes of open water runtime on the applicable SCR unit.

XR CCR Programs

CCR Diving

I. Intent

The SSI CCR Diving program provides divers with the knowledge and training necessary to independently plan and conduct closed-circuit rebreather (CCR) dives to a maximum depth of 30 meters, using a CCR Total Diving System with air as diluent and CCR diving procedures, with an equally- or more-qualified dive buddy.

Beyond the SSI Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.

II. Minimum Instructor Rating

An active status unit-specific CCR Diving Instructor may conduct the unit-specific CCR Diving program.

III. Student Prerequisites

Have logged at least:

- 24 open water dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40
- Deep Diving

Note: If the student does not have the Deep Diving certification, they must have at least ten (10) verified logged dives between 24-30 meters.

IV. Duration

- Recommended hours for completion: 40.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

- A complete CCR Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.
- The student-to-instructor ratio is 2:1 for rEvo training programs.

VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Maximum depth limit for Open Water Training Dives 5 and 6: 30 meters.
- At least one (1) dive must be to a depth of 25 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Extended Range.
- Complete the program's final exam.
- Complete a unit-specific final exam.

- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Extended Range.
- Complete at least 480 minutes of in-water runtime on the applicable CCR unit.

NOTE: Students completing this program using a rEVO CCR unit must complete at least one (1) additional pool/confined water skill development session, lasting at least one (1) hour.

a. Notes

- All in-water training must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The bailout cylinder must be filled with air, or a nitrox mix with a maximum ppO_2 of 1.6 at the deepest planned depth of the dive.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters/minute.
- Divers should not carry an onboard diluent gas with a ppO_2 higher than 1.1 bar at the bottom.
- Divers using an mCCR should not carry an onboard diluent gas with $appO_2$ higher than 1.3 bar at the bottom.
- The maximum loop set point is 1.3 bar.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

NOTE: These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.

X. Certification

CCR Diving certification entitles the holder to dive with an equally- or more-qualified buddy, with the equipment configuration used during training, and CCR diving procedures to depths of up to 30 meters, not requiring staged decompression stops, providing that dives are conducted in environments similar to those of the diver's training and experience.

XR CCR Programs

CCR Extended Range

I. Intent

The CCR Extended Range program provides divers with the training necessary to independently plan and conduct limited decompression dives using air to a maximum depth of 40m, or trimix (minimum 20% oxygen) to a maximum depth of 45 meters using specialized diving equipment and procedures, for a maximum accumulated decompression time of 25 minutes, with an equally-or more-qualified dive buddy.

Beyond the SSI Standards, individual manufacturers may require additional prerequisites, experience, knowledge and skills. The instructor conducting this program must check with the applicable manufacturer for the latest standards and procedures.

II. Minimum Instructor Rating

An active status unit-specific CCR Extended Range Instructor may conduct the unit-specific CCR Extended Range program.

NOTE: The CCR Extended Range Trimix curriculum is identical to the non-trimix program, except for the breathing gas used.

III. Student Prerequisites

Option 1

Have logged at least:

- 30 extended range dives that require a stage cylinder and decompression.

Have the following SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox 40
- Deep Diving
- Extended Range Nitrox Diving

Option 2

Have logged at least:

- 30 hours on the applicable unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

IV. Duration

- Recommended hours for completion: 40.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

- A complete XR CCR Total Diving System.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.
- The student-to-instructor ratio is 2:1 for rEvo training programs.

VII. Depth Limitations

Air as diluent:

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.

- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Depth range for Open Water Training Dives 5 and 6: 30–35 meters.

Trimix as diluent:

- Maximum depth limit for Open Water Training Dives 1 and 2: 12 meters.
- Maximum depth limit for Open Water Training Dive 3: 20 meters.
- Maximum depth limit for Open Water Training Dive 4: 25 meters.
- Depth range for Open Water Training Dives 5 and 6: 30–45 meters.
- At least one (1) dive must be to a depth of 40 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Extended Range.
- Complete the program's final exam.
- If qualifying trimix, complete a CCR Extended Range Trimix final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Extended Range.
- Complete at least 480 minutes of in-water runtime on the applicable CCR unit.

NOTE: Students completing this program using a rEVO CCR unit must complete at least one (1) additional pool/confined water skill development session, lasting at least one (1) hour.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- Actual staged decompression training must be conducted on Open Water Training Dives 3 through 6.
- The total time for all required decompression stops on Open Water Training Dives 3 and 4 must not exceed 15 minutes per dive.
- The total time for all required decompression stops on Open Water Training Dives 5 and 6, and any additional training dives, must not exceed 25 minutes per dive.
- The bailout cylinder must be filled with air, or a nitrox mix with a maximum ppO_2 of 1.6 at the deepest planned depth of the dive.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters/minute.
- Divers should not carry an onboard diluent gas with a ppO_2 higher than 1.1 bar at the bottom.
- Divers using an mCCR should not carry an onboard diluent gas with $appO_2$ higher than 1.3 bar at the bottom.
- The maximum loop set point is 1.3 bar.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum

of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 1 and 2 may only be conducted after the student successfully completes the equipment configuration session, the XR Water Fitness Evaluation, and all pool/confined water skill development sessions.
- Open Water Training Dives 3 through 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dives 1 and 2.

NOTE: These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.

X. Certification

CCR Extended Range certification entitles the holder to dive with an equally- or more-qualified buddy, on dives using specialized diving equipment and procedures to depths of up to 40 meters (using air) or 45 meters (using trimix with a minimum of 20% oxygen) and requiring staged decompression stops shorter than 25 minutes, providing that dives are conducted in environments similar to those of the diver's training and experience.

XI. Upgrades

Students upgrading from CCR Diving to CCR Extended Range must complete the following:

- All CCR Extended Range academic sessions and assessments as outlined in the instructor manual for CCR Extended Range.
- Complete a CCR Extended Range final exam with a passing score of at least 80%.
- At least one (1) additional pool/confined water skill development session lasting at least one (1) hour.
- Open Water Training Dives 5 and 6 as outlined in the instructor manual for CCR Extended Range.

Students upgrading from a CCR Extended Range certification to CCR Extended Range Trimix must complete the following:

- All CCR Extended Range Trimix academic sessions and assessments as outlined in the instructor manual for CCR Extended Range.
- Complete a CCR Extended Range Trimix final exam with a passing score of at least 80%.
- Open Water Training Dives 5 and 6 on trimix as outlined in the instructor manual for CCR Extended Range.

XR CCR Programs

CCR Technical Extended Range

I. Intent

The CCR Technical Extended Range program provides divers with the training necessary to independently plan and conduct multiple-stop decompression dives to depths up to 60 meters, using trimix, specialized diving equipment and procedures with an equally- or more-qualified dive buddy.

II. Minimum Instructor Rating

An active status, unit-specific CCR Technical Extended Range Instructor may conduct the unit-specific CCR Technical Extended Range program.

III. Student Prerequisites

Have logged at least:

- 50 hours of CCR runtime
- 25 hours of runtime on the specific unit
- 20 CCR dives deeper than 30 meters
- 10 CCR dives requiring staged decompression (not including training dives)

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range

IV. Duration

- Recommended hours for completion: 40.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

A complete XR CCR Total Diving System that:

- Allows for manual addition of gas to the loop
- Has an alternate (backup) method of monitoring the loop if the primary method fails
- Can be configured so the onboard oxygen and diluent cylinders can be shut down

Including:

- At least two (2) bailout cylinders with regulators, one (1) for bottom bailout, and one (1) for decompression.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Open Water Training Dives 3 and 4: 45 meters.
- Depth range for Open Water Training Dives 5 and 6: 50 to 60 meters.
- At least one (1) dive must be to a depth of 50 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Technical Extended Range.
- Complete the program's final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least one (1) open water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Technical Extended Range.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Technical Extended Range.
- Complete at least 420 minutes of in-water runtime on the applicable CCR unit.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 30 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 60 minutes for Open Water Training Dives 5 and 6, and any additional training dives.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters/minute.
- The maximum ppO_2 for bailout is 1.6 at the deepest planned depth of the dive.
- Divers should not carry an onboard diluent gas with a ppO_2 higher than 1.1 bar at the bottom.
- Divers using an mCCR should not carry an onboard diluent gas with $appO_2$ higher than 1.3 bar at the bottom.
- The maximum loop set point is 1.3 bar.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 2 and 3 may only be conducted after the student successfully completed the equipment configuration session, the XR Water Fitness Evaluation, and Open Water Training Dive 1.
- Open Water Training Dives 4 and 5, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dive 3.

NOTE: These open water training dives are the absolute minimum required for certification. Students must not proceed to the next dive if they did not successfully complete the previous dive. The instructor may repeat the previous dive, or they can plan additional experience dives, before the students can proceed to the next open water training dive.

X. Certification

CCR Technical Extended Range certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, using trimix and specialized diving equipment and procedures, to depths of 60 meters, using diluent with a minimum oxygen content of 16%, and requiring unlimited staged decompression stops with a maximum of two bailout gas switches, providing that dives are conducted in environments similar to those of the diver's training and experience.

XI. Credit

This program may be combined with the Technical Wreck Diving program or Full Cave Diving program.

If combined with the Technical Wreck Diving program:

- Overhead Training Dives 1 through 4 of the Technical Wreck Diving program may also be used to meet the requirements of Open Water Training Dives 1 through 4 of the CCR Technical Extended Range program.
- Students must complete all of the prerequisites, skills development and academic requirements for both programs.
- The recommended maximum depth for overhead training dives is 45 meters.
- No penetration dive may be conducted deeper than 50 meters.

