General Training Standards, Policies, and Procedures

Version 10.1

GUE General Training Standards, Policies, and Procedures

To report violations, comments, or feedback, contact info@gue.com.

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1. Purpose of GUE

In the late 1990s, a group of conservationists, explorers, and educators set themselves upon the creation of an organization committed to excellence in aquatic education to actively support their commitment to exploration, scientific research, and conservation of the underwater world.

Global Underwater Explorers ("GUE") was officially incorporated as a nonprofit entity in 2001, initiating a focused effort to enhance the quality of underwater experiences attained by divers at all levels. From this focused intention derived a systematic effort to enhance the skill, knowledge, judgment, fitness, and insight into the logic of sound equipment configurations. These attributes support maximum enjoyment of scuba diving activities while meeting the demands of the environments in which we dive. Whether their diving exploits are recreational or technical in nature, GUE divers share a dedication to these attributes, along with a commitment to excellence in their pursuit.

GUE is a broad-based, nonprofit organization with a wide range of international research and exploration initiatives. GUE's diving philosophy—anchored in success, simplicity, and safety—promotes rational choices with respect to dive teams, proper preparation, and equipment configuration as a means of ensuring safety, efficiency, and enjoyment. GUE promotes a holistic philosophical approach to scuba diving that blends sound diving practices with the world's most refined equipment configuration. Most importantly, GUE fosters thinking, team-minded divers with the capacity to rise to the challenges of goal- and project-oriented diving.

1.1 GUE Philosophy and Objectives

1.1.1 Education

GUE is committed to producing dynamic divers who are knowledgeable, proficient, competent, and safe in the water.

GUE course outcomes are designed to cultivate high levels of diver competence under the assumption that only a sound educational platform will ensure divers' capacity, comfort, confidence, and capability. This is achieved through the following cornerstones:

a. *Exacting performance standards*: GUE course outcomes are secured by exacting performance standards that incorporate both comprehensive academic and challenging practical components.
b. *Rigorous courses*: GUE courses demand a great deal from participants, both physically and intellectually. Courses expose trainees to challenges that mimic real diving experiences, but in a controlled environment under guidance of the instructor. Courses thereby prepare students to build proficiency through experience.
c. *Elite instruction*: GUE instructors are the result of a demanding and thorough development process that ensures consistently high levels of skill, knowledge, and commitment to GUE's mission. GUE instructors are encouraged to exceed minimum training standards when these

safely contribute to the participant's learning process and promote the best interests of the student.

d. *Meaningful Experience*: GUE requires that trainees build experience between classes. Advancement in GUE is predicated upon meaningful experience, in which the diver explores the limits of their capacity, confidence, competence, and comfort.

1.1.2 Conservation

GUE is committed to building upon decades of conservation programs by expanding the quality and quantity of its ongoing global conservation initiatives. These initiatives include cooperation with scientists and researchers in a variety of fields as well as robust training in an extensive variety of documentation and science-oriented training programs. GUE divers are trained to support, collaborate with, and assist in aquatic research programs, working independently as well as collaboratively with other individuals, including government and non-governmental institutions. GUE is committed to empowering existing divers and a new generation of scholars to become a leading force in marine conservation, extending awareness of important research and conservation activities within the aquatic realm.

1.1.3 Exploration

GUE is committed to promoting global underwater exploration initiatives, building on a rich history cultivating some of the world's most sophisticated diving projects. The skills needed for these initiatives form the base of an educational platform designed to meet the needs of explorers and distilled into a series of courses focused on safe, competent, comfortable, and confident diving at all levels.

1.1.4 Equipment

GUE is committed to a standardized, holistic equipment configuration in which each piece of equipment functions as an integral part of a system.

GUE's standard equipment configuration offers an important platform for divers across diverse environments and yields an exponential increase in value as a result of standardization across communities. Modifications to this configuration maintain a consistent operational philosophy while allowing adjustments to support unique diving applications. As such, GUE embraces sidemount and rebreather configurations that are, themselves, standardized and based on the key components of GUE's standard equipment configuration.

A standard equipment configuration with global application should be built around the fact that the vast majority of diving is done by recreational divers in oceans around the world. Systems that complicate open-water recreational diving should be reserved for specialized applications.

1.1.5 Unified Team

Central to the GUE diving system is the concept of a unified team. This system pairs divers of similar capacity within an environment for which they have been properly prepared. Teams of individually

capable divers produce a level of safety and efficiency beyond what is capable while diving independently. Few things are as rewarding as diving within a group that maintains a similar degree of care and focus. Any diving activity where the concept of a team is marginalized will always fail to maximize its potential with respect to fun, efficiency, and safety.

The unified team's responsibility encompasses pre-dive preparation, mental focus, physical fitness, diving experience, and dive planning.

1.1.6 Meaningful Experience

GUE's commitment to excellence promotes continuous self-improvement that is rooted in learning, driven by intellectual humility and curiosity, and buoyed by meaningful experience.

GUE maintains that experience is critical to diver proficiency. To ensure this outcome, GUE diving courses include critical skills training, training dives, and post-class experience dives.

a. *Critical skills training*: Critical skills are skills that are required to efficiently manage loss of visibility, loss of lights, out-of-gas scenarios, manifold failures, and rescue scenarios involving panicked divers, convulsing divers, and unconscious divers. Critical skills training uses simulation in controlled and safe environments to secure course outcomes. Competence is established by skill review, practice, and repetition.
b. *Training and experience dives*: GUE courses foster real diving experience while providing a controlled context for skill refinement. Trainees develop skills while diving with experienced, active instructors who share their commitment to excellence.
c. *Interim course and progression requirement dives*: GUE requires formal diver training be punctuated by breaks during which trainees are asked to undertake a set number of dives to gain experience with a newly acquired skill set before transitioning to higher level of training. This experience should expose the diver to challenges and progressively lead to more advanced activities within the scope of their training. It should empower the diver to confidently meet challenges and resolve them with their team in a calm and effective way. Exposure to a variety of environments, teams, conditions, and locations are key to building meaningful experience that will prepare divers to continue with their training.

2. GUE Administration Standards and Procedures

2.1 Training Structure

2.1.1 Elements of Diver Training

a. *Screening*: GUE training requires that trainees be carefully screened by GUE instructors prior to participating in GUE courses to ensure that they are able to meet the demands of training. Required documentation includes an account of their personal diving experience, their medical history, and a record of previous training.
b. *Advance preparation*: GUE training requires that trainees be familiar with an assigned set of materials prior to the onset of class.
c. *Academics*: GUE training includes a strong academic component that seeks to cultivate cognitive mastery of elements relevant to the safe conduct of the level of diving being pursued; some of this material is assigned prior to class.
d. *In-water training (confined and open water)*: GUE in-water training in confined and suitable open water environments is designed to help trainees cultivate essential diving skills and to test trainee capacity in a controlled environment (one that allows instructors to maintain reasonable control over trainees); such skills include problem-solving and emergency management.
    i. Confined water is defined as an area:
        1. That does not exceed 30 ft/9 m in depth.
        2. Where visibility (i.e., the minimum distance in which divers can see one another and communicate effectively) is sufficient to allow instructors to maintain a continuous view of trainees under their supervision.
        3. That is not an overhead area.
        4. That is illuminated to a level comparable to daylight.
        5. Where surface conditions are relatively calm (no greater than 3 ft/1 m surge).
        6. Where currents are negligible (less than 1 knot).
    ii. A "suitable" open water environment is defined as an area that allows instructors reasonable control over trainees under their supervision; depths are contingent on specific course requirements.
e. *Testing, evaluation, and certification*: Testing and evaluation is a vital component of the GUE training process.
    i. *Academics*: Trainees must fulfill all course-specific academic requirements prior to certification.
    ii. *In-water*: Trainee in-water skills are graded on a scale of one to five (see below) and documented on a Course Completion Form (CCF) by the instructor of record at the completion of the class. CCFs must be submitted to GUE Headquarters (HQ) for follow-up action and filing. Debrief sessions are used during the class to provide trainees with a running assessment of their performance.

GUE certification is ultimately an instructor's decision. However, instructors are obligated, on request, to provide trainees with an assessment of their performance; this includes providing trainees with a copy of the CCF where their strengths and weaknesses are clearly outlined.

GUE's Grading Scale: Grades range sequentially from 1 (failed) to 5 (excellent) and represent the following:

a. *Grade 1*: Signifies an unsafe trainee in both ability and/or demeanor; the trainee should be removed from the course immediately.
b. *Grade 2*: Signifies a trainee that falls below the minimum standard relevant to a required skill/task. If, at the discretion of the instructor, continued practice of a skill/task places either the student or the class at risk, the instructor may decide not to continue practicing a skill/task and fail the trainee.
c. *Grade 3*: Signifies that the trainee has met the minimum standard in respect to the skill/task.
d. *Grade 4*: Signifies that the trainee has exceeded the minimum standard with respect to the skill/task.
e. *Grade 5*: Signifies that the trainee has greatly exceeded the minimum standard with respect to the skill/task.

2.1.2 Diver Assessment

At the completion of GUE training, instructors must decide whether the trainee:

a. Has met the minimum standard required to be certified to pursue the type of diving for which they sought training. In order to meet this requirement, the trainee has to be awarded a grade 3 or above on every individual skill (as defined by course outlines) and has fulfilled all academic requirements, , swim test, and breath-hold test.
b. Is just short of the minimum standard required to be certified to pursue the type of diving for which they sought training.
c. Requires significant work to meet the minimum standards for the class.
d. Did not complete all components of class.

Each assessment results in one of the following ratings :

a. Pass
b. Provisional
c. Fail
d. Incomplete

Provisional ratings do not represent any form of GUE accreditation and must be upgraded within six months or the trainee must repeat training. Any Active status GUE instructor for the course at issue can conduct an upgrade evaluation. Additional time and course fees associated with provisional upgrades are entirely at the discretion of the instructor.

Incomplete ratings do not represent any form of GUE accreditation and must be upgraded within six months or the trainee must repeat training. When training students with a previous incomplete evaluation, the instructor must verify that the student fulfills all certification requirements.

2.1.3 Training Categories

Recreational

Recreational diver training is designed for persons who want to learn to dive in non-overhead environments and primarily with minimum decompression obligations. It also provides the trained diver with opportunities to build competency in the use of more specialized equipment—e.g., doubles, drysuits.

Technical and Cave

Technical and cave diver training is specifically tailored for divers aiming to safely and competently explore greater depths and navigate underwater cave systems. This comprehensive training equips divers with the necessary skills to handle specialty gases, extended bottom times, and intricate cave environments while implementing advanced management strategies to mitigate risks associated with decompression and cave penetration.

Professional

Professional diver training is designed for divers seeking to supervise diving or conduct training as a scuba diving professional, ranging from recreational dive leaders to instructors in all curricula.

2.1.4 General Training Standards

GUE's general training standards govern all GUE courses and their participants. Additional course-specific standards are listed under the requirements of the specific class. General Diving Standards (section 2.2) also apply to all GUE courses and their participants.

a. An Active status GUE instructor certified to teach the level of training being conducted must be present and in control of all course activities.
b. All Active and Sustaining status GUE instructors are bound by the most current version of the GUE General Training Standards, Policies, and Procedures document.
c. Diving prerequisites established by the relevant course standards must be met before trainees can be registered for that class. Dives cannot be credited across curricula or across levels of a given curriculum. Unless otherwise specified in the course's Specific Training Standards, students may not participate in two courses at the same time.
d. Students must be certified for a level of training before progressing to the next level of training unless otherwise specified in the course's Specific Training Standards.
e. Visibility conditions must allow team members to both communicate with each other and conduct the planned dive safely and comfortably.
f. GUE instructors must not conduct training dives and drills in areas that are environmentally or culturally sensitive, or that could be damaged by the training (e.g., DPV training, drills involving simulated zero visibility).
g. Water conditions must at all times be such that the instructor:
    i. Can maintain visual contact with all divers under their supervision.
    ii. Is in reasonable control of all divers under their supervision.

h. Critical skills (section 1.1.6) must first be conducted in a confined-water setting. Instructors can then vary the depth and/or location where skills are executed.
    i. Mask removal is restricted to confined water; only trainees themselves are allowed to remove their masks at the prompting of their instructor.
    ii. "Air gunning" or simulating manifold failure is restricted to courses in the Technical and Cave curriculum.
    iii. Unless it is for safety reasons, instructors must never close a student's valve(s); only trainees themselves are allowed to close valve(s) at the prompting of their instructor.
    iv. In the recreational curriculum, GUE Basic Fundamentals, and GUE Technical Fundamentals courses, any S-drill or OOG training is restricted to a maximum depth of 70 ft/21 m. It is up to the instructor to reduce this limit when circumstances (e.g., environment, student capacity) require additional caution.
i. Issuing certifications under other agencies: A trainee may receive both a GUE certification card and the equivalent certification of another organization only if the trainee has met GUE standards and been awarded full GUE certification.
j. Decompression parameters: Decompression diving conducted during GUE classes must use GUE's DecoPlanner as the reference standard, using the Bühlmann algorithm with a gradient factor of 20/85. These profiles are called "unadjusted decompression profiles" and may be adjusted in a pragmatic manner to enable simpler in-water implementation.
k. Course size: Unless otherwise specified in the course's Specific Training Standards, no GUE class can be run with only one trainee.
l. Divers breathing helium mixtures and utilizing a drysuit must have a drysuit inflation system independent of their back gas cylinders, such as an argon/air cylinder; they may not use back gas to inflate their drysuit.
m. During all diving activities, instructors must carry at least the same equipment as their students, as determined by the course-specific equipment requirements. Exclusions of equipment as determined by the course-specific equipment requirements apply to students only; instructors may never carry less than the complete GUE base equipment configuration as per Appendix A.

2.1.4.1 Training Prerequisites

While additional course-specific standards are listed under the prerequisites for each course, the following standards apply to all GUE courses (unless stated otherwise in the course's Specific Training Standards). An applicant for a GUE course must:

a. Submit a completed Course Registration Form, Medical History Form, and Liability Release Form to GUE HQ.
b. Hold insurance that will cover diving emergencies such as hyperbaric treatment, e.g., DAN Master-level insurance or equivalent.
c. Be physically and mentally fit.
d. Be a nonsmoker.

e. Obtain a physician's prior written authorization for the use of prescription drugs, except for birth control, or for any prior medical condition that may pose a risk while diving.

2.2 General Diving Standards

The following standards apply to all GUE diving activities. Additional course-specific standards are listed within General Training Standards (section 2.1.4), as well as within the requirements of a specific course.

a. *Oxygen partial pressure (pO_2) limits*: Individuals must not plan dives with a pO_2 that exceeds 1.4 ATA/bar during the "working" phase of the dive; during the "resting" phase, the planned pO_2 may be elevated to 1.6 ATA/bar.
b. *Equivalent Narcotic Depth (END) limits*: The END during dives must not exceed 100 ft/30 m. The END of a breathing gas is determined under the assumption that helium is the only non-narcotic component.
c. *Breathing gas requirements*: All open-circuit dives must be terminated when any member of the team reaches "minimum gas"; this requires that each diver carry a supply that allows two divers sharing gas to reach the surface or another breathable gas supply. All rebreather dives must be terminated when any member of the team reaches "bailout minimum gas"; this requires that each diver carry an open-circuit supply that allows the diver to reach the surface or another breathable gas supply.
d. *Team diving*: GUE's diving philosophy is based on a team approach. Divers must plan all diving activities as a team and must remain aware of team members' location and safety at all times.
e. *Proper cylinder marking*:
    i. Dive cylinders must be free of unnecessary stickers and markings.
    ii. Dive cylinders must bear a current Visual Inspection sticker and Hydro Test marking, as detailed by current country-specific regulations; placement must not distract from Maximum Operating Depth (MOD) markings.
    iii. All stage cylinders (except oxygen) must be marked with the appropriate MOD (in meters or feet) in approximately 3-inch/7.5-centimeter numbers.
    iv. Oxygen cylinders must be marked with the word "OXYGEN" (or local equivalent) and MOD.
    v. In countries where the metric system is used in diving, stage/decompression cylinders should be marked in METERS.
    vi. In countries where the imperial system is used in diving, stage/decompression cylinders should be marked in FEET.
    vii. MOD markings must be oriented in a way that they are readable by both divers and their team members.
    viii. Filled cylinders must be analyzed and labeled in accordance with GUE's Standard Operating Procedure for Gas Analysis.
    ix. Dedicated cylinders used for the inflation of drysuits are exempt from analysis.
f. *Local laws and regulations*: GUE divers must comply with all local laws and regulations.

g. *Policies*: The Board of Directors has the authority to promulgate policies that impact GUE diving activities and GUE divers.

2.3 Equipment Standardization

GUE training programs and GUE diving activities require a standard equipment configuration with modifications made for specific types of diving (e.g., cave vs. recreational). Appendix A contains an outline of the elements comprising GUE's required base equipment configuration. Variations or additional equipment requirements are listed in the standards regulating each course.

2.4 Quality Management

GUE's Quality Management Program represents the stewardship of GUE values. These values, which are best summarized as a commitment to excellence in education, conservation, and exploration of the underwater realm, guide and inform these Standards, as well as all other initiatives arising under GUE's banner.

GUE's commitment to excellence is more than the adherence to these Standards. Compliance is, of course, necessary. However, it is alone insufficient to guide GUE divers on their pursuit of excellence. Therefore, GUE divers are expected to abide by these Standards and the various policies incorporated herein. Additionally, GUE divers are expected to abide by the spirit of these Standards, as informed by GUE values.

It remains essential that GUE instructors, GUE staff, and members abide by GUE standards before, during, and after training and apply continuous improvement initiatives to ensure that a commitment to excellence is realized in all GUE activities. The core personnel involved in the Quality Management processes are:

a. The Quality Management Department;
b. The Designated Trustee of Standards and Procedures; and
c. The Quality Control Board.

The Board of Directors ("BOD") retains ultimate oversight of the Quality Management Program.

2.4.1 Instructor Evaluations

As part of the certification process, instructor performance is evaluated by each trainee at the conclusion of each GUE class by completing and submitting to GUE Headquarters (HQ) a Quality Control Form.

2.4.2 Instructor Peer Review

GUE encourages instructor cooperation and active peer feedback on dives and requires instructors to report to GUE HQ any practices not in keeping with the GUE General Training Standards, Policies, and Procedures.

2.4.3 Instructor Renewals

GUE instructors are required to renew annually. Prerequisites for renewal attest to preparedness to competently and safely teach a GUE class to standard.

2.4.4 Instructor Requalification

GUE instructors are required to requalify with a GUE Instructor Evaluator every four years in every curriculum they are certified to teach. These formal requalifications attest to continued mastery of required knowledge and skills to competently and safely teach a GUE class to standard. Instructors who fail to requalify within four years are rendered immediately inactive.

Instructors may choose to reset the four-year clock at any point within this four-year window.

Requalification may also be required at any time the safety or effectiveness of an instructor's training is in question. In such an event, GUE's Board of Directors may immediately suspend an instructor's teaching privileges.

2.4.5 Diver Requalification

All GUE certification cards expire three years after the date of issue. To maintain GUE certification, GUE divers must certify that they have conducted twenty-five dives at the level of their certification within a three-year period. Upon review, divers can be issued a new certification card for a nominal fee.

The allowable time for requalification in this manner is five years. If a diver fails to requalify in five years, then formal approval from a GUE instructor at the appropriate level is required.

2.5 Waivers

In certain limited circumstances, requirements set forth herein may be waived as provided below.

a. The required number of cave training locations can be waived by the Panel of Program Directors.
b. Course age limitations can be waived by the Panel of Program Directors.
c. Course prerequisites can be waived as follows:
    i. A GUE Instructor Evaluator for the course at issue can waive the 25-dive prerequisite between GUE courses for their trainees.
    ii. The Panel of Program Directors can waive the 25-dive prerequisite between GUE courses for all other trainees upon request.
d. Course components can be waived by the Panel of Program Directors based on a request from a GUE Instructor Evaluator for the course at issue to waive training obligations and award GUE certification based on previous training and experience.
e. Waivers for course-size minimums: Instructors are permitted to utilize GUE-certified divers at the level of the course at issue to fulfill required course minimums. Such waivers are effective upon submission of the request. Instructors are expected to demonstrate good

faith in (a) attempting to fill classes with uncertified trainees and (b) submitting waiver requests only when circumstances require.

f. Instructor candidate and instructor progression requirements may be waived by the Panel of Program Directors.
g. Other waivers not specified above may be requested and are subject to review and determination by the Panel of Program Directors.

2.6 Complaints

GUE's Quality Management Department and Quality Control Board are responsible for handling complaints promptly and thoroughly. Following an investigation of a complaint, the Quality Management Department and Quality Control Board will decide whether or not disciplinary or remedial action is warranted. If there is a potential conflict of interest, or an independent position is needed, the Quality Control Board will take control of the issue.

2.6.1 Complaint Submission

Complaints can be lodged against any GUE member or GUE diver, each of whom is bound by the GUE General Training Standards, Policies, and Procedures document.