If combined with the Full Cave Diving program:

- Overhead Training Dives 1 through 4 of the Full Cave Diving program may be used to meet the requirements of Open Water Training Dives 1-4 of the CCR Technical Extended Range program.
- Students must complete all of the prerequisites, skills development and academic requirements for both programs.
- No penetration dive may be conducted at depths greater than 30 meters on air/nitrox or 60 meters on trimix.

XR CCR Programs

CCR Hypoxic Trimix

I. Intent

The CCR Hypoxic Trimix program provides divers with the training necessary to independently plan and conduct staged decompression dives to depths of up to 100 meters, using specialized CCR diving equipment, and hypoxic trimix mixtures and procedures, with an equally- or more-qualified dive buddy.

II. Minimum Instructor Rating

An active status unit-specific CCR Hypoxic Trimix Instructor may conduct the unit-specific CCR Hypoxic Trimix program.

III. Student Prerequisites

Have logged at least:

- 100 hours of CCR runtime
- 50 hours of runtime on the specific unit
- 10 CCR dives deeper than 50 meters
- 20 CCR dives requiring staged decompression (not including training dives)

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Technical Extended Range

IV. Duration

- Recommended hours for completion: 30.

V. Minimum Equipment

Students participating in this program must use at least the following equipment configuration:

A complete XR CCR Total Diving System that:

- Allows for manual addition of gas to the loop
- Has an alternate (backup) method of monitoring the loop if the primary method fails
- Can be configured so the onboard oxygen and diluent cylinders can be shut down

Including:

- At least three (3) bailout cylinders with regulators, one (1) for bottom bailout, and two (2) for decompression.

VI. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VII. Depth Limitations

- Maximum depth limit for Open Water Training Dives 1 and 2: 40 meters.
- Maximum depth limit for Open Water Training Dives 3 and 4: 80 meters.
- Maximum depth limit for Open Water Training Dives 5 and 6: 100 meters.
- Open Water Training Dive 3 or 4 must be to a depth of 75 meters.
- At least one (1) dive must be to a depth of 90 meters.

VIII. Requirements For Completion

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Hypoxic Trimix.
- Complete the program's final exam.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete the XR Water Fitness Evaluation as outlined in the SSI Training Standards.
- Complete at least six (6) open water training dives as outlined in the instructor manual for CCR Hypoxic Trimix.
- Complete at least 420 minutes of in-water runtime on the applicable CCR unit.

a. Notes

- Open Water Training Dives 1 and 2 must be planned within the no-decompression limits of the student's dive computer, dive planning software, or the SSI Combined Air/EAN Tables.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 60 minutes for Open Water Training Dives 3 and 4.
- The primary planned decompression obligation (total time of all decompression stops, including any deep stops) must not exceed 90 minutes for Open Water Training Dives 5, 6, and any additional training dives.
- The total cumulative time for Open Water Training Dives 3 through 6 must be at least five (5) hours.
- Bailout cylinder volumes should be calculated using a minimum SAC rate of 40 liters/minute.
- The maximum ppO_2 for bailout is 1.6 at the deepest planned depth of the dive.
- Divers should not carry an onboard diluent gas with a ppO_2 higher than 1.1 bar at the bottom.
- Divers using an mCCR should not carry an onboard diluent gas with $appO_2$ higher than 1.3 bar at the bottom.
- The maximum loop set point is 1.3 bar.
- Download all of the student's logged training dives from their rebreather computer and retain for a minimum of five (5) years. If the feature is not available on a rebreather, download the training dives from the student's dive computer and retain for a minimum of five (5) years.

IX. Sequence

- Open Water Training Dives 3 and 4 may only be conducted after the student successfully completed the equipment configuration session, the XR Water Fitness Evaluation, and Open Water Training Dives 1 and 2.
- Open Water Training Dives 5 and 6, and any additional open water training dives, may only be conducted after the student successfully completes all academic sessions and Open Water Training Dive 4.

X. Certification

The CCR Hypoxic Trimix certification entitles the holder to dive autonomously with an equally- or more-qualified buddy, on dives using specialized diving equipment and procedures to depths of either 80 or 100 meters, depending on the certification achieved, in environments similar to those of the diver's training and experience.

The Hypoxic Trimix 80m certification is the same as the 100m certification, with one exception: if conditions do not permit, or the students cannot make the deepest dives, divers may become certified at 80 meters after the first four (4) open water training dives.

After developing experience, and with an equally- or more-qualified buddy, a diver qualified to 100 meters may dive to depths deeper than 100 meters.

XR CCR Programs

CCR Unit Crossover

I. Intent

The XR CCR Unit Crossover provides divers with the knowledge, skills, and experience necessary to dive with a new rebreather at their highest CCR certification level.

II. Minimum Instructor Rating

An active status, unit-specific instructor may conduct the XR CCR Unit Crossover for certification levels that they are authorized to issue certifications for.

Students completing the XR CCR Unit Crossover must meet the minimum prerequisites and requirements from the highest applicable certification level.

III. Student Prerequisites

- Have a CCR certification at any level
- Have logged at least 10 CCR dives in the previous 12 months
- Meet the applicable standards for the highest level being crossed over including:

IV. Duration

- Recommended hours for completion: 40.

V. In-Water Ratios

- The student-to-instructor ratio is 3:1.

VI. Requirements For Completion

To cross over to CCR Diving or CCR Extended Range, the student must:

- Complete all academic sessions and assessments as outlined in the unit-specific instructor manual for CCR Diving or CCR Extended Range.
- Complete a unit-specific final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete an equipment configuration session as outlined in the instructor manual for CCR Extended Range.
- Complete at least one (1) pool/confined water skill development session with a minimum cumulative time of at least one (1) hour as outlined in the instructor manual for CCR Extended Range.
- Complete Open Water Training Dives 3 through 6 as outlined in the instructor manual for CCR Extended Range.

a. Higher Certifications

To cross over to CCR Technical Extended Range or CCR Hypoxic Trimix, the student must:

- Complete the crossover to CCR Diving or CCR Extended Range as outlined above.
- Complete all academic sessions and assessments as outlined in the applicable unit-specific instructor manual.
- Complete the applicable program final exam.
- Independently plan a full dive plan and bailout plan using the Extended Range Dive Planning sheets.
- Complete at least one (1) open water skill development session as outlined in the instructor manual for the applicable program.

- Demonstrate proficiency in the required skills as outlined in the applicable instructor manual.

Plan and conduct at least one (1) evaluation dive with a qualified instructor to the minimum depth required for certification at the highest level requested.

- CCR Technical Extended Range: 55 meters
- CCR Hypoxic Trimix: 80 meters

b. Notes

- The instructor conducting the XR CCR Unit Crossover must directly verify the student's experience level and prerequisites prior to the final evaluation dives.
- For CCR Hypoxic Trimix upgrades on mCCR units, at least one additional academic session on "CMF at Depth and Dive Planning" must be completed.

VII. Certification

Once all requirements are complete, and the student's profile is updated in MySSI, the instructor conducting the XR Unit Crossover may issue the applicable certification card.

The student will be certified on the specific unit at the highest level requested.

XR Programs

Equivalency Chart

I. Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Foundations	Intro to Tech	Essentials		Fundamentals		
Extended Range Nitrox Diving	Advanced Nitrox Diver	Advanced Nitrox Diver	TEC 40	Rec 3	Advanced Nitrox Diver *	Technical Decompression Diver
Extended Range	Decompression Procedure		TEC 45			
Extended Range Trimix	Helitrox	Advanced Recreational Trimix		Tech 1	Advanced Nitrox Diver **	Helitrox Diver
Technical Extended Range	Extended Range	Technical Diver	TEC 50			
Technical Extended Range Trimix	Trimix	Normoxic Trimix	Tec Trimix 65	Tech 60	Normoxic Trimix Diver	Trimix Diver
Hypoxic Trimix	Advanced Trimix	Trimix Diver	Tec Trimix	Tech 2	Advanced Trimix Diver	Extreme Exposure Diver
Extended Range Wreck Diving		Limited Wreck			Wreck Diver Level 2	Wreck Penetration Diver
Technical Wreck Diving	Advanced Wreck	Advanced Wreck Diver				Technical Wreck Penetration Diver
Extended Range Cavern Diving	Cavern	Cavern	Cavern Diver		Cave Diver Level 1	Cavern Diver
Cave Diving	Intro to Cave	Introductory Cave Diver		Cave Diver 1	Cave Diver Level 2	Cave Diver Level 1
Full Cave Diving	Full Cave	Cave Diver		Cave Diver 2	Cave Diver Level 3	Cave Diver Level 2

a. CCR Programs

SSI XR CCR	TDI	IANTD	PADI	GUE	CMAS	NAUI
CCR Diving	CCR Air Diluent Diver	Advanced Nitrox CCR	TEC 40 CCR		CCR Air Diluent Diver	CCR Diver
CCR Extended Range	CCR Air Diluent Decompression Procedure Diver					
CCR Extended Range (Trimix)		Advanced Recreational Trimix CCR		CCR 1		
CCR Technical Extended Range	CCR Mixed Gas Diluent Diver	Normoxic CCR	TEC 60 CCR	CCR 2	CCR Normoxic Trimix Diluent	CCR Mixed Gas Diver
CCR Hypoxic Trimix	CCR Advanced Mixed Gas Diluent Diver	Trimix CCR	TEC 100 CCR			Extreme Exposure CCR Mixed Gas Diver

XR Instructor Programs

XR Candidate Water Fitness Evaluation

The purpose of this evaluation is to ensure that SSI Professional candidates have an adequate level of fitness and comfort in the water prior to conducting any SSI training.