Complaints should be sent to GUE's Quality Management Department at GUE HQ and should include:

a. A written statement outlining the nature of the complaint
b. Name and contact information
c. The date, time, and location of the incident
d. A complete account of the event, including names and contact information (if possible) of any witnesses

Complaints can be lodged either electronically or by mail.

- Email should be sent to: qc@gue.com
- Mail should be sent to:

Quality Management Department
Global Underwater Explorers
18487 High Springs Main Street
High Springs, FL, 32643
USA

Verbal and anonymous complaints may be referred to the Director of Quality Control or a member of the Quality Control Board. All complaints will be treated as confidential.

2.6.2 Complaint Procedure

a. Following a review of the complaint, if warranted, GUE's Quality Management Department/Quality Control Board will send a summary of the complaint to the charged member by regular and/or electronic mail.
b. Charged member(s) must respond in writing to the complaint (by mail or electronically) within thirty days from the date the summary is sent.
c. Charged members who fail to respond to a written complaint in the allotted time are automatically suspended and all membership privileges revoked.
d. Charged members who respond to a written complaint are able to maintain their membership privileges until a final determination is reached by GUE's Quality Management Department/Quality Control Board.
e. GUE's Quality Management Department/Quality Control Board will reach its determination within thirty days of receiving a complete response from the charged member. The Quality Management Department/Quality Control Board can determine to dismiss the complaint, resolve the matter by negotiation, or sanction a disciplinary or remedial action.

2.6.3 Disciplinary and Remedial Actions

GUE's Quality Management Department/Quality Control Board is empowered to render the following decisions:

a. Private censure
b. Public censure
c. Prescribed educational rehabilitation
d. Defined probationary period
e. Defined suspension
f. Revocation of membership and/or teaching privileges

2.6.4 Rights of Appeal

Determinations made by GUE's Quality Management Department/Quality Control Board may be appealed to GUE's Board of Directors no later than thirty days from the time the determination is made. Such an appeal must be lodged in writing by certified mail or by email; the latter of these requires a response from a BOD representative to acknowledge receipt.

GUE Board of Directors
Global Underwater Explorers
18487 High Springs Main Street
High Springs, FL 32643
USA

2.6.5 Executive Suspension of Membership

GUE membership, GUE teaching privileges, and GUE diving credentials are privileges, not rights. Membership in GUE may be rescinded and GUE credentials may be suspended or revoked at any time by the GUE Board of Directors at its discretion.

2.6.6 Prohibition Against Retaliation

Any GUE instructor who engages in conduct reasonably deemed retaliatory in response to a Quality Control complaint or course evaluation feedback shall be subject to discipline. Retaliatory conduct shall mean any adverse action, including (but not limited to) unwarranted denial of certification, instruction, or course benefits; threats; unwarranted reprimands or negative evaluations; harassment; or other adverse treatment, taken in connection or in response to a Quality Control complaint or course evaluation feedback.

2.7 Conduct Procedures and Policies

a. GUE instructors (regardless of country of residence or course location) must collect signed GUE liability release forms prior to the onset of each GUE class and maintain these for a period of no less than seven years following the completion of training.
b. GUE representatives must promote the best interests of GUE.
c. GUE instructors and instructor candidates must abide by GUE General Diving Standards (section 2.2) and GUE safety protocols at all times.
d. GUE members and its representatives must demonstrate fiscal responsibility in general and in particular when transacting business with GUE, GUE instructors, or GUE members.
e. GUE instructors must process student Course Completion Forms in a timely fashion and cooperate with GUE HQ when certification card issues arise.
f. All internal communication (e.g., via the instructors@gue.com mailing list, the GUE Instructors Facebook page, or any other media accessible to GUE HQ and GUE instructors only), is confidential. Any instructor who knowingly allows these discussions to become public knowledge may be subject to disciplinary action.
g. GUE instructors must behave professionally when interacting with others, including industry, non-industry, and GUE-related individuals.
h. GUE members, GUE divers, and GUE representatives are bound by the standards and procedures outlined in this document.
i. GUE membership and renewal applications do not constitute perpetual offers of membership. GUE HQ reserves the right to refuse membership or renewal to any party without assigning any reason.
j. GUE members must not utilize proprietary GUE materials without written permission from GUE HQ.
k. GUE instructor certification cards issued by GUE HQ are the property of GUE and must be surrendered upon request to the Board of Directors or their representatives.

2.8 Records

GUE HQ will maintain all records (if applicable) for GUE course participants for a minimum of three years after the completion of a class. As GUE student profiles are executed electronically, it is the responsibility of all GUE instructors (regardless of their country of residence or course location) to collect properly executed (i.e., completed and signed) documentation for all course participants before the onset of class and maintain these for a minimum of seven years. This requirement may be fulfilled by use of GUE's electronic signature system. In this case, the instructor is responsible for verifying and storing all appropriate electronic files. If this option is not possible, a printed, signed copy of the documentation must be kept instead.

3. GUE Course Training Standards and Procedures

3.1 Recreational Diver Curriculum

3.1.1 Discover Diving

3.1.1.1 Program Outcomes

GUE's Discover Diving program is designed as an introduction for individuals with no previous scuba diving experience. This program does not result in certification but can serve as an introduction to the Open Water Diver course or as a standalone experience. Completion of this program does not qualify the participants to engage in recreational diving.

3.1.1.2 Prerequisites

Applicants for a Discover Diving program course must abide by Training Prerequisites (2.1.4.1), except:

a. Submit a completed Course Registration Form, Medical History Form, and Liability Release Form to GUE HQ.

Plus:

a. Submit a completed Discover Diving Registration Form to their instructor.
b. Be a minimum of 12 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.

3.1.1.3 Program Content

The Discover Diving program is normally conducted over one day. It requires a minimum of one in-water session and at least four hours of instruction, encompassing lectures, land drills, and in-water work. Optional open water dives can be conducted at the instructor's discretion.

Activities in confined and open water may be conducted separately or combined, with skills initially introduced in shallow water before participants are taken into deeper water.

3.1.1.4 Discover Diving Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1 during land drills or surface exercises; it cannot exceed 2:1 during any in-water training.
b. Can be run with one trainee
c. All confined in-water activities must be directly supervised by a qualified GUE instructor or GUE assistant instructor who is solely responsible for determining a participant's capacity to participate in open water diving.
d. All open water dives must be directly supervised by a GUE instructor.
e. During open water dives, a GUE instructor must not engage in any activity other than the direct supervision of the participants.

f. All in-water activities must be conducted in daylight conditions.
g. All in-water skills must be introduced and practiced in confined water shallow enough for the participant to stand in, before progressing to deeper water. When water shallow enough to stand in is not available, the skills may be introduced and practiced from a device such as a descent line, bar, ladder, or platform. In such a scenario, the in-water ratio is reduced to 1:1 and the skills introduction must not be conducted deeper than 6 ft/2 m.
h. Maximum depth of 40 ft/12 m.
i. No overhead diving.
j. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.1.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet provided by GUE.

3.1.1.6 Academic Topics

a. Overview of scuba diving and the GUE organization
b. Basic diving physics with emphasis on dive safety
    i. Breathing underwater
    ii. Equalization underwater
    iii. Buoyancy and trim; ascending, descending, and moving underwater
    iv. Underwater communication
    v. Identification of local environmental hazards, e.g., marine life
c. Overview and use of scuba diving equipment
d. Importance of additional dive training
e. Value of training with GUE

3.1.1.7 Land Drills and Topics

a. Equipment fit and function
b. Gas analysis
c. Basic 5 scuba skills #1, #2, and #4
d. Long hose donation to trainee performed by instructor where the trainee is the receiver
e. SPG check

3.1.1.8 Required Dive Skills and Drills

Students must be able to demonstrate capacity in the following skills with each skill practiced in confined water before it is attempted in an open water setting.

3.1.1.8.1 Surface Skills

a. Regulator breathing practice
b. Basic 5 scuba skills #1, #2, and #4
c. Long hose donation to trainee performed by instructor

d. Buoyancy compensator (BC) operation practice
e. Drysuit, if used

3.1.1.8.2 Underwater Skills

a. Controlled descent
b. Buoyancy and trim practice
c. Propulsion practice
d. Basic 5 scuba skills #1, #2, and #4
e. Long hose donation to trainee performed by instructor
f. SPG check
g. Controlled ascent

3.1.1.9 Equipment Requirements

GUE single tank configuration as outlined in Appendix A, excluding:

a. Wrist-mounted compass
b. Backup mask
c. At least one cutting device
d. Wetnotes with at least one pencil
e. Surface marker buoy (SMB) with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.2 Scuba Diver

3.1.2.1 Course Outcomes

GUE's Scuba Diver course is designed to provide students with sufficient knowledge, skill, and experience to dive in open water environments under the direct supervision of a dive professional.

Upon fulfilling all minimum training requirements, the Scuba Diver will be qualified to:

a. Dive with a professional from a recognized training agency in a diver-to-dive professional ratio not exceeding 3:1.
b. Dive to a maximum depth of 40 ft/12 m.
c. Dive within minimum decompression limits (MDLs), i.e., no required stops.
d. Dive with appropriate surface support (e.g., access to EMS, infrastructure allowing for support in case of emergency).
e. Dive in conditions equal to or better than those in which they were trained.
f. Use nitrox under direct supervision of a dive professional from a recognized training agency who is certified to use nitrox.

3.1.2.2 Prerequisites

Applicants for a Scuba Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 12 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.

3.1.2.3 Course Content

The Scuba Diver course is normally conducted over three days. It requires a minimum of eight confined water sessions, two open water dives, and at least twenty-four hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.2.4 Scuba Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Can be run with one trainee.
c. During open water dives, the instructor must not engage in any activities other than direct supervision of the participants.
d. All in-water activities must be conducted in daylight conditions.
e. All in-water skills must be introduced and practiced in confined water shallow enough for the participant to stand in, before progressing to deeper water. When water shallow enough to stand in is not available, the skills may be introduced and practiced from a device such as a descent line, bar, ladder, or platform. In such a scenario, the in-water ratio is reduced to 1:1 and the skills introduction must not be conducted deeper than 6 ft/2 m.
f. Maximum depth of 40 ft/12 m.
g. No overhead diving.
h. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.2.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.2.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, training requirements)
b. Basic diving physics supporting knowledge and ability to safely manage:
    i. Breathing underwater
    ii. Equalization and avoidance of barotraumas, including DCI
    iii. Buoyancy, trim, and balance; ascending, descending, and underwater propulsion
    iv. Physical and mental stress while diving
c. Introduction to decompression sickness
d. Scuba diving equipment overview and operation
e. Basic planning, including breathing gas management, dive preparation, and pre-dive sequence.
f. Basic understanding of nitrox diving and importance of gas analysis
g. Team diving and underwater communication

h. Environmental considerations while diving
i. Conservation-minded diving techniques

3.1.2.7 Land Drills and Topics

The following land drills must be used to familiarize students with important skills before they are practiced underwater.

a. Equipment fit, assembly and disassembly, functionality checks
b. Propulsion and maneuvering techniques
c. Gas analysis
d. GUE EDGE and pre-dive checks
e. Basic 5 scuba skills
f. SPG check
g. S-drill
h. Connecting and disconnecting LP inflation hose of BC (and drysuit, if used)
i. Oral inflation of BC

3.1.2.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Scuba Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least two propulsion techniques that would be appropriate in a delicate and/or silty environment.
k. Efficiently demonstrate how to donate gas to an out-of-gas diver followed by an ascent to the surface.
l. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement.
m. Demonstrate comprehension of the components necessary for a successful backward kick.