For all XR programs, each candidate must complete a water fitness evaluation that includes:

I. Equipment Swim

- A 400-meter surface swim while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

II. Tread Water

- Tread water for 15 minutes without using any aids or flotation of any kind.

III. Surface Swim

- Swim 700 meters without stopping within 20 minutes using a mask, fins and a snorkel.
- If a wetsuit is used, weights must be added to ensure the candidate is neutrally buoyant.

OR

- Swim 375 meters without stopping, and without the use of mask, fins, snorkel or other swim aids.

NOTE: The 375-meter swim may be conducted as an alternative to the 700-meter assisted swim. It is required by RSTC standards to be completed in North America.

IV. Underwater Swim

Option 1

- Swim underwater for 25 meters using a mask, fins and snorkel.

Option 2

- Swim horizontally without breathing at a constant depth underwater for 15 meters while wearing a Total Diving System and stage cylinder(s) applicable to their specific program.

a. Notes

- The underwater swim must be conducted in a pool/confined water environment.
- Option 2 must be completed using a horizontal reference line.
- The responsible instructor must directly supervise the student and be prepared to provide assistance if necessary.

V. Diver Rescue

- Perform a full, unconscious-diver-on-the-surface rescue with a total distance of 100 meters within eight (8) minutes.
- Both parties must use a Total Diving System.

See the Water Fitness Evaluation Form and Criteria for detailed information.

A completed water fitness evaluation is valid for six (6) months.

XR Instructor Programs

Extended Range Foundations

Instructor

I. Intent

The SSI Extended Range Foundations Instructor Training Course certifies the candidate as an Extended Range Foundations Instructor.

II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the Extended Range Foundations Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have at least one (1) of the following active status SSI certifications:

- Open Water Instructor
- Extended Range Instructor
- Recreational Sidemount Diving Specialty Instructor
- SCR Diving Instructor
- CCR Diving Instructor

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

VI. Requirements For Completion

Option 1

Candidates earning the Extended Range Foundations Instructor (Single Cylinder) certification may:

Co-teach at least two (2) separate Extended Range Foundations programs under the direct supervision of an active status Extended Range Foundations Instructor.

Option 2

Candidates earning the Extended Range Foundations Instructor certification in any configuration may:

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.

- An equipment configuration session for the appropriate Total Diving System.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.

VII. Certification

Active status Extended Range Foundations Instructor may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Extended Range Foundations

XR Instructor Programs

Gas Blender Instructor

I. Intent

The intent of this standard is to provide a process for verifying an instructor's qualifications to teach the SSI Gas Blender program.

II. Minimum Instructor Rating

None

III. Candidate Prerequisites

Have the following SSI certifications or equivalent from a recognized training agency:

- Gas Blender

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Open Water Instructor
- Enriched Air Nitrox Instructor

IV. Duration

- There is no minimum recommended duration for the Gas Blender Instructor program.

V. Requirements For Completion

- Complete the Gas Blender digital learning, including all reading and review questions.
- Complete the program-specific Training Completion Record and submit it to the responsible SSI Service Center as required.

VI. Active Status Requirements

- Show proof of Gas Blender certification.

VII. Certification

Active status Gas Blender Instructors may teach, supervise and issue certifications for the following programs:

- Nitrox Gas Blender
- Trimix Gas Blender

Open-Circuit Instructor Programs

Extended Range Sidemount Instructor

I. Intent

The intent of the SSI Extended Range Sidemount Instructor program is to provide candidates with the knowledge, skills and experience necessary to conduct the SSI Extended Range Sidemount program.

II. Minimum Instructor Rating

An active status XR Instructor Trainer, certified as an SSI Extended Range Sidemount Instructor, may conduct the seminar. The candidate may co-teach the Extended Range Sidemount program with an active status Extended Range Sidemount Instructor.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 20 sidemount dives

Option 1

Have the following SSI certifications or an equivalent from a recognized training agency:

- Recreational Sidemount Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Extended Range Nitrox Diving Instructor

Option 2

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Sidemount

Have the following active status SSI certifications (no equivalency permitted):

- Advanced Open Water Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

V. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Option 1

Co-teach at least two (2) separate Extended Range Sidemount programs under the direct supervision of an active status Extended Range Sidemount Instructor.

Option 2

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- While acting as an instructor, plan and conduct at least one (1) dive that meets the requirements of Open Water Training Dive 4 from the instructor manual for Sidemount Diving.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

VII. Certification

Active status Extended Range Sidemount Instructors may teach, supervise and issue certifications for the following programs:

- Recreational Sidemount Diving
- Extended Range Sidemount
- Any recreational or XR program in a sidemount equipment configuration if they hold the relevant instructor rating for that program.

Open-Circuit Instructor Programs

Extended Range Nitrox Diving

Instructor

I. Intent

The SSI Extended Range Nitrox Diving Instructor Training Course certifies the candidate as an Extended Range Nitrox Diving Instructor.

II. Minimum Instructor Rating

An active status Extended Range Nitrox Diving Instructor Trainer may conduct the Extended Range Nitrox Diving Instructor Training Course.

An active status Extended Range Nitrox Diving Instructor may conduct the co-teaching option.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 20 dives deeper than 30 meters

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Nitrox Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate Extended Range Nitrox Diving programs under the direct supervision of an active status Extended Range Nitrox Diving Instructor.

Option 2

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the Extended Range Nitrox Diving program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

For recreational Instructor Trainers only:

Attend a one-day Upgrade Seminar and successfully complete:

- A review of all the SSI Training Standards related to XR programs and training.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.

b. Notes

- This is a pass or fail evaluation. The certifying Extended Range Nitrox Diving International Training Director must personally decide if the candidate is capable of teaching Extended Range Nitrox Diving after this course is complete.

VIII. Certification

Active status Extended Range Nitrox Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Extended Range Nitrox Diving

Open-Circuit Instructor Programs

Extended Range Instructor

I. Intent

The SSI Extended Range Instructor Training Course certifies the candidate as an Extended Range Instructor with or without trimix.

II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the Extended Range Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 20 dives deeper than 30 meters

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

NOTE: The candidate must have the Extended Range Trimix certification for Extended Range Trimix Instructor)

Have issued at least:

- 3 Enriched Air Nitrox 40 certifications

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 45 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate Extended Range programs under the direct supervision of an active status Extended Range Instructor Trainer.

Option 2

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- As a team member, participate in the planning and execution of at least one dive from the Extended Range program.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the Extended Range program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

VIII. Certification

In addition to the programs taught by active status Extended Range Nitrox Diving Instructors, active status Extended Range Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Extended Range

NOTE: Instructors that complete the seminar and meet the necessary requirements will earn the Extended Range Trimix Instructor certification.

IX. For an Extended Range Trimix Instructor

An Extended Range Instructor who has a Technical Extended Range Trimix certification can be automatically upgraded to an Extended Range Trimix Instructor.

An application form including the necessary documentation should be sent to the responsible SSI Service Center or to their Extended Range Instructor Trainer.

Open-Circuit Instructor Programs

Technical Extended Range Instructor

I. Intent

This SSI Technical Extended Range Training Course certifies the candidate as an SSI Technical Extended Range Instructor with or without trimix.

II. Minimum Instructor Rating

An active status Technical Extended Range Instructor Trainer may conduct the Technical Extended Range Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 200 total dives
- 50 decompression dives deeper than 45 meters

Have the following SSI certifications or an equivalent from a recognized training agency:

- Technical Extended Range

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor
- Extended Range Instructor

NOTE: The candidate must have the Technical Extended Range Trimix certification for Technical Extended Range Trimix Instructor

Have issued at least:

- 10 Extended Range certifications

OR

- 5 Extended Range Nitrox certifications
- 5 Extended Range certifications

NOTE: If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 4:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 50 meters.

VII. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the Technical Extended Range program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- The dive must be to a depth of at least 50 meters, with at least 25 minutes of planned staged decompression time, and at least two (2) gas switches.

Co-Teaching Waiver

Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:

- Co-teach at least two (2) complete Technical Extended Range programs with an active status Technical Extended Range Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

VIII. Certification

In addition to the programs taught by active status Extended Range Instructors, active status Technical Extended Range Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Technical Extended Range, with or without trimix as per certification

Open-Circuit Instructor Programs

Hypoxic Trimix Instructor

I. Intent

The SSI Hypoxic Trimix Instructor Training Course certifies the candidate as a Hypoxic Trimix Instructor.

II. Minimum Instructor Rating

An active status Hypoxic Trimix Instructor Trainer may conduct the Hypoxic Trimix Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 250 total dives
- 30 decompression dives deeper than 60 meters

Have the following SSI certifications or an equivalent from a recognized training agency:

- Hypoxic Trimix

Have issued at least:

- 10 Technical Extended Range certifications

NOTE: If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor
- Technical Extended Range Instructor

IV. Duration

- Recommended hours for completion: 16.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 100 meters.

VII. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least one (1) full decompression dive from the Hypoxic Trimix program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- The dive must be to a depth of at least 80 meters, with at least 30 minutes of planned staged decompression time, and at least two (2) gas switches.

Co-Teaching Waiver

Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:

- Co-teach at least two (2) complete Hypoxic Trimix programs with an active status Hypoxic Trimix Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

VIII. Certification

In addition to the programs taught by active status Technical Extended Range Instructors, active status Hypoxic Trimix Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Hypoxic Trimix

XR Overhead Instructor Programs

Extended Range Wreck Diving Instructor

I. Intent

The SSI Extended Range Wreck Diving Instructor Trainer Course certifies the candidate as an Extended Range Wreck Diving Instructor.