3.1.2.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Snorkel, simple in design, with no purge valves

Excluding:

a. Wrist-mounted compass
b. Backup mask
c. At least one cutting device (unless required by local regulations)
d. Surface marker buoy (SMB) with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.3 Open Water Diver

3.1.3.1 Course Outcomes

GUE's Open Water Diver course is designed to provide non-divers with sufficient knowledge, skill, and experience to dive within the limits of similarly qualified scuba divers. Qualified GUE Open Water Divers are able to dive under conditions equal to or better than those in which they were trained with appropriate surface support and with individuals holding the same or a higher level of certification while using nitrox or air within minimum decompression limits.

The Open Water Diver who has not yet reached the age of 15 years is required to dive under the direct supervision of an adult who has, as a minimum, an autonomous scuba diver certification.

3.1.3.2 Prerequisites

Applicants for an Open Water Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 12 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.

3.1.3.3 Course Content

The Open Water Diver course is normally conducted over five days. It requires a minimum of ten confined water sessions, six open water dives, and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

At the instructor's discretion, Scuba Divers may have a portion of their training counted toward Open Water Diver qualification.

3.1.3.4 Open Water Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drills or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Can be run with one trainee.

c. All in-water activities must be conducted in daylight conditions.
d. All in-water drills must be introduced in confined water.
e. Maximum depth of 70 ft/21 m.
f. No overhead diving.
g. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.3.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.3.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, training requirements)
b. Diving physics supporting knowledge and ability to safely manage:
    i. Breathing underwater
    ii. Equalization and avoidance of barotraumas including DCI
    iii. Buoyancy, trim, and balance; ascending, descending, and underwater propulsion
c. Physical and mental stress while diving
d. Scuba diving equipment overview and operation
e. Breathing gas dynamics
f. Decompression theory, including decompression sickness (DCS, AGE)
g. Planning, including gas management, dive preparation, and pre-dive evaluation
h. Nitrox diving and importance of gas analysis
i. Team diving and underwater communication
j. Environmental considerations while diving
k. Conservation-minded diving techniques

3.1.3.7 Land Drills and Topics

The following land drills must be used to familiarize students with important skills before they are practiced underwater.

a. Equipment fit, assembly and disassembly
b. Propulsion and maneuvering techniques
c. Gas analysis
d. GUE EDGE and pre-dive checks
e. Basic 5 scuba skills
f. SPG check
g. S-drill
h. Valve operation
i. Connect and disconnect LP inflation hose from BC (and drysuit, if used)
j. Oral inflation of BC
k. Surface marker buoy (SMB) deployment utilizing a spool

l. Basic compass navigation
m. Basic 5 rescue skills

3.1.3.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Open Water Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by an ascent to the surface utilizing minimum decompression ascent profile.
k. Comfortably demonstrate at least two propulsion techniques that would be appropriate in a delicate and/or silty environment.
l. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement.
m. Demonstrate a comfortable demeanor while swimming without a mask in touch contact, followed by a switch to the backup mask.
n. Demonstrate comprehension of the components necessary for a successful backward kick.
o. Demonstrate proficiency in basic underwater compass navigation.
p. Demonstrate proficiency in the Basic 5 rescue skills.
q. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.

3.1.3.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Snorkel, simple in design, with no purge valves

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.4 Advanced Open Water Diver

3.1.4.1 Course Outcomes

GUE's Advanced Open Water Diver course is a no-decompression course structured to prepare divers for deeper recreational diving while using sound equipment, efficient diving skills, and advanced breathing mixtures. Course outcomes include, but are not limited to: skill cultivation and refinement, familiarity with the theory and practice of decompression, safe use of nitrox (and, optionally, triox) for extended bottom times, correct ascent procedures, diver rescue (on land, at the surface, and underwater), emergency management, and the use of helium to minimize narcosis, CO_2, gas density, and post-dive "nitrogen stress".

3.1.4.2 Prerequisites

Applicants for an Advanced Open Water Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 15 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[1] certification.
d. Have completed basic life support (BLS) training from a recognized training agency within the twenty-four months prior to the start of the class.
e. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
f. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.4.3 Course Content

The Advanced Open Water Diver course is normally conducted over six days. It requires a minimum of eleven dives (including a dive in reduced ambient light conditions) and at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work.

The GUE Advanced Open Water Diver certification can also be obtained by successfully completing GUE Navigation Primer, GUE Rescue Primer, and GUE Deep Primer courses.

3.1.4.4 Advanced Open Water Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.

[1] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

b. Maximum depth of 100 ft/30 m.
c. No overhead diving.
d. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
e. Divers wishing to use triox as a breathing gas must successfully conduct at least two dives while using triox. If nitrox is used during all dives, no triox will be noted on the GUE Advanced Open Water Diver certification card.

3.1.4.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.4.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Applied diving physics
c. Applied diving physiology
d. Situational awareness
e. Breathing gas overview
f. Dive planning, gas management, and logistics
g. Introduction to triox
h. Decompression overview and minimum decompression procedures
i. Diving safety and accident prevention
j. Rescue diving techniques, emergency management, and diving-related BLS skills

3.1.4.7 Land Drills and Topics

a. GUE EDGE and pre-dive drill sequence, including gas analysis
b. Rescue skills, including managing a rescue scenario, swimming and non-swimming assists, egression techniques, controlling a distressed diver, underwater search patterns, managing and surfacing an unconscious diver
c. Navigation skills using a compass, guideline, and natural navigation
d. Light and touch communication protocols
e. Surface marker buoy (SMB) deployment utilizing a spool

3.1.4.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Advanced Open Water certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.

d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, including the implementation of variable ascent rates.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
k. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
l. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
m. Demonstrate proficiency in managing gas-sharing scenarios, including a direct ascent while managing minimum decompression obligations.
n. Demonstrate effective navigation using a compass and while managing a spool or reel as a guideline underwater.
o. Demonstrate effective navigation using natural references.
p. Demonstrate proficiency in fundamental diver rescue techniques, including assessing a rescue scene, supporting and recovering distressed, tired, and unconscious divers at the surface, recovering an unconscious diver to the surface, and a range of simulated diving incidents.
q. Demonstrate proficiency in the use of the primary light, including passive and active communication.
r. Demonstrate proficiency with a primary light by handling it during all skills.

3.1.4.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)
b. One primary and one backup light
c. One primary reel per team (optional)

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.5 Master Diver

3.1.5.1 Course Outcomes

GUE's Master Diver course is a limited decompression course structured to prepare divers for deeper recreational diving while using sound equipment, efficient diving skills, and advanced breathing mixtures. Course outcomes include, but are not limited to: skill cultivation and refinement; knowledge of relevant physics and physiology; familiarity with the theory and practice of decompression; correct ascent procedures; the use of the GUE double tank configuration; the use of nitrox for decompression; the use of helium-enriched breathing mixes to minimize narcosis, CO_2, gas density, and post-dive "nitrogen stress;" and the use of a single decompression stage for accelerated decompression techniques.

3.1.5.2 Prerequisites

Applicants for a Master Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Advanced Open Water Diver or GUE Fundamentals certification.
c. Have conducted at least 25 non-training dives following completion of GUE Advanced Open Water Diver or GUE Basic Fundamentals[2].
d. Have conducted at least 75 non-training dives following completion of autonomous scuba diver certification.
e. Have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
f. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.5.3 Course Content

The Master Diver course is normally conducted over five days. It requires a minimum of eight dives (including two trimix experience dives) and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.5.4 Master Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 130 ft/40 m.
c. No overhead diving.

[2] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

d. Dives must not be planned to incur more than 15 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.

3.1.5.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.5.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Applied diving physics
c. Applied diving physiology
d. Introduction to normoxic trimix
e. Narcosis
f. Gas density
g. Carbon dioxide
h. Oxygen limitations
i. Dive planning, gas management, and logistics
j. Decompression dynamics and theory
k. Decompression practices while using nitrox
l. Decompression planning using decompression tables and DecoPlanner
m. Decompression illness
n. GUE equipment configuration

3.1.5.7 Land Drills and Topics

a. Dive team order and protocols
b. GUE EDGE and pre-dive drill sequence, including gas analysis
c. Valve management, including failure procedures
d. Descent, ascent, and decompression protocols
e. Decompression cylinder set-up
f. Gas-switch procedure
g. Unconscious/toxing diver rescue

3.1.5.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Master Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.

d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
i. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
j. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
k. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
l. Demonstrate proficiency in managing gas-sharing scenarios, including a gas-sharing horizontal swim and a direct ascent while managing decompression obligations.
m. Demonstrate proficiency in the use of the primary light, including passive and active communication.
n. Demonstrate proficiency with a single decompression cylinder.
o. Demonstrate proficiency in valve management by conducting a GUE valve drill.
p. Demonstrate proficiency in proper ascents and descents, utilizing variable ascent rates and safe gas switching procedures.
q. Demonstrate proficiency in surfacing an unconscious diver from depth.

3.1.5.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and one backup light
b. One decompression stage with stage regulator
c. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.6 GUE Performance Diver

3.1.6.1 Course Outcomes

The GUE Performance Diver course is designed to cultivate the foundational skills required by sound diving practice. Included among its course outcomes are: to provide the recreational diver

with an opportunity to advance their basic diving skills, to train divers in the theory and practical use of nitrox, and to provide non-GUE trained divers with a gateway into GUE training.

3.1.6.2 Prerequisites

Applicants for a GUE Performance Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 12 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold an autonomous scuba diver certification from a recognized training agency.
c. If using doubles during the course, have conducted at least 10 non-training dives in the GUE double tank configuration or hold a GUE Doubles Primer certification.
d. If using a drysuit during the course, have conducted at least 10 non-training dives in a drysuit or hold a GUE Drysuit Primer certification.