II. Minimum Instructor Rating

An active status Extended Range Wreck Diving Instructor Trainer may conduct the Extended Range Wreck Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Wreck Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

V. Duration

- Recommended hours for completion: 20.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Option 1

- Co-teach at least two (2) complete Extended Range Wreck Diving programs with an active status Extended Range Wreck Diving Instructor Trainer.

Option 2

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the Extended Range Wreck Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

VII. Upgrade

For Extended Range Instructors or higher with the Technical Wreck Diving certification:

- An active status Extended Range Instructor or higher who has a Technical Wreck Diving certification may be automatically upgraded to Extended Range Wreck Diving Instructor.
- The candidate must submit a request to the SSI Service Center or to an XR International Training Director, and must submit copies of relevant certifications.

VIII. Certification

Active status Extended Range Wreck Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Wreck Diving
- Advanced Wreck Diving
- Extended Range Wreck Diving

XR Overhead Instructor Programs

Technical Wreck Diving

Instructor

I. Intent

The SSI Technical Wreck Diving Instructor Training Course certifies the candidate as a Technical Wreck Diving Instructor.

II. Minimum Instructor Rating

An active status Technical Wreck Instructor Trainer may conduct the Technical Wreck Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have logged at least 50 technical wreck penetration dives.

Have the following SSI certifications or an equivalent from a recognized training agency:

- Technical Wreck Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Extended Range Wreck Diving Instructor
- Technical Extended Range Instructor

Have issued at least:

- 10 Extended Range Wreck certifications

NOTE: If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.

Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Sidemount Instructor
- CCR Extended Range Instructor
- SCR Extended Range Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

V. Duration

- Recommended hours for completion: 20.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.

- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) technical wreck penetration dives from the Technical Wreck Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 50 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

Co-Teaching Waiver

Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:

- Co-teach at least two (2) complete Technical Wreck Diving programs with an active status Technical Wreck Diving Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

VII. Certification

In addition to the programs taught by active status Extended Range Wreck Diving Instructors, Technical Wreck Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Technical Wreck Diving

XR Overhead Instructor Programs

Extended Range Cavern Diving Instructor

I. Intent

The SSI Extended Range Cavern Diving Instructor Course certifies the candidate as an Extended Range Cavern Diving Instructor.

II. Minimum Instructor Rating

An active status Extended Range Cavern Diving Instructor Trainer may conduct the Extended Range Cavern Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have the following SSI certifications or an equivalent from a recognized training agency:

- Extended Range Cavern Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Deep Diving Instructor
- Diver Stress & Rescue Instructor
- Enriched Air Nitrox Instructor

Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

V. Duration

- Recommended hours for completion: 20.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Option 1

- Co-teach at least two (2) complete Extended Range Cavern Diving programs with an active status Extended Range Cavern Diving Instructor Trainer.

Option 2

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the Extended Range Cavern Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

- During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

VII. Upgrade

For Extended Range Instructors or higher with the Cave Diving certification:

- An active status Extended Range Instructor or higher who has a Cave Diving certification may be automatically upgraded to Extended Range Cavern Diving Instructor.
- The candidate must submit a request to the SSI Service Center or to an XR International Training Director, and must submit copies of relevant certifications.

VIII. Certification

Active status Extended Range Cavern Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Recreational Cavern/Cenote Diving
- Extended Range Cavern Diving

XR Overhead Instructor Programs

Cave Diving Instructor

I. Intent

The SSI Cave Diving Instructor Training Course certifies the candidate as a Cave Diving Instructor.

II. Minimum Instructor Rating

An active status Cave Diving Instructor Trainer may conduct the Cave Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 75 cave dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Cave Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Extended Range Cavern Diving Instructor

Have issued at least:

- 5 Extended Range Cavern Diving certifications

NOTE: If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.

Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Instructor
- Extended Range Foundations Instructor (Twinset)
- Recreational Sidemount Diving Specialty Instructor
- CCR Diving Instructor
- SCR Diving Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

V. Duration

- Recommended hours for completion: 20.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Attend a four-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.

- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the Cave Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 10 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

Co-Teaching Waiver

Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:

- Co-teach at least two (2) complete Cave Diving programs with an active status Cave Diving Instructor.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

VII. Certification

In addition to the programs taught by active status Extended Range Cavern Diving Instructors, active status Cave Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Cave Diving

XR Overhead Instructor Programs

Full Cave Diving Instructor

I. Intent

The SSI Full Cave Diving Instructor Training Course certifies the candidate as a Full Cave Diving Instructor.

II. Minimum Instructor Rating

An active status Full Cave Diving Instructor Trainer may conduct the Full Cave Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.

Have logged at least:

- 100 cave dives

Have the following SSI certifications or an equivalent from a recognized training agency:

- Full Cave Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Extended Range Instructor
- Cave Diving Instructor

Have issued at least:

- 5 Cave Diving certifications

NOTE: If candidate has not issued the required certifications, they may complete the Instructor Training Course by requesting a waiver and meeting additional completion requirements. See "Requirements for Completion" for details.

Have at least the applicable certification to teach this program in an alternate equipment configuration (in addition to the above):

- Extended Range Sidemount Instructor
- CCR Extended Range Instructor
- SCR Extended Range Instructor

IV. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

V. Duration

- Recommended hours for completion: 30.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

VI. Requirements For Completion

Attend a four-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.

- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A dry land skills session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least four (4) full penetration dives from the Full Cave Diving program.
- Demonstrate the ability to rescue an unconscious diver by traveling horizontally for 50 meters, then bringing the diver to the surface from a depth of between 5 and 10 meters.

a. Notes

During the planned dives, the candidate will supervise an assistant or another candidate acting as the student.

Co-Teaching Waiver

Prior to receiving their certification, candidates who have not issued the required number of certifications must complete the following requirements after successful completion of the seminar:

- Co-teach at least one (1) complete Full Cave Diving programs with an active status Full Cave Diving Instructor Trainer.
- Provide recommendation letters (completed and signed by the supervising instructor) for each co-taught program.

NOTE: The seminar or co-teaching options must be completed with two (2) different active status Full Cave Diving Instructor Trainers.

VII. Certification

In addition to the programs taught by active status Cave Diving Instructors, active status Full Cave Diving Instructors may teach, supervise and issue certifications for the following programs using the equipment configurations they are qualified to teach in:

- Full Cave Diving

SCR Instructor Programs

SCR Diving Instructor

I. Intent

This program certifies the candidate as an SCR Diving Instructor.

II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 25 meters
- 50 hours of runtime on the specific unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 30 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate SCR Diving programs under the direct supervision of an active status SCR Extended Range Instructor Trainer.

Option 2

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the SCR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Diving program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

VIII. Certification

Active status SCR Diving Instructors may teach, supervise and issue certifications for the following program:

- SCR Diving

SCR Instructor Programs

SCR Diving Instructor Upgrade

I. Intent

This program certifies a candidate with a pre-existing CCR Diving Instructor certification as an SCR Diving Instructor.

II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Diving Instructor Upgrade.

III. Candidate Prerequisites

Have logged at least:

- 15 total SCR dives on the specific unit
- 10 SCR dives deeper than 25 meters
- 15 hours of runtime on the specific unit

Have the following SSI certifications (no equivalency permitted):

- SCR Diving (Horizon)

Have the following active status SSI certifications (no equivalency permitted):

- CCR Diving Instructor

IV. Requirements For Completion

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Diving program.

SCR Instructor Programs

SCR Extended Range Instructor

I. Intent

This program certifies the candidate as an SCR Extended Range Instructor.

II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Extended Range Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 30 meters
- 50 hours of runtime on the specific unit
- At least ten (10) SCR dives requiring staged decompression

Have the following SSI certifications or an equivalent from a recognized training agency:

- SCR Extended Range

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate SCR Extended Range programs under the direct supervision of an active status SCR Extended Range Instructor Trainer.

Option 2

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the SCR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Extended Range program. One dive must be an SCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

VIII. Certification

In addition to the programs taught by active status SCR Diving Instructors, active status SCR Extended Range Instructors may teach, supervise and issue certifications for the following programs:

- SCR Extended Range

SCR Instructor Programs

SCR Extended Range Instructor Upgrade

I. Intent

This program certifies a candidate with a pre-existing SCR Diving Instructor or CCR Extended Range Instructor certification as an SCR Extended Range Instructor.

II. Minimum Instructor Rating

An active status SCR Extended Range Instructor Trainer may conduct the SCR Extended Range Instructor Upgrade.

III. Candidate Prerequisites

In addition to the prerequisites for the SCR Extended Range Instructor Training Course, candidates must also:

SCR Diving Instructor to SCR Extended Range Instructor

Have logged at least:

- 50 total SCR dives on the specific unit
- 30 SCR dives deeper than 25 meters
- 50 hours of runtime on the specific unit
- At least ten (10) SCR dives requiring staged decompression

Have the following SSI certifications (no equivalency permitted):

- SCR Extended Range (Horizon)

Have the following active status SSI certifications (no equivalency permitted):

- SCR Diving Instructor (Horizon)

CCR Extended Range Instructor to SCR Extended Range Instructor

Have logged at least:

- 15 total SCR dives on the specific unit
- 10 SCR dives deeper than 25 meters
- 15 hours of runtime on the specific unit

Have the following SSI certifications (no equivalency permitted):

- SCR Extended Range (Horizon)

Have the following active status SSI certifications (no equivalency permitted):

- CCR Extended Range Instructor

IV. Requirements For Completion

Attend a two-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.

- An academic presentation on a topic applicable to the program and training level.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) full dives from the SCR Extended Range program. One dive must be an SCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.

CCR Instructor Programs

CCR Diving Instructor

I. Intent

This program certifies the candidate as a CCR Diving Instructor.