3.1.6.3 Course Content

The GUE Performance Diver course is normally conducted over two days. It requires a minimum of four dives and at least sixteen hours of in-person instruction, encompassing land drills and in-water work. Additional time is required for theory (conducted online and/or in-person).

3.1.6.4 GUE Performance Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drills or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Can be run with one trainee.
c. Maximum depth of 60 ft/18 m.
d. No overhead diving.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.6.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.6.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Building a solid skill base: buoyancy, trim, balance, and propulsion
c. Fundamental diving skills
d. Streamlining and equipment configuration
e. Situational awareness
f. Basic gas management and dive planning
g. Nitrox diving
h. Introduction to minimum decompression procedures
i. The GUE system

3.1.6.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly
b. Propulsion and maneuvering techniques
c. Gas analysis
d. GUE EDGE and pre-dive checks
e. Basic 5 scuba skills
f. S-drill
g. Dive team protocols

3.1.6.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Performance Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate reasonable buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
k. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement.
l. Comfortably demonstrate how to donate gas to an out-of-gas diver followed by a controlled ascent to the surface.

3.1.6.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, excluding:

a. Wrist-mounted compass
b. Backup mask
c. Surface marker buoy (SMB) with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.7 GUE Basic Fundamentals

3.1.7.1 Course Outcomes

The GUE Basic Fundamentals course is designed to cultivate the essential skills required for sound diving practice. Included among its course outcomes are: to provide the diver with an opportunity to enhance their diving skills in preparation for entering the technical GUE training path; to train divers in the theory and practice of nitrox; to provide divers with aspirations for more advanced diver training with the tools that will contribute to a greater likelihood of success; and to provide non-GUE trained divers with a gateway into GUE training.

3.1.7.2 Prerequisites

Applicants for a GUE Basic Fundamentals course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 14 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold an autonomous diver certification from a recognized training agency.
c. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or hold a GUE Doubles Primer certification.
d. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or hold a GUE Drysuit Primer certification.

3.1.7.3 Course Content

The GUE Basic Fundamentals course is normally conducted over three days. It requires a minimum of six dives and at least twenty-four hours of in-person instruction, encompassing land drills and in-water work. Additional time is required for theory (conducted online and/or in-person).

At the instructor's discretion, GUE Performance Divers may have a portion of their training counted toward GUE Basic Fundamentals qualification.

3.1.7.4 GUE Basic Fundamentals Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Two dives must be at a depth of at least 25 ft/8 m.
c. Maximum depth of 60 ft/18 m.
d. No overhead diving.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.7.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.7.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.7.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Building a solid skill base: buoyancy, trim, balance, and propulsion
c. Fundamental diving skills
d. Streamlining and equipment configuration
e. Situational awareness
f. Dive planning and gas management
g. Breathing gas overview
h. Nitrox diving
i. Decompression overview and minimum decompression procedures
j. Diving safety and accident prevention
k. The GUE system

3.1.7.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly
b. Propulsion and maneuvering techniques
c. Gas analysis
d. GUE EDGE and pre-dive checks
e. Basic 5 scuba skills
f. Dive team protocols
g. S-drill and valve drill
h. Surface marker buoy (SMB) deployment utilizing a spool
i. Ascent protocols

3.1.7.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Basic Fundamentals certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.

d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick and helicopter turn.
k. Demonstrate proficiency in two power kicks by swimming without stopping and while maintaining proper technique for at least 50 ft/15 m.
l. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement.
m. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
n. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
o. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by an ascent to the surface utilizing minimum decompression.
p. Demonstrate a comfortable demeanor while swimming without a mask in touch contact, followed by a switch to the backup mask.
q. Demonstrate an efficient valve drill.

3.1.7.9 Equipment Requirements

GUE single or double tank configuration as outlined in Appendix A

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.8 Navigation Primer

3.1.8.1 Course Outcomes

GUE's Navigation Primer is a course designed to teach divers basic underwater navigation techniques. Course outcomes include, but are not limited to: compass use and navigation (simple and complex), natural navigation, and managing a spool as a guideline underwater. It includes reduced ambient light conditions dive (e.g., night dive).

This course is recommended to be taken before Rescue Primer, as the latter requires competence in navigational skills.

3.1.8.2 Prerequisites

Applicants for a Navigation Primer course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 15 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[3] certification.
d. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
e. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.8.3 Course Content

The Navigation Primer is normally conducted over two days. It requires a minimum of three dives (including a dive in reduced ambient light conditions) and at least sixteen hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.8.4 Navigation Primer Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 60 ft/18 m.
c. No overhead diving.
d. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.8.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.8.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Underwater navigation and situational awareness
c. Natural navigation

[3] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

d. Compass, including types, components, and basics of use
e. Guideline use in navigational and search patterns

3.1.8.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly, GUE EDGE, and pre-dive checks
b. Compass navigation, including simple and complex and multiple-bearings navigation
c. Guideline use and search patterns
d. Surface marker buoy (SMB) deployment utilizing a spool

3.1.8.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Navigation Primer certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, including the implementation of variable ascent rates.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
k. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
l. Demonstrate proficiency in the use of the primary light, including passive and active communication.
m. Demonstrate effective navigation using a compass, including simple and complex navigation and multiple-bearings navigation.
n. Demonstrate effective use of a spool or reel as a guideline underwater.
o. Demonstrate effective navigation using natural references.

3.1.8.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. One primary and one backup light
b. One primary reel or additional spool per team

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.9 Rescue Primer

3.1.9.1 Course Outcomes

GUE's Rescue Primer is a course designed to teach divers basic rescue techniques relevant to scuba diving emergencies. Course outcomes include, but are not limited to: assisting a distressed diver on the surface; assisting a distressed diver underwater, including unconscious diver recovery; missing diver protocols; surface management of a diving emergency; and diving basic life support (BLS) skills for DCI.

3.1.9.2 Prerequisites

Applicants for a Rescue Primer course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 15 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[4] certification.
d. Have completed basic life support (BLS) training from a recognized training agency within the twenty-four months prior to the start of the class.
e. Have completed and passed GUE Navigation Primer or show competency in advanced compass and natural navigation, including using a spool or reel as a guideline.
f. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
g. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

[4] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

3.1.9.3 Course Content

The Rescue Primer is normally conducted over two days. It requires a minimum of four in-water sessions (including three dives) and at least sixteen hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.9.4 Rescue Primer Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 60 ft/18 m.
c. No overhead diving.
d. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.9.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.9.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Diving safety, accident dynamics and prevention
c. Scuba diving rescue techniques
d. Emergency management
e. DCI and other diving related injuries
f. Scuba diving related BLS skills

3.1.9.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly, GUE EDGE, and pre-dive checks
b. Swimming and non-swimming surface assists
c. Basic 5 rescue skills
d. Egression techniques
e. Controlling a distressed diver on surface and underwater
f. Underwater search patterns
g. Unconscious diver rescue
h. Surface marker buoy (SMB) deployment utilizing a spool (if teaching to GUE Performance Divers without GUE Navigation Primer certification)

3.1.9.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Rescue Primer certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.

b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, including the implementation of variable ascent rates.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
k. Demonstrate the ability to connect and disconnect the drysuit inflation hose (if using a drysuit).
l. Demonstrate the ability to manage a drysuit inflation valve that is stuck in the open position (if using a drysuit).
m. Efficiently and comfortably demonstrate how to manage a freeflow that leads to out-of-gas.
n. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
o. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
p. Demonstrate effective navigation using a compass and managing a spool as a guideline underwater.
q. Demonstrate proficiency in fundamental diver rescue techniques, including assessing a rescue scene, supporting and recovering distressed, tired, and unconscious divers at the surface, recovering an unconscious diver to the surface, and a range of simulated diving incidents.

3.1.9.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. One primary and one backup light

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.10 Deep Primer

3.1.10.1 Course Outcomes

GUE's Deep Primer is a course structured to prepare divers for deeper recreational diving with the option to use triox as a breathing gas. Course outcomes include, but are not limited to: skill cultivation and refinement, familiarity with the theory and practice of decompression, correct ascent procedures utilizing an SMB, and the optional use of helium to minimize narcosis, CO_2, gas density, and post-dive "nitrogen stress".

3.1.10.2 Prerequisites

Applicants for a Deep Primer course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 15 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[5] certification.
d. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
e. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.10.3 Course Content

The Deep Primer is normally conducted over two days. It requires a minimum of four dives and at least sixteen hours of instruction, encompassing lectures, land drills, and in-water work.

If combined with a GUE Fundamentals course, Deep Primer can be conducted over one additional day. It then requires a minimum of two additional dives and at least eight additional hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.10.4 Deep Primer Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 100 ft/30 m.
c. No overhead diving unless taught as part of a Cave Diver Level 1 or 2 course, as per the Deep Primer Instructor Guidelines document.
d. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

[5] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

e. Divers wishing to use triox as a breathing gas must successfully conduct at least two dives while using triox.
f. Can be combined with GUE Fundamentals as per the Deep Primer Instructor Guidelines document.

3.1.10.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.10.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Breathing gas overview
c. Dive planning, gas management, and logistics
d. Introduction to triox
e. Decompression overview and minimum decompression procedures

3.1.10.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly, GUE EDGE, and pre-dive checks
b. Gas analysis
c. Ascent drill
d. Surface marker buoy (SMB) deployment utilizing a spool (if teaching to GUE Performance Divers without GUE Navigation Primer certification)

3.1.10.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Deep Primer certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, including the implementation of variable ascent rates.

i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
k. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
l. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
m. Demonstrate proficiency in managing gas-sharing scenarios, including a direct ascent while managing minimum decompression obligations
n. Demonstrate proficiency with a primary light by handling it during all skills .

3.1.10.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)
b. One primary and one backup light

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.11 Doubles Primer

3.1.11.1 Course Outcomes

GUE's Doubles Primer is a course designed to teach divers how to safely and comfortably dive the GUE double tank configuration using proper equipment and techniques. Course outcomes include, but are not limited to: buoyancy and trim practice and refinement, familiarity with the theory and use of the GUE double tank configuration, the GUE equipment configuration, and valve management.

3.1.11.2 Prerequisites

Applicants for a Doubles Primer course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold an autonomous scuba diver certification from a recognized training agency.
c. If using nitrox during the course, hold a nitrox certification from a recognized training agency or have completed the online GUE nitrox module.
d. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.11.3 Course Content

The Doubles Primer is normally conducted over one day. It requires a minimum of two dives and at least eight hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.11.4 Doubles Primer Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Can be run with one trainee.
c. Maximum depth of 60 ft/18 m.
d. No overhead diving.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.11.5 Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.11.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Double tank introduction, tanks/cylinders and bands, manifolds
c. Regulators, depth gauges, pressure gauges, and hose routing
d. Nitrox diving (optional)
e. Buoyancy and trim
f. Pre-dive sequence and GUE EDGE
g. Situational awareness

3.1.11.7 Land Drills and Topics

a. Equipment fit and function, assembly and disassembly
b. Gas analysis and labeling
c. GUE EDGE and pre-dive sequence
d. Basic 5 scuba skills
e. Valve drill
f. Dive team protocols

3.1.11.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Doubles Primer certification:

a. Demonstrate a safe and responsible demeanor throughout all training.
b. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
c. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.

d. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
e. Demonstrate proficiency in underwater communication.
f. Demonstrate safe ascent and descent procedures.
g. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
h. Comfortably demonstrate at least one propulsion technique that would be appropriate in a delicate and/or silty environment.
i. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement
j. Demonstrate an efficient valve drill with double tanks.

3.1.11.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, excluding:

a. Backup mask
b. Surface marker buoy (SMB) with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.12 Drysuit Primer

3.1.12.1 Course Outcomes

GUE's Drysuit Primer is a course designed to prepare divers for drysuit diving using proper equipment and techniques. Course outcomes include, but are not limited to: buoyancy and trim practice and refinement; types, fitting, and use of a drysuit, drysuit inflation system and undergarments; cold water diving specifics; and basic failures related to drysuit diving.

3.1.12.2 Prerequisites

Applicants for a Drysuit Primer course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold an autonomous scuba diver certification from a recognized training agency.
c. If using nitrox during the course, hold a nitrox certification from a recognized training agency or have completed the online GUE nitrox module.
d. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.

3.1.12.3 Course Content

The Drysuit Primer is normally conducted over one day. It requires a minimum of two dives and at least eight hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.12.4 Drysuit Primer Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drills or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Can be run with one trainee.
c. Maximum depth of 60 ft/18 m.
d. No overhead diving.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.12.5 Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.12.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. GUE equipment configuration
c. Drysuit introduction and selection
d. Undergarment selection
e. Drysuit inflation system
f. Nitrox diving (optional)
g. Cold water equipment considerations, dive planning, and logistics
h. Pre-dive sequence
i. Situational awareness
j. Trim and buoyancy
k. Drysuit maintenance and field repairs

3.1.12.7 Land Drills and Topics

a. Equipment fit and function, assembly and disassembly
b. Gas analysis and labeling
c. GUE EDGE and pre-dive sequence
d. Dive team protocols and communication
e. Underwater drysuit failure management

3.1.12.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Drysuit Primer certification:

a. Demonstrate a safe and responsible demeanor throughout all training.

b. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
c. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
d. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
e. Demonstrate proficiency in underwater communication.
f. Demonstrate safe ascent and descent procedures.
g. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
h. Comfortably demonstrate at least one propulsion technique that would be appropriate in a delicate and/or silty environment.
i. Demonstrate the ability to connect and disconnect the drysuit inflation hose.
j. Demonstrate the ability to manage a drysuit inflation valve that is stuck in the open position.

3.1.12.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Drysuit and appropriate undergarment
b. Drysuit inflation system independent from back gas cylinders (optional)

Excluding:

a. Backup mask
b. Surface marker buoy (SMB) with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.13 Diver Propulsion Vehicle Level 1

3.1.13.1 Course Outcomes

GUE's Diver Propulsion Vehicle (DPV) Level 1 course is designed to introduce divers to the skills and knowledge required to safely use underwater propulsion vehicles in open water. Other course outcomes include: knowledge of the basic principles of DPV diving, dive planning, teamwork while using a DPV, environmental and conservation awareness, stress management, navigation, standard and emergency procedures, DPV maintenance and troubleshooting, and the potential hazards of diving with a DPV.

3.1.13.2 Prerequisites

Applicants for a DPV 1 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.

b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 25 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[6] certification.
d. Have conducted at least 75 non-training dives following completion of autonomous scuba diver certification.
e. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
f. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.13.3 Course Content

The Diver Propulsion Vehicle Level 1 course is normally conducted over three days. It requires a minimum of five dives and at least twenty-four hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.13.4 Diver Propulsion Vehicle Level 1 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 100 ft/30 m or the limit of the student's certification, whichever is shallower.
c. No overhead diving.
d. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.1.13.5 Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.13.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Equipment considerations
c. DPV components
d. DPV maintenance
e. Surface marker buoys and spools (for deco platforms)
f. Dive and operational planning
g. Team planning and procedures
h. Gas planning, gas matching, and gas management

[6] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

i. Safety considerations while using a DPV
j. Considerations for managing and stowing a DPV while not in use

3.1.13.7 Land Drills and Topics

a. Proper position while using a DPV
b. Runaway DPV
c. Dive team order and protocols
d. Basic navigation skills
e. Pre-dive drills
f. Surface marker buoy (SMB) deployment utilizing a spool

3.1.13.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Diver Propulsion Vehicle Level 1 certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication while using a DPV.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick.
k. Demonstrate proficiency adjusting buoyancy while using a DPV.
l. Demonstrate effective use of compass and navigation.
m. Demonstrate ability to match speeds with team members.
n. Demonstrate ability to tow a diver with a non-functional DPV.
o. Demonstrate control while dealing with a runaway DPV.
p. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
q. Demonstrate proficiency with a primary light by handling it during all skills .
r. Demonstrate familiarity with required course equipment.
s. Demonstrate proficiency in managing gas-sharing scenarios.

t. Demonstrate proficiency in effective decompression techniques, including depth and time management.

3.1.13.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. One primary light
b. One GUE-approved DPV

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.14 Documentation Diver

3.1.14.1 Course Outcomes

GUE's Documentation Diver course is designed to introduce divers to sound documentation techniques that are useful in project-based diving. Other course outcomes include: basic training in photography/videography, the use of related equipment, specific team skills needed during documentation diving, specific communication requirements, establishment of clear objectives and work plans, management of team tasks, how to create a report, how to map, survey, and prepare material for media publication.

3.1.14.2 Prerequisites

Applicants for a Documentation Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 25 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[7] certification.
d. Have conducted at least 75 non-training dives following completion of autonomous scuba diver certification.
e. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
f. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.
g. Students participating in a Documentation Diver course conducted in an overhead environment must hold a GUE Cave Diver Level 2 certification.

[7] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

h. Students participating in a Documentation Diver course conducted using a rebreather must have conducted at least 25 rebreather dives following completion of GUE Passive Semi-Closed Circuit Rebreather Diver or GUE Closed-Circuit Rebreather Technical Diver Level 1 certification.

3.1.14.3 Course Content

The Documentation Diver course is normally conducted over four days. It requires a minimum of four dives and at least thirty-two hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.14.4 Documentation Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 8:1 during land drill or surface exercises; it cannot exceed 4:1 during any in-water training.
b. Maximum depth of 100 ft/30 m or the limit of the student's certification, whichever is shallower.
c. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor, plus:
    i. Student-to-instructor ratio is reduced to 6:1 during land drills and surface exercises; it cannot exceed 3:1 during any in-water training.
    ii. Dives must be conducted within Cave 1 limits but may be extended to Cave 2 limits if all students have conducted 25 non-training Cave 2 dives following completion of GUE Cave 2 certification.
e. No rebreather diving except when taught by an Active GUE CCR-T1 or an Active GUE PSCR instructor for the respective unit being used during class, plus:
    i. All students must be GUE certified for the rebreather being used during class.
    ii. No rebreather diving in overhead environments except when all students are GUE CCR Cave certified and the course is taught by an Active GUE CCR Cave instructor.

3.1.14.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.14.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Project planning and management
c. Photo equipment specifics
d. Video equipment specifics
e. Camera techniques
f. Composition
g. Lighting techniques
h. Survey and mapping tools
i. Mapping and survey skills

j. Dive planning specific for documentation diving
k. Operational planning
l. Support materials
m. Team responsibilities, planning, and diving
n. Building and organizing a media database
o. Basics of editing video and photo material
p. Preparing materials for publishing
q. Publishing and uploading a complete project report

3.1.14.7 Land Drills and Topics

a. Photo camera preparation and maintenance
b. Video camera preparation and maintenance
c. Survey and mapping
d. Composition practice
e. Dive team order and protocols
f. Use of spools and reels
g. Basic navigational skills
h. Visual referencing skills
i. Pre-dive drills
j. Surface marker buoy (SMB) deployment utilizing a spool (if teaching to GUE Performance Divers without GUE Navigation Primer certification)

3.1.14.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Documentation Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Demonstrate proficiency adjusting buoyancy while managing camera equipment.
k. Demonstrate effective use of compass and navigation.

l. Demonstrate familiarity with required course equipment.
m. Demonstrate the ability to capture predetermined imagery underwater.
n. Demonstrate the ability to draw a map underwater.
o. Demonstrate the ability to accurately record data underwater.
p. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
q. Demonstrate proficiency in reel, spool, and guideline use.

3.1.14.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Photographic equipment: any digital photo camera suitable for underwater photography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater flash is highly recommended (if not available, underwater video lights may be suitable). Manual adjustment (aperture/shutter) on the camera is preferred.
b. Video equipment: any digital video camera suitable for underwater videography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater video lighting system is highly recommended. Manual adjustment (aperture/shutter) on the video camera and a wide-angle lens with adapter is preferred.
c. Computer system: any Windows or Mac-based computer (preferably a laptop) with software designed for video and photo editing, an internet connection, and word-processing software installed.
d. One primary reel per team
e. For classes conducted using rebreathers, a GUE CCR or GUE PSCR configuration must be used.
f. For classes conducted in a cave environment, exclude:

    i. Surface marker buoy with spool

    and students must utilize the GUE double tank configuration (except when conducted using GUE CCR or GUE PSCR configurations) and must additionally carry:

    i. One primary and two backup lights
    ii. One safety spool
    iii. At least six line markers; three directional and three non-directional

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.15 Photogrammetry Diver

3.1.15.1 Course Outcomes

GUE's Photogrammetry Diver course is designed to introduce divers to the skills and procedures for using underwater photogrammetry to make digital 3D models of dive sites.

3.1.15.2 Prerequisites

Applicants for a Photogrammetry Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 25 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[8] certification.
d. Have conducted at least 75 non-training dives following completion of autonomous scuba diver certification.
e. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
f. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.
g. Students participating in a Photogrammetry Diver course conducted in an overhead environment must hold a GUE Cave Diver Level 2 certification.
h. Students participating in a Photogrammetry Diver course conducted using a rebreather must have conducted at least 25 rebreather dives following completion of GUE Passive Semi-Closed Circuit Rebreather Diver or GUE Closed-Circuit Rebreather Technical Diver Level 1 certification.