II. Minimum Instructor Rating

An active status CCR Extended Range Instructor Trainer may conduct the CCR Diving Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 30 CCR dives deeper than 25 meters
- 100 hours of runtime on the specific unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Diving

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 30 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate CCR Diving programs under the direct supervision of an active status CCR Diving Instructor Trainer.

Option 2

Attend a four-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Diving program.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.

VIII. Unit-Specific Requirements

a. rEvo

Instructors earning the instructor certification with a REVO CCR unit must use one of the following certification options:

Option 1

- Co-teach at least one (1) CCR Diving program under the direct supervision of an active status CCR Diving Instructor Trainer or manufacturer-approved CCR Diving Instructor.
- Conduct one (1) additional CCR Diving program evaluated by an active status, unit-specific CCR Diving Instructor Trainer.

Option 2

- Attend a five-day seminar conducted by an active status, manufacturer-approved CCR Diving Instructor or CCR Diving Instructor Trainer as outlined above.
- Conduct one (1) additional CCR Diving program evaluated by an active status, unit-specific CCR Diving Instructor Trainer.

Notes

- The two CCR Diving programs should be supervised by two different CCR Diving Instructors or CCR Extended Range Instructor Trainers.
- One CCR Extended Range Instructor Trainer may conduct both programs with the prior approval of the manufacturer.

b. JJ CCR

Instructors earning the instructor certification with a JJ CCR unit must attend a one-day manufacturer training program conducted by a manufacturer-approved factory trainer.

IX. Certification

Active status CCR Diving Instructors may teach, supervise and issue certifications for the following program:

- CCR Diving

X. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

Example: An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.

CCR Instructor Programs

CCR Extended Range Instructor

I. Intent

This program certifies the candidate as a CCR Extended Range Trimix Instructor.

II. Minimum Instructor Rating

An active status CCR Extended Range Instructor Trainer may conduct the CCR Extended Range Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 30 CCR dives deeper than 30 meters
- 100 hours of runtime on the specific unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Technical Extended Range

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- Enriched Air Nitrox Instructor
- Deep Diving Instructor
- Diver Stress & Rescue Instructor

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 45 meters.

VII. Requirements For Completion

Option 1

Co-teach at least two (2) separate CCR Extended Range programs under the direct supervision of an active status CCR Extended Range Instructor Trainer.

Option 2

Attend a four-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Extended Range program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- Certified Extended Range Instructors may carry an additional decompression cylinder with up to 100% oxygen.

VIII. Unit-Specific Requirements

a. rEvo

Instructors earning the instructor certification with a REVO CCR unit must use one of the following certification options:

Option 1

- Co-teach at least one (1) CCR Extended Range program under the direct supervision of an active status CCR Extended Range Instructor Trainer or manufacturer-approved CCR Extended Range Instructor.
- Conduct one (1) additional CCR Extended Range program evaluated by an active status, unit-specific CCR Extended Range Instructor Trainer.

Option 2

- Attend a five-day seminar conducted by an active status, manufacturer-approved CCR Extended Range Instructor or CCR Extended Range Instructor Trainer as outlined above.
- Conduct one (1) additional CCR Extended Range program evaluated by an active status, unit-specific CCR Extended Range Instructor Trainer.

Notes

- The two CCR Extended Range programs should be supervised by two different CCR Extended Range Instructors or CCR Extended Range Instructor Trainers.
- One CCR Extended Range Instructor Trainer may conduct both programs with the prior approval of the manufacturer.

b. JJ CCR

Instructors earning the instructor certification with a JJ CCR unit must attend a one-day manufacturer training program conducted by a manufacturer-approved factory trainer.

IX. Certification

In addition to the programs taught by active status CCR Diving Instructors, active status CCR Extended Range Instructors may teach, supervise and issue certifications for the following programs:

- CCR Extended Range
- CCR Extended Range Trimix

X. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

Example: An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.

CCR Instructor Programs

CCR Technical Extended Range Instructor

I. Intent

This program certifies the candidate as a CCR Technical Extended Range Instructor.

II. Minimum Instructor Rating

An active status CCR Technical Extended Range Instructor Trainer may conduct the CCR Technical Extended Range Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 50 CCR dives deeper than 50 meters
- 150 hours of runtime on the specific unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Hypoxic Trimix

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- CCR Extended Range Instructor

Have issued at least:

- 10 CCR Extended Range certifications

OR

- 5 CCR Diving certifications
- 5 CCR Extended Range certifications

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 60 meters.

VII. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Technical Extended Range program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.

VIII. Certification

In addition to the programs taught by active status CCR Extended Range Instructors, active status CCR Technical Extended Range Instructors may teach, supervise and issue certifications for the following programs:

- CCR Technical Extended Range

IX. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

Example: An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.

CCR Instructor Programs

CCR Hypoxic Trimix Instructor

I. Intent

This program certifies the candidate as a CCR Hypoxic Trimix Instructor.

II. Minimum Instructor Rating

An active status CCR Hypoxic Trimix Instructor Trainer may conduct the CCR Hypoxic Trimix Instructor Training Course.

III. Candidate Prerequisites

- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have a clean record and approval from the manufacturer and SSI.

Have logged at least:

- 30 CCR dives deeper than 60 meters
- 250 hours of runtime on the specific unit

Have the following SSI certifications or an equivalent from a recognized training agency:

- CCR Hypoxic Trimix

Have the following active status SSI certifications or an equivalent from a recognized training agency:

- CCR Technical Extended Range Instructor

Have issued at least:

- 15 CCR Technical Extended Range certifications

OR

- 10 CCR Diving certifications
- 5 CCR Technical Extended Range certifications

IV. Duration

- Recommended hours for completion: 40.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.

V. In-Water Ratios

- The candidate-to-instructor ratio is 3:1.

VI. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 80 meters.

VII. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is

earning a certification for.

- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for orientation to the XR Dive Planning Sheets.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Candidate Water Fitness Evaluation as outlined in the SSI Training Standards if it has been more than six months since the candidate has been evaluated.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- While acting as an instructor, plan and conduct at least two (2) dives from the CCR Hypoxic Trimix program. One dive must be a CCR decompression dive, and the other must include a decompression, open-circuit bailout ascent.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the student.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

VIII. Certification

In addition to the programs taught by active status CCR Technical Extended Range Instructors, active status CCR Hypoxic Trimix Instructors may teach, supervise and issue certifications for the following programs:

- CCR Hypoxic Trimix

IX. Active Status Requirements

Conduct at least two (2) complete SSI CCR programs at the highest level every 24 months.

Example: An SSI Professional who can teach CCR Hypoxic Trimix must certify at least two (2) CCR Hypoxic Trimix students every 24 months.

XR Instructor Programs

XR Professional Crossover

I. Intent

This program is intended to provide an orientation for the SSI Dive Professional candidate to Extended Range philosophies and procedures, training standards, the SSI Education System and the Extended Range scuba skills required in the Extended Range training programs.

II. Minimum Instructor Rating

An active status Extended Range Instructor Trainer may conduct the XR Professional Crossover program.

For Overhead Environment, SCR, and CCR XR Professional Crossovers (in addition to the above):

The Instructor Trainer must have an instructor certification at or above the certification level that the candidate is applying for (e.g. a CCR Extended Range Instructor Trainer may only conduct the crossover for CCR Diving Instructors and CCR Extended Range Instructors).

For XR Professional Crossover candidates earning multiple equipment configuration certifications:

Candidates who complete all the required components of the XR Professional Crossover program may earn the equipment configuration certifications (backmount, sidemount, SCR, and CCR) without attending an additional crossover program.

- The Instructor Trainer conducting the crossover must complete a review of all applicable SSI Training Standards and program materials.
- For each additional certification, the candidate must submit videos of the required skills to the responsible XR International Training Director. The skills must be at demonstration-level quality.

III. Candidate Prerequisites

- Meet or exceed all prerequisites from each individual instructor level.
- Own and use a Total Diving System in the appropriate equipment configuration as outlined in the SSI General Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Have no ethics or standards violations pending, or any verified ethics or standards violations in the past 12 months.
- Have an existing active status SSI XR certification or an equivalent from a recognized training agency.

NOTE: If the candidate has not been active within the last two years with a scuba training organization, they must provide proof of non-renewal, which states that no ethics actions or standards violations have been taken or are pending.

IV. Duration

- Recommended hours for completion: 16–20.
- The number of classes, hours and sessions per day are set by the individual instructor, based on student needs, student ability and water conditions.
- The two-day seminar is designed for candidates who are already SSI recreational instructors or who have recently completed the SSI Recreational Dive Professional Crossover.
- The three-day seminar is for candidates who want to crossover to SSI, but only want to become Extended Range Instructors.

V. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.

- Maximum open water depth limit: 40 meters.

VI. Requirements For Completion

Attend a three-day seminar and successfully complete:

- A review of the SSI Education System, including all non-XR programs, the SSI Business Philosophy, and the MySSI System and app.
- A review of all the SSI Training Standards related to XR programs and training.
- A review of the program-specific student and instructor materials.
- The applicable final exams.
- An academic presentation on a topic applicable to the program and training level.
- A dive planning session for at least one (1) decompression dive deeper than 40 meters using the XR Dive Planning Sheets and dive planning software.
- An equipment configuration session for the appropriate Total Diving System.
- The XR Water Fitness Evaluation.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.
- An in-water teaching presentation on a topic applicable to the program and training level.
- Demonstrate the ability to rescue an unconscious diver by bringing the diver to the surface from a depth between 5 and 10 meters.