3.1.15.3 Course Content

The Photogrammetry Diver course is normally conducted over four days. It requires a minimum of three dives and at least thirty-two hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.15.4 Photogrammetry Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 8:1 during land drill or surface exercises; it cannot exceed 4:1 during any in-water training.
b. Maximum depth of 100 ft/30 m or the limit of the student's certification, whichever is shallower.
c. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor, plus:
    i. Student-to-instructor ratio is reduced to 6:1 during land drills and surface exercises; it cannot exceed 3:1 during any in-water training.

[8] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

ii. Dives must be conducted within Cave 1 limits but may be extended to Cave 2 limits if all students have conducted 25 non-training Cave 2 dives following completion of GUE Cave 2 certification.

e. No rebreather diving except when taught by an Active GUE CCR-T1 or an Active PSCR instructor for the respective unit being used during class, plus:
   i. All students must be GUE certified for the rebreather being used during class.
   ii. No rebreather diving in overhead environments except when all students are GUE CCR Cave certified and the course is taught by an Active GUE CCR Cave instructor.

3.1.15.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.15.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations).
b. Photogrammetry basics
c. Photo equipment specifics
d. Video equipment specifics
e. Processing of images using Agisoft Metashape
f. Post-processing, publishing, and uploading of 3D projects

3.1.15.7 Land Drills and Topics

a. Photo camera preparation and maintenance
b. Video camera preparation and maintenance
c. Photogrammetry with still images
d. Photogrammetry with video images
e. Lighting and lighting-diver positioning

3.1.15.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Photogrammetry Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.

f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth
j. Demonstrate proficiency in adjusting buoyancy while managing camera equipment.
k. Demonstrate familiarity with required course equipment.
l. Demonstrate the ability to capture predetermined imagery underwater.

3.1.15.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. Photographic equipment: any digital photo camera suitable for underwater photography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater flash is highly recommended (if not available, underwater video lights may be suitable). Manual adjustment (aperture/shutter) on the camera is preferred.
b. Video equipment: any digital video camera suitable for underwater videography, preferably in a housing and able to sustain a minimum water pressure of 100 ft/30 m. An underwater video lighting system is highly recommended. Manual adjustment (aperture/shutter) on the video camera and a wide-angle lens with adapter is preferred.
c. Computer system: any Windows or Mac-based computer with Agisoft Metashape software (Demo, Standard, or Pro version) installed.
d. For classes conducted using rebreathers, a GUE CCR or GUE PSCR configuration must be used.
e. For classes conducted in a cave environment, exclude:

    i. Surface marker buoy with spool

    and students must utilize the GUE double tank configuration (except when conducted using GUE CCR or GUE PSCR configurations) and must additionally carry:

    i. One primary and two backup lights
    ii. One safety spool
    iii. One primary reel per team
    iv. At least six line markers; three directional and three non-directional

Prior to the commencement of class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.16 Scientific Diver

3.1.16.1 Course Outcomes

GUE's Scientific Diver course is designed to create divers who are capable of acting as a member of a scientific diving team using proper equipment and techniques. Upon course completion, students will also possess a basic knowledge and understanding of legalities and responsibilities relevant to scientific diving. Other course outcomes include: competence with search methods and survey methods, both surface and sub-surface; ability to accurately locate and mark both objects and sites; basic use of lift bags and airlifts to be used in controlled lifts, excavations, and sampling; basic rigging and line work, including the construction and deployment of transects and search grids; underwater navigation methods using suitable techniques; recording techniques; acting as surface tender for a roped diver; and using appropriate sampling techniques for the scientific discipline being pursued.

3.1.16.2 Prerequisites

Applicants for a Scientific Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification.
c. Have conducted at least 25 non-training dives following completion of either GUE Open Water Diver, GUE Performance Diver, or GUE Basic Fundamentals[9] certification.
d. If using doubles during the course, have conducted at least 15 non-training dives in the GUE double tank configuration or have conducted 10 dives utilizing doubles following completion of GUE Doubles Primer certification.
e. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.1.16.3 Course Content

The Scientific Diver course is normally conducted over five days. It requires a minimum of six dives and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

3.1.16.4 Scientific Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1.
b. Maximum depth of 100 ft/30 m or the limit of the student's certification, whichever is shallower.
c. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
d. No overhead diving.

[9] Including GUE Fundamentals with Recreational rating issued under past versions of Standards.

3.1.16.5 Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.16.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations).
b. Course overview
c. History of scientific diving
d. Citizen science
e. Project Baseline
f. The scientific method
g. Ethics in science
h. Underwater sciences: biology, archaeology, geology, and hydrology
i. Methods: tools of the trade, site marking, sketching, transects and baselines, quadrats, photomosaics, visual and video census
j. Dive planning and data management: project planning, data management, database use, reporting

3.1.16.7 Land Drills and Topics

a. Site marking and assessment: review of basic navigation skills, line work (reels and spools), line survey
b. Methodology: acting as tender for roped diver, site sketch, mark and measure, baseline/transect, photoquadrats, photomosaic, video and visual census, offset measures, density cover, drawing grids
c. Data management: archiving data, drafting a map, site report

3.1.16.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Scientific Diver certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.

h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within a range of 5 ft/1.5 m from target depth.
j. Comfortably demonstrate at least three propulsion techniques that would be appropriate in a delicate and/or silty environment, including comprehension of the components necessary for a successful backward kick..
k. Demonstrate a pendulum search while acting as surface tender for roped diver.
l. Demonstrate proficiency in marking and measuring organisms, artifacts, and other objects.
m. Demonstrate proficiency in the use of tools, including airlifts and lift bags.
n. Demonstrate proficiency in multiple mapping methods, including a sketch using a circular or radial search, assembly of a sampling grid, and offsets/ triangulations.
o. Demonstrate proficiency in estimating abundance/coverage through visual census (while swimming or stationary), the photoquadrat method, estimated percent coverage (either with square or with transect), and video transects (either swimming or stationary).
p. Demonstrate proficiency in establishing transects with a tape measure or with a reel/spool.

3.1.16.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A, plus:

a. At least one additional spool
b. One reel per team
c. Ruler of 10 to 20 in/25 to 50 cm
d. Grid/graph paper
e. One laptop per team
f. Two underwater cameras (ideally GoPro) per team
g. Tape measure with a minimum length of 5 ft/1.5 m
h. Tape measure with a minimum length of 100 ft/30 m

Prior to the commencement of class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.1.17 Gas Blender

3.1.17.1 Course Outcomes

GUE's Gas Blender course is designed to introduce students to the essential skills required for blending diving gases (nitrox and helium-based breathing gases). Training includes the theory of gas blending as well as practical skills required for blending breathing gas mixtures.

3.1.17.2 Prerequisites

Applicants for a Gas Blender course must abide by Training Prerequisites (2.1.4.1), except:

a. Hold insurance that will cover diving emergencies such as hyperbaric treatment, e.g., DAN Master-level insurance or equivalent.

Plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.

3.1.17.3 Course Content

The Gas Blender course is normally conducted over one day. It requires at least eight hours of academics and practical skills application.

3.1.17.4 Gas Blender Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1
b. Can be run with one trainee

3.1.17.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.1.17.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Gas properties
c. Gas physics
d. GUE Standard Gases
e. Pressure hazards
f. Oxygen hazards and oxygen service
g. Blending systems
h. Practical blending
i. Blending formulas and software
j. Cascading
k. Gas boosters
l. Gas analysis and record keeping

3.1.17.7 Practical Skills Topics

a. Analyzing
b. Field calculations
c. Partial pressure nitrox and trimix blending
d. Continuous flow/membrane blending (when available)
e. Remixing
f. Use of gas booster (when available)

3.1.17.8 Required Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Gas Blender certification:

a. Demonstrate proficiency in gas blending calculations, including remixes.
b. Demonstrate safe and accurate gas blending practices (within +/- 1% O_2, +/- 3% He).
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate accurate gas analysis, marking, and logging.

3.1.17.9 Equipment Requirements

a. Appropriate cylinders to blend gases into
b. Partial pressure filling equipment for both oxygen and helium
c. Compressor or banked HP air
d. Continuous flow or membrane nitrox system (optional)
e. Gas booster (optional)
f. Nitrox and trimix analyzer
g. GUE gas analysis tape
h. Computer with GUE Gas Management Program software

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2 Technical and Cave Diver Curriculum

3.2.1 GUE Technical Fundamentals

3.2.1.1 Course Outcomes

The GUE Technical Fundamentals course is designed to cultivate the essential skills required for sound technical and cave diving practice. Included among its course outcomes are: to provide the advanced diver with an opportunity to enhance their diving skills in preparation for entering GUE technical and cave training; to train divers in the theory and practice of nitrox; to provide divers with aspirations for more advanced diver training with the tools that will contribute to a greater likelihood of success; and to provide non-GUE trained divers with a gateway into GUE technical and cave training.

3.2.1.2 Prerequisites

Applicants for a GUE Technical Fundamentals course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 16 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a certification from a recognized training agency to dive to 100 ft/30 m or a GUE Deep Primer certification.
c. Have conducted at least 75 non-training dives following completion of autonomous scuba diver certification. At least 25 of these must have been at a depth of at least 70 ft/21 m.

d. Have conducted at least 25 non-training dives in a double tank configuration or have conducted 15 non-training dives utilizing doubles following completion of GUE Doubles Primer certification.
e. If using a drysuit during the course, have conducted at least 15 non-training dives in a drysuit or have conducted 10 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.1.3 Course Content

The GUE Technical Fundamentals course is normally conducted over four days. It requires a minimum of eight dives and at least thirty-two hours of in-person instruction, encompassing land drills and in-water work. Additional time is required for theory (conducted online and/or in-person).

At the instructor's discretion, GUE Performance Divers and GUE Basic Fundamentals divers may have a portion of their training counted toward GUE Technical Fundamentals qualification.

3.2.1.4 GUE Technical Fundamentals Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Two dives must be at a depth of at least 40 ft/12 m.
c. Maximum depth of 100 ft/30 m.
d. No overhead diving.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.