VII. Certification

Active status XR Instructors who have successfully completed the XR Professional Crossover may:

- Teach, assist or supervise SSI XR programs at or below their highest SSI instructor level

XR Instructor Programs

Equivalency Chart

I. Recognized Training Agencies and Federations

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
Extended Range Foundations Instructor	Intro to Tech Instructor			Fundamentals Instructor		
Extended Range Nitrox Diving Instructor	Advanced Nitrox Instructor	Advanced Nitrox Instructor	Tec Instructor	Rec 3 Instructor	Advanced Nitrox Instructor	Technical Decompression Instructor
Extended Range Instructor	Decompression Procedure Instructor		Tec Instructor			
Extended Range Trimix Instructor		Advanced Recreational Trimix Instructor		Tec 1 Instructor	Recreational Trimix Instructor	Helitrox Instructor
Technical Extended Range Instructor	Extended Range Instructor	Technical Instructor	Tec Deep Instructor			
Technical Extended Range Trimix Instructor	Trimix Instructor	Normoxic Trimix Instructor		Tech 60 Instructor	Normoxic Trimix* Instructor	Trimix Instructor
Hypoxic Trimix Instructor	Advanced Trimix Instructor	Trimix Instructor	Tec Trimix Instructor	Tech 2 Instructor	Advanced Trimix Instructor	Advanced Trimix Instructor
Extended Range Wreck Diving Instructor	Advanced Wreck Instructor	Advanced Wreck Instructor				Wreck Penetration Instructor
Technical Wreck Diving Instructor						Advanced Wreck Penetration Instructor
Extended Range Cavern Diving Instructor	Cavern Instructor	Cavern Instructor	Cavern Instructor		Cave I Instructor	Cavern Instructor
Cave Diving Instructor	Intro to Cave Instructor	Intro to Cave Instructor		Cave 1 Instructor	Cave II Instructor	Cave 1 Instructor
Full Cave Diving Instructor	Full Cave Instructor	Technical Cave Instructor		Cave 2 Instructor	Cave III Instructor	Cave 2 Instructor

a. CCR Professional Programs

SSI XR	TDI	IANTD	PADI	GUE	CMAS	NAUI
CCR Diving Instructor	CCR Air Diluent Instructor	Advanced Nitrox CCR Instructor	TEC 40 CCR Instructor		CCR Air Diluent Instructor	CCR Instructor
CCR Extended Range Instructor	CCR Air Diluent Deco Instructor					
CCR Extended Range Trimix Instructor		Advanced Recreational Trimix CCR Instructor		CCR 1 Instructor		
CCR Technical Extended Range Instructor	CCR Mixed Gas Instructor	Normoxic CCR Instructor	TEC 60 CCR Instructor	CCR 2 Instructor	CCR Normoxic Trimix Diluent Instructor	CCR Mixed Gas Instructor
CCR Hypoxic Trimix Instructor	CCR Advanced Mixed Gas Instructor	Trimix CCR Instructor	Tec 100 CCR Instructor			Extreme Exposure CCR Mixed Gas Instructor

Professional Recognition Ratings

I. Intent

SSI recognizes its professionals when they meet certain levels of training and experience.

Century Instructor – Bronze Instructor – Silver 300 Instructor – Gold 500 Instructor – Platinum 1000 Instructor

II. Requirements For Completion

- For Century Instructor – Provide proof of 100 Experience Points as outlined in MySSI.
- For Bronze Instructor - Provide proof of 200 Experience Points as outlined in MySSI.
- For Silver 300 Instructor – Provide proof of 300 Experience Points as outlined in MySSI.
- For Gold 500 Instructor – Provide proof of 500 Experience Points as outlined in MySSI.
- For Platinum 1000 Instructor – Provide proof of 1000 Experience Points as outlined in MySSI.

Platinum Pro 5000 Instructor

To qualify for Platinum 5000 status, the SSI Professional must:

- Provide proof of 5000 Experience Points in their MySSI profile
- Provide a letter of recommendation from two existing Platinum Pro 5000 instructors

Or

- Provide proof of 2500 Experience Points in their MySSI profile
- Have ten (10) or more years of professional experience in the diving industry
- Have made a significant contribution to the diving industry
- Provide a letter of recommendation from two existing Platinum Pro 5000 instructors

APPLICATION: No additional professional training is needed to achieve the Platinum Pro 5000 rating.

XR Instructor Trainer Seminars

General Requirements

I. Intent

The SSI XR Instructor Trainer Seminar provides candidates with the knowledge and training necessary to organize and conduct professional-level SSI XR programs.

II. Minimum Instructor Rating

An active status XR International Training Director may conduct any XR Instructor Trainer Seminar.

III. Candidate Prerequisites

a. For All Candidates

- Minimum age: 21 years old.
- Own and use a Total Diving System appropriate to the specific program, as outlined in the SSI Training Standards.
- Complete the XR Instructor Assessment Form and provide proof of the required teaching and diving experience.
- Be approved by an active status SSI XR International Training Director.

IV. Duration

- Recommended hours for completion: 70-80.
- The number of classes, hours and sessions per day are set by the individual XR International Training Director, based on student needs, student ability and water conditions.

V. Depth Limitations

- Maximum pool/confined water depth limit: 12 meters.
- Maximum open water depth limit: 40 meters.

VI. Requirements For Completion

Attend a nine-day XR Instructor Trainer Seminar and successfully complete:

- A review of all SSI General Training Standards, and the standards related to the XR programs the candidate is earning a certification for.
- A review of the program-specific student and instructor materials.
- At least two (2) academic presentations on a topic applicable to the highest program and training level the candidate is applying for.
- Score within ± 3 points of the Instructor Trainer's score on a minimum of two (2) Academic Teaching Evaluations.
- Earn at least 42 points on an SSI Education System Evaluation.
- The applicable final exams.
- A dive planning session evaluation for orientation to the XR Dive Planning Sheets.
- An equipment configuration session evaluation for the appropriate Total Diving System.
- The XR Water Fitness Evaluation.
- A pool/confined water session that includes the presentation and evaluation of all required program skills. All skills must be done with demonstration quality.

- A rescue skills workshop that includes the presentation and evaluation of all required rescue skills from the highest program the candidate is applying for. All skills must be done with demonstration quality.
- At least two (2) in-water teaching presentations on a topic applicable to the highest program and training level the candidate is applying for.
- Score within ± 3 points of the Instructor Trainer's score on a minimum of two (2) In-Water Teaching Evaluations.
- While acting as an Instructor Trainer, plan and conduct at least one (1) full decompression dive in the applicable equipment configuration.

a. Notes

- The minimum required Total Diving System and stage cylinders must be worn during all in-water training.
- During the planned dive, the candidate will supervise an assistant or another candidate acting as the instructor candidate.
- Training dives must not exceed the maximum depth allowed by the program, must include planned stage decompression (real or simulated), and include the minimum number of gas switches required by the applicable program.

NOTE: If the candidate is already an active status SSI recreational Instructor Trainer, the seminar may be conducted in five (5) days.

VII. Certification

- Upon completion of the Instructor Trainer Seminar, send all required documentation to the responsible SSI Service Center.
- The candidate will be certified as an XR Instructor Trainer at the applicable level.

VIII. Active Status Requirements

- Teach professional-level programs exclusively for SSI (except where SSI does not have a specific program - must be approved by an XR International Training Director).
- Exemplify the SSI philosophy and display competence in applying the SSI Business System.
- Conduct at least two (2) complete XR Instructor Training Courses every 24 months.

IX. Upgrade

- A recreational scuba Instructor Trainer that has issued at least ten (10) Extended Range Nitrox Diving certifications may upgrade to an Extended Range Nitrox Diving Instructor Trainer.
- Active status XR Instructor Trainers may automatically upgrade to the next level after verifying that they have completed all prerequisites for the next level.
- The candidate must submit a request an XR International Training Director for approval. Additional verification of knowledge and skills may be requested.

Program-Specific Requirements

Instructor Trainer Seminars

(Open-Circuit)

I. Candidate Prerequisites

a. Extended Range Sidemount Instructor Trainer

Have issued at least:

- 10 Extended Range Sidemount certifications

Have the following active status SSI certifications (no equivalency permitted):

- Extended Range Sidemount Instructor

b. Extended Range Nitrox Diving Instructor Trainer

Have issued at least:

- 10 Extended Range Nitrox Diving certifications

Have the following active status SSI certifications (no equivalency permitted):

- Extended Range Nitrox Diving Instructor

c. Extended Range Trimix Instructor Trainer

Have issued at least:

- 25 total XR-level certifications
- 10 Extended Range certifications

Have the following active status SSI certifications (no equivalency permitted):

- Extended Range Instructor

d. Technical Extended Range Trimix Instructor Trainer

Have issued at least:

- 35 total XR-level certifications
- 10 Technical Extended Range certifications

Have the following active status SSI certifications (no equivalency permitted):

- Technical Extended Range Instructor

e. Hypoxic Trimix Instructor Trainer

Have issued at least:

- 45 total XR-level certifications
- 10 Technical Extended Range certifications
- 10 Hypoxic Trimix certifications

Have the following active status SSI certifications (no equivalency permitted):

- Hypoxic Trimix Instructor

II. Active Status Qualifications

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for

candidates at or below the applicable certification level.

a. Extended Range Sidemount Instructor Trainer

- Extended Range Sidemount Specialty Instructor

b. Extended Range Nitrox Diving Instructor Trainer

- Extended Range Nitrox Diving Instructor
- XR Professional Crossover

c. Extended Range Instructor Trainer

- Extended Range Instructor
- XR Professional Crossover

d. Technical Extended Range Instructor Trainer

- Technical Extended Range Instructor
- XR Professional Crossover

e. Hypoxic Trimix Instructor Trainer

- Hypoxic Trimix Instructor
- XR Professional Crossover

Program-Specific Requirements

Instructor Trainer Seminars

(Overhead Environment)

I. Candidate Prerequisites

a. Extended Range Wreck Diving Instructor

Have issued at least:

- 10 Extended Range Wreck Diving certifications

Have the following active status SSI certifications (no equivalency permitted):

- Extended Range Wreck Diving Instructor

b. Technical Wreck Diving Instructor Trainer

Have issued at least:

- 35 total XR-level certifications
- 15 Technical Wreck Diving certifications

Have the following active status SSI certifications (no equivalency permitted):

- Technical Wreck Diving Instructor
- Technical Extended Range Instructor Trainer

c. Extended Range Cavern Diving Instructor Trainer

Have issued at least:

- 10 Extended Range Cavern Diving certifications

Have the following active status SSI certifications (no equivalency permitted):

- Extended Range Cavern Diving Instructor

d. Full Cave Diving Instructor Trainer

Have issued at least:

- 45 total XR-level certifications
- 25 Full Cave Diving certifications

Have the following active status SSI certifications (no equivalency permitted):

- Full Cave Diving Instructor
- Technical Extended Range Instructor Trainer

II. Active Status Qualifications

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for candidates at or below the applicable certification level.

a. Extended Range Wreck Diving Instructor Trainer

- Extended Range Wreck Diving Instructor

b. Technical Wreck Diving Instructor Trainer

- Technical Extended Range Instructor

- Extended Range Wreck Diving Instructor
- Technical Wreck Diving Instructor
- c. Extended Range Cavern Diving Instructor Trainer
 - Extended Range Cavern Diving Instructor
- d. Full Cave Diving Instructor Trainer
 - Technical Extended Range Instructor
 - Extended Range Cavern Diving Instructor
 - Cave Diving Instructor
 - Full Cave Diving Instructor

Program-Specific Requirements

Instructor Trainer Seminars

(SCR and CCR)

I. Candidate Prerequisites

a. SCR Extended Range Instructor Trainer

Have issued at least:

- 15 total SCR certifications on the applicable unit
- 10 SCR Extended Range certifications

Have the following active status SSI certifications (no equivalency permitted):

- SCR Extended Range Instructor

NOTE: The SCR Extended Range Instructor certification must be on the applicable unit

b. CCR Diving Instructor Trainer

Have issued at least:

- 25 total CCR certifications on the applicable unit

Have the following active status SSI certifications (no equivalency permitted):

- CCR Diving Instructor
- Extended Range Instructor Trainer

NOTE: The CCR Diving Instructor certification must be on the applicable unit

c. CCR Extended Range Instructor Trainer

Have issued at least:

- 25 total CCR certifications
- 10 CCR Extended Range certifications on the applicable unit

Have the following active status SSI certifications (no equivalency permitted):

- CCR Extended Range Instructor
- Extended Range Instructor Trainer

NOTE: The CCR Extended Range Instructor certification must be on the applicable unit

d. CCR Technical Extended Range Instructor Trainer

Have issued at least:

- 35 total CCR certifications on the applicable unit
- 10 CCR Technical Extended Range certifications on the applicable unit

Have the following active status SSI certifications (no equivalency permitted):

- CCR Technical Extended Range Instructor
- Extended Range Instructor Trainer

NOTE: The CCR Technical Extended Range Instructor certification must be on the applicable unit.

e. CCR Hypoxic Trimix Instructor Trainer

Have issued at least:

- 45 total CCR student certifications on the applicable unit
- 10 CCR Technical Extended Range certifications on the applicable unit
- 10 CCR Hypoxic Trimix certifications on the applicable unit

Have the following active status SSI certifications (no equivalency permitted):

- CCR Hypoxic Trimix Instructor
- Extended Range Instructor Trainer

NOTE: The CCR Hypoxic Trimix Instructor certification must be on the applicable unit.

II. Active Status Qualifications

XR Instructor Trainers may teach, assist, or supervise XR Instructor Training Courses and XR Professional Crossovers for candidates at or below the applicable certification level.

- a. SCR Extended Range Instructor Trainer
 - SCR Extended Range Instructor
- b. CCR Diving Instructor Trainer
 - CCR Diving Instructor
- c. CCR Extended Range Instructor Trainer
 - CCR Extended Range Instructor
 - CCR Extended Range Trimix Instructor
 - CCR Dive Professional Crossover
- d. CCR Technical Extended Range Instructor Trainer
 - CCR Technical Extended Range Instructor
 - CCR Dive Professional Crossover
- e. CCR Hypoxic Trimix Instructor Trainer
 - CCR Hypoxic Trimix Instructor
 - CCR Dive Professional Crossover

2021 Change Log

Changes Effective 1 May, 2021

I. Global Standards Revisions

- Made the Training Center Standards their own document.
- Added distance learning explanation in General Training Standards under "Supervision."

II. General Training Standards

- Added definition for restrictions to "Overhead Environments."
- Updated OC computer description in "XR Rebreather Equipment Configurations."

III. Program Changes

a. SCR Extended Range

- Reduced required runtime under "Requirements for Completion."

b. CCR Technical Extended Range

- Changed prerequisite from logged dives to logged runtime.
- Added prerequisite for logged runtime on the specific unit.

c. Equivalency Chart

- Corrected two IANTD overhead program equivalencies.

Changes Effective 1 September, 2020

Extended Range (XR)

I. XR General Training Standards

Privacy Forms and Training Records

- Removed incorrect text from Registration Form.
- Added clarification text to clarify the requirements for the Responsible Diver code.
- Removed incorrect text from Physician's Approval to Dive form.
- Added requirements and guidelines for programs that have online exams.

Certification Procedures

- Added recommendation to complete training records at the end of each session or training day.

SSI Professional Status

- Added text to clarify the requirements for SSI Professionals in inactive status.

Returning to Active Status

- Added text to clarify the process for returning to active status.

XR Programs - SSI Professional Equipment

- Added new text about instructor's conducting certain programs while wearing an SCR unit.

XR Open-Circuit Equipment Configurations

- Added backup buoyancy requirements to XR Total Diving Systems.

Assessing Knowledge and Skill

- Added additional requirements and guidelines for exams.

Certified Assistant

- Added text to clarify the requirements for an XR certified assistant.

II. XR Programs

Gas Blender

- Removed requirement for Training Center approval.

Extended Range

- Added clarifying text and upgrade requirements for trimix.

Technical Extended Range

- Added clarifying text that training dives do not count toward prerequisites.
- Added clarifying text and upgrade requirements for trimix.

Hypoxic Trimix

- Added clarifying text that training dives do not count toward prerequisites.

XR Overhead Programs

- Added note that the instructor must have an instructor certification in the equipment configuration worn by the student.

SCR Diving

- Added alternate experience prerequisite option for students without the Deep Diving certification.
- Added requirement for downloading student logbooks.

SCR Extended Range

- Added alternate experience prerequisite option for students without the Deep Diving certification.
- Added requirement for downloading student logbooks.

CCR Diving

- Added alternate experience prerequisite option for students without the Deep Diving certification.
- Added requirement for downloading student logbooks.

CCR Extended Range

- Added requirement for downloading student logbooks.

CCR Technical Extended Range

- Added clarifying text that training dives do not count toward prerequisites.
- Added requirement for downloading student logbooks.

CCR Hypoxic Trimix

- Added clarifying text that training dives do not count toward prerequisites.
- Added requirement for downloading student logbooks.

Equivalency Chart

- Updated Extended Range Wreck Diving and Technical Wreck Diving equivalencies.

III. XR Instructor Programs

CCR Diving Instructor

- Added new text and reformatted Unit-Specific Requirements for Completion.
- Updated Active Status Requirements text.

CCR Extended Range Instructor

- Added new text and reformatted Unit-Specific Requirements for Completion.
- Updated Active Status Requirements text.

CCR Technical Extended Range Instructor

- Updated Active Status Requirements text.

CCR Hypoxic Trimix Instructor

- Updated Active Status Requirements text.

IV. XR Instructor Trainer Seminars

Requirements For Completion

- Updated requirement for completing a decompression dive in the applicable equipment configuration.

SSI XR Program Standards

2020 Change Log

I. XR General Training Standards

a. General Changes

- Removed all text that is not specific to extended range (XR) scuba training (i.e. Swim, Freediving, and recreational scuba-related content).
- Added new page for Privacy Forms and Training Records. This page replaces the 2019 page Liability and Risk Awareness.
- Split Administration into two sections, Administration and Professional Duties to differentiate between administrative requirements for teaching and the administrative requirements for being an SSI Professional.

Overview

b. How To Use These Standards

- Added explanation of when and how scenarios may be used during XR training programs.

Administration

c. Participation Criteria

- Added text so that a student can register for a program at any time, but may not begin their training prior to reaching the minimum age required by the specific program standard.

d. Medical History

- Updated terminology on this page to reflect the new name of the medical form.

e. Privacy Forms and Training Records

- This page replaces the 2019 page Liability and Risk Awareness. It describes the forms required to register and certify a student, how long the forms are valid for, and when they must be completed.

NOTE: The 2020 standards have removed the requirement to watch the SSI Risk Awareness videos. Training centers are still encouraged to show the videos, but they are not required.

f. Certification Procedures

- Added text clarifying that 100% completion of the digital learning is not required to complete the training program.
- Added text clarifying that if a written exam is not required, the certifying professional is still responsible for verifying the student's level of understanding is sufficient.

SSI Professional Duties

g. Equivalent Certifications

Under Dive Professionals from Recognized Training Agencies

- Removed all text relating to who may participate in a Dive Professional Crossover. This content was duplicated in the Dive Professional Crossover standard, and is specific to scuba. Please see Dive Professional Programs>SSI Dive Professional Crossover for this information.

h. Professional Liability Requirements

- This is a new page describing the requirements for professional liability insurance required for SSI Professionals.

i. SSI Professional Status

- Reformatted text to make the requirements for maintaining active status more clear.

Expelled Status

- Added text describing how individuals from other agencies may apply to gain SSI active status.

Retired Status

- New text.

j. Returning to Active Status

- Updated name of kit required to complete the update.

k. SSI Quality Management

- Renamed from 2019 standards SSI Grievance Resolution.
- New text explaining the procedures for monitoring quality management.

Equipment Definitions

l. Equipment Definitions

- Removed freediving and recreational scuba equipment definitions from all pages in this section. This information is now found in the applicable discipline's General Training Standards.
- Equipment requirements for each Total Diving System now include at least one stage cylinder. Additional cylinder requirements are listed in each program's standard.
- Updated names of Total Diving System Configurations to make them more understandable.
- Added non-XR and XR versions of each Total Diving System (e.g. Sidemount and Extended Range Sidemount).
- Added a note clarifying that the second signaling device is only required on dives that have a planned open water decompression obligation.

m. XR Programs - Breathing Gas

- Added a maximum gas density limit for CCR training.
- Reduced the exposure limits for CCR training from 100% in 24 hours to 80%.
- Clarified requirements for ppO₂ of breathing gases.

n. Open-Circuit Equipment Configurations

- Updated sidemount configurations to allow for a wider range of hose lengths.
- Changed "Recreational Total Diving System" to "Single-Cylinder Total Diving System" to remove possible confusion with true recreational configurations.
- Changed "Backmount Total Diving System" to "Twinset Total Diving System" to better align with alternate configurations.

Conducting SSI Programs

o. Assessing Knowledge and Skill

- Added text explaining the requirements for expert-level and demonstration-level quality.

p. Program Duration and Time Limits

Under Duration of a Dive

- Added clarification that any XR training dives must have a minimum of 30 minutes of in-water time.

q. Using Certified Assistants

- Added a definition for professional-level certified assistants.

r. Supervision

- Updated definition of supervision to account for small, hands-free cameras that do not interfere with training or safety.

s. Training Environments and Depth Limits

- Merged two pages (Pool, Confined Water, and Open Water and Depth Limits) into one new page.
- Reorganized depths into a more logical sequence.

II. XR Student Programs

- Removed the 'Administrative Requirements' text from all standards. This information is now found in the General Training Standards—Administration—Privacy Forms and Training Records.
- Added additional equipment configuration options, which include prerequisites, minimum equipment requirements, instructor requirements, and certification options to all XR programs.
- In-water ratios are now listed in the individual program standards.
- Removed requirement for final exam to be completed partway through the program. Exam can now be completed at any point after the academics are completed.

a. XR Water Fitness Evaluation

- Added additional options for completing the underwater swim if equipment like dry suits makes it impractical.
- Removed Surface Swim requirement - fitness evaluation is covered by the Equipment Swim.

b. Extended Range Foundations

- Added options for completing program with additional equipment configurations.
- New instructor manual outlines requirements for completing Extended Range Foundations.
- Additional prerequisites for new equipment configuration options.
- New in-water ratios and depth limits.

Open-Circuit Programs

c. Extended Range Sidemount

- Program title now matches certification card.

d. Extended Range

- Removed alternate option for prerequisites, since Extended Range Nitrox Diving is a component of the Extended Range program.

e. Technical Extended Range

- Removed Diver Stress and Rescue from student certification prerequisites.
- Removed "and any additional training dives" from depth limits. Maximum depths for the program must still be observed on any training dive.

Under Credit

- Changed maximum permitted depth from 50 to 60 meters.
- Added a maximum penetration limit of 30 meters on air/nitrox.

XR Overhead Programs

f. Extended Range Wreck Diving

- Program title now matches certification card.
- Simplified requirements for students using CCR units.
- Added a section for training conditions.

g. Technical Wreck Diving

- Any information related to establishing or determining the training environment have been moved from

Notes to Training Conditions.

- Added a note establishing a maximum penetration depth on air/nitrox.

h. Extended Range Cavern Diving

- Program title now matches certification card.
- Simplified requirements for students using CCR units.
- Added a section for training conditions.

i. Cave Diving

- Removed Diver Stress and Rescue from student certification prerequisites.
- Simplified requirements for students using CCR units.
- Simplified the equipment requirements.

Under Notes

- All six training dives must now be completed in overhead environments.
- Rule of Thirds must be used on all training dives.

j. Full Cave Diving

- Simplified requirements for students using CCR units.
- Simplified the equipment requirements.

XR CCR and SCR Programs

k. SCR Diving

- Moved SCR Unit Crossover to its own section at the end of the SCR Diving standard.
- Added new requirements for unit crossover prerequisites and completion requirements.

l. SCR Extended Range

- Added page for new requirements for upgrading to SCR Extended Range.

m. CCR Extended Range

- Reduced requirements for logged dives.

n. CCR Technical Extended Range

- Removed Diver Stress and Rescue from student certification prerequisites.

o. CCR Hypoxic Trimix

- Reduced requirements for logged dives.

p. CCR Unit Crossover

- Added requirements for completing crossovers at entry level and for more advanced CCR levels.

III. XR Professional Programs

a. XR Candidate Water Fitness Evaluation

- New for 2020. The XR Candidate Water Fitness evaluation is more comprehensive than the student XR Water Fitness Evaluation.

b. Extended Range Foundations Instructor

- Added additional options for certification as an Extended Range Foundations Instructor.
- Additional options for equipment configurations.

Open-Circuit Instructor Programs

c. Extended Range Sidemount Instructor

- Program title now matches certification card.
- Reformatted standard to align with other XR professional programs.

d. Technical Extended Range Instructor

- Adjusted logged dives prerequisite.
- Added an alternate co-teaching path for candidates who do not meet the required number of certifications.

e. Hypoxic Trimix Instructor

- Adjusted logged dives prerequisite.
- Added an alternate co-teaching path for candidates who do not meet the required number of certifications.

XR Overhead Instructor Programs

f. Extended Range Wreck Diving Instructor

- Added a dry land session to Requirements for Completion.
- Added recreational overhead programs to teaching qualifications.

g. Technical Wreck Diving Instructor

- Removed some recreational instructor requirements from prerequisites.
- Added an alternate co-teaching path for candidates who do not meet the required number of certifications.

h. Extended Range Cavern Diving Instructor

- Added a dry land session to Requirements for Completion.
- Added recreational overhead programs to teaching qualifications.

i. Cave Diving Instructor

- Removed some recreational instructor requirements from prerequisites.
- Added an alternate co-teaching path for candidates who do not meet the required number of certifications.
- Added a dry land session to Requirements for Completion.

j. Full Cave Diving Instructor

- Removed some recreational instructor requirements from prerequisites.
- Added an alternate co-teaching path for candidates who do not meet the required number of certifications.
- Added a dry land session to Requirements for Completion.

XR SCR and CCR Programs

- Separated Instructor Upgrade programs into their own sections.

k. SCR Diving Instructor

- Reduced the seminar duration from four to three days.

l. SCR Diving Instructor Upgrade

- New section that outlines the options for upgrading to SCR Diving Instructor from CCR Diving Instructor.

m. SCR Extended Range Instructor

- Reduced the seminar duration from four to three days.
- Added additional requirements for the instructor-led dives during the seminar.

n. SCR Extended Range Instructor Upgrade

- New section that outlines the options for upgrading to SCR Extended Range Instructor from CCR Extended Range or SCR Diving Instructor.
 - Added decompression dive requirement to seminar.
- o. CCR Diving Instructor
- Removed total logged dives from prerequisites.
 - Increased the seminar duration from three to four days.
- p. CCR Extended Range Instructor
- Removed total logged dives and decompression dive requirements from prerequisites.
 - Increased the seminar duration from three to four days.
 - Added decompression dive requirement to seminar.
- q. CCR Technical Extended Range Instructor
- Removed total logged dives and decompression dive requirements from prerequisites.
 - Added decompression dive requirement to seminar.
- r. CCR Hypoxic Trimix Instructor
- Removed total logged dives and decompression dive requirements from prerequisites.
 - Added decompression dive requirement to seminar.
- s. CCR Professional Crossover
- This section is removed and merged with the XR Professional Crossover standard.

IV. XR Professional Crossover

- Added option for candidates to earn additional equipment configuration certifications by submitting videos of the required skills instead of taking another complete seminar.

V. XR Instructor Trainer Seminars

- a. General Requirements
- Added Education System Evaluation.
- b. Instructor Trainer Seminars (Open-Circuit)
- Reduced prerequisites for Extended Range Sidemount Instructor Trainer.
- c. Instructor Trainer Seminars (Overhead Environment)
- Added Extended Range Wreck Diving Instructor Trainer.
 - Added Extended Range Cavern Diving Instructor Trainer.
- d. Instructor Trainer Seminars (SCR and CCR)
- Reduced prerequisites for SCR Extended Range Instructor Trainer.

VI. Training Center Standards

- a. Active Status Requirements
- Updated terminology for SSI Training Record forms.
- b. Performance-Based Ratings
- Updated requirements for earning the SSI Diamond Center and SSI Instructor Training Center statuses.
 - SSI Diamond Instructor Training Center renamed to SSI Career Center to reduce confusion with SSI Diamond Centers.

- Mission Deep Blue Center renamed to Blue Oceans Center.