3.2.1.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.1.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Building a solid skill base: buoyancy, trim, balance, and propulsion
c. Fundamental diving skills
d. Streamlining and equipment configuration
e. Situational awareness
f. Dive planning and gas management
g. Breathing gas overview
h. Nitrox diving
i. Decompression overview and minimum decompression procedures
j. Diving safety and accident prevention
k. The GUE system

3.2.1.7 Land Drills and Topics

a. Equipment fit, assembly and disassembly

b. Propulsion and maneuvering techniques
c. Gas analysis
d. GUE EDGE and pre-dive checks
e. Basic 5 scuba skills
f. Dive team protocols
g. S-drill and valve drill
h. Backup light deployment
i. Surface marker buoy (SMB) deployment utilizing a spool
j. Ascent protocols
k. Diver rescue techniques, including unconscious diver lift

3.2.1.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Technical Fundamentals certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE double tank configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures from a depth greater than 40 ft/12 m.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick and helicopter turn.
k. Demonstrate proficiency in two power kicks by swimming without stopping and while maintaining proper technique for at least 50 ft/15 m.
l. Demonstrate aptitude in the following open water skills: regulator removal, regulator exchange, long hose deployment, mask clearing, mask removal and replacement.
m. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
n. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
o. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by swimming in touch contact.

p. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by an ascent with at least two stops to the surface utilizing minimum decompression while using a surface marker buoy and spool.
q. Demonstrate a comfortable demeanor while swimming without a mask in touch contact, followed by a switch to the backup mask.
r. Demonstrate an efficient valve drill with double tanks.
s. Demonstrate proficiency with a primary corded light by handling it during all skills.
t. Demonstrate proficiency with backup light deployment.
u. Demonstrate proficiency with diver rescue techniques, including effective management of an unconscious diver underwater.

3.2.1.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary light and two backup lights

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.2 Technical Diver Level 1

3.2.2.1 Course Outcomes

GUE's Technical Diver Level 1 course is designed to prepare divers for the rigors of technical diving and to familiarize them with the use of different breathing and decompression mixtures. Additional course outcomes include: cultivating, integrating, and expanding the essential skills required for safe technical diving; problem identification and resolution; the use of a double tank configuration and the potential failure problems associated with it; the use of nitrox for accelerated and general decompression strategies; the use of helium to minimize narcosis; and the applications of single decompression stage diving with respect to decompression procedures.

3.2.2.2 Prerequisites

Applicants for a Tech 1 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Technical Fundamentals[10] certification.
c. Have conducted at least 100 non-training dives following completion of autonomous scuba diver certification.
d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

[10] Including GUE Fundamentals with Technical rating issued under past versions of Standards.

e. Students participating in a Tech 1 course conducted in a cave environment must have conducted 25 Cave 2 level dives following completion of GUE Cave Diver Level 2 certification.

3.2.2.3 Course Content

The Technical Diver Level 1 course is normally conducted over six days. It requires a minimum of seven dives (including three trimix experience dives) and at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work.

3.2.2.4 Technical Diver Level 1 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 170 ft/51 m.
c. Dives must not be planned to incur more than 30 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor.
e. Students passing a Tech 1 course conducted in a cave environment will be awarded a GUE Technical Diver Level 1 (Cave) certification.
f. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.2.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.2.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Dive planning, minimum gas, gas strategies, and gas management
c. Gas properties: breathing gases, oxygen, narcosis, and hypercapnia
d. Decompression theory: history, overview, and decompression sickness
e. Practical decompression: general guidelines, DecoPlanner, ratio deco, and other considerations
f. Emergencies: accident prevention and management

3.2.2.7 Land Drills and Topics

a. Reel and guideline use
b. Dive team formation, communication, and protocols
c. Back gas regulators/valve failure modes and management
d. Decompression cylinder set up
e. Gas switch procedures
f. Decompression cylinder failure protocols

g. Unconscious diver recovery
h. Decompression gas sharing

3.2.2.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Technical Diver Level 1 certification:

a. Must be able to swim at least 400 yds/375 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, utilizing variable ascent rates and safe gas switching procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate proficiency in gas failure procedures, including valve manipulation (fixable, non-fixable, and erroneous failures), gas sharing, and regulator switching as appropriate.
l. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool (except if Tech 1 training is conducted in a cave environment).
m. Demonstrate proficiency in switching to a backup mask.
n. Demonstrate proficiency in switching to a backup light.
o. Demonstrate familiarity with required course equipment.
p. Demonstrate proficiency in managing gas-sharing scenarios, including gas sharing on the bottom, gas sharing during ascent, and sharing decompression gas.
q. Demonstrate proficiency with a single decompression cylinder.
r. Demonstrate proficiency in effective decompression techniques, including depth and time management.
s. Demonstrate diver rescue techniques, including effective underwater management of an unconscious diver.
t. Demonstrate the ability to manage a failed decompression cylinder using available team resources.

3.2.2.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and two backup lights
b. One decompression stage with stage regulator
c. One primary reel per team
d. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)
e. For classes conducted in a cave environment, exclude:

    i. Surface marker buoy with spool

    and students must additionally carry:

    i. One safety spool
    ii. At least two jump spools
    iii. At least twelve line markers; six directional and six non-direction

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.3 Technical Diver Level 2

3.2.3.1 Course Outcomes

GUE's Technical Diver 2 course is designed to enhance deep diving proficiency while using helium breathing gases and oxygen-enriched decompression gases. Other course outcomes include: the use of multiple stages; the use of trimix with greater percentages of helium; use of hypoxic gas mixture protocols; gas management; oxygen management; extended decompression; accelerated, omitted, and general decompression strategies; dive planning; and management of multiple cylinders.

3.2.3.2 Prerequisites

Applicants for a Tech 2 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Technical Diver Level 1 certification.
c. Have conducted at least 25 non-training Tech 1 or CCR-T1 dives following completion of GUE Technical Diver Level 1 or GUE Closed-Circuit Rebreather Technical Diver Level 1[11] certification, whichever is applicable
d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

[11] Including GUE CCR 1 or GUE CCR issued under past versions of Standards.

e. Students participating in a Tech 2 course conducted in a cave environment must:
    i. Have conducted 25 Cave 2 level dives following completion of GUE Cave 2 certification.
    ii. Be at least GUE Technical Diver Level 1 or GUE Technical Diver Level 1 (Cave) certified with 25 dives conducted at that level.

3.2.3.3 Course Content

The Technical Diver Level 2 course is normally conducted over six days. It requires a minimum of seven dives (including three trimix experience dives) and at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work.

3.2.3.4 Technical Diver Level 2 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 250 ft/75 m.
c. Dives must not be planned to incur more than 90 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor.
e. Students passing a Tech 2 course conducted in a cave environment will be awarded a GUE Technical Diver Level 2 (Cave) certification.
f. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.3.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.3.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Advanced mixed gas diving including hypoxic protocols
c. Risks of decompression diving
d. Gas management during deep dives
e. Accelerated, omitted, and general decompression strategies
f. Deep diving logistics and planning

3.2.3.7 Land Drills and Topics

a. Dive team order and protocols
b. Stage leash set up
c. Gas switching procedures and protocols, including hypoxic protocol
d. Back gas and stage regulators/valve failure modes and management
e. Use of a bottom stage and multiple decompression stages (tank rotations)

f. Unconscious diver recovery
g. Decompression gas sharing

3.2.3.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Technical Diver Level 2 certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in proper ascents and descents, utilizing variable ascent rates and safe gas switching procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate proficiency in the ability to plan Tech 2 dives while accounting for environmental conditions, available gas, and required decompression.
l. Demonstrate clean and effective removal and exchange of multiple stage cylinders while hovering horizontally (tank rotations).
m. Demonstrate proficiency in gas failure procedures, including valve manipulation (fixable, non-fixable, and erroneous failures), gas sharing, and regulator switching as appropriate.
n. Demonstrate proficiency in managing gas-sharing scenarios, including gas sharing on the bottom, gas sharing during ascent, and sharing decompression gas.
o. Demonstrate proficiency in effective decompression techniques, including depth and time management, while also managing multiple gas switches and other tasks such as tank rotation skills.
p. Demonstrate diver rescue techniques, including effective underwater management of an unconscious diver.

3.2.3.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and two backup lights
b. Two decompression stages with stage regulators
c. One bottom stage with stage regulator
d. One primary reel per team
e. One stage leash
f. Drysuit inflation system independent from back gas cylinders (while breathing helium mixture, if using a drysuit)
g. For classes conducted in a cave environment, exclude:

    i. Surface marker buoy with spool

    and students additionally carry:

    i. One safety spool
    ii. At least two jump spools
    iii. At least twelve line markers; six directional and six non-directional

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.4 Technical Diver Level 3

3.2.4.1 Course Outcomes

GUE's Technical Diver Level 3 course is designed to enhance and extend deep diving proficiency. This training must occur on GUE-approved passive semi-closed circuit rebreathers or GUE-approved closed-circuit rebreathers and appropriate bottom and decompression breathing mixtures. Other course outcomes include deep diving with a DPV; the use of multiple stages/deco tanks; the use of trimix with high helium and low oxygen percentages; hypoxic-zone protocols; gas management; oxygen management; extended decompression; accelerated, omitted, and general decompression strategies; in-water recompression strategies; and advanced dive planning.

3.2.4.2 Prerequisites

Applicants for a Tech 3 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 2 certification[12] if utilizing a CCR during the course, or hold a GUE Passive Semi-Closed Circuit Rebreather Diver certification if utilizing a PSCR during the course.
c. Hold a GUE Diver Propulsion Vehicle Level 1 or GUE Diver Propulsion Vehicle Cave certification.

[12] Including GUE CCR 2 issued under past versions of Standards.

d. Have conducted at least 50 non-training Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification, whichever is applicable.
e. Have conducted at least 500 non-training dives following completion of autonomous scuba diver certification. At least 100 dives must have utilized the rebreather configuration that will be used during the Tech 3 course, and at least 25 of these must have been at a depth of at least 250 ft/75 m.

3.2.4.3 Course Content

The Technical Diver Level 3 course is normally conducted over four days (excluding academics, which are conducted online prior to in-person training). It requires a minimum of four dives (including three trimix experience dives) and at least thirty hours of instruction, encompassing lectures, land drills, and in-water work.

GUE CCR divers who hold certification under past versions of Standards will undergo an assessment of their CCR skills at the start of the course. The program is extended to seven days to encompass comprehensive training in CCR-T2 skills before advancing to Technical Diver Level 3 lectures, land-drills, and in-water work.

3.2.4.4 Technical Diver Level 3 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth is defined and limited by the insurance coverage of the participants and instructor(s).
    i. For courses where the diving insurance carried by all participants limits coverage to 330 ft/100 m, no diving activity is to exceed this limit. The instructor(s) must also carry relevant insurance to the appropriate depth.
    ii. For courses where the diving insurance carried by all participants limits coverage to 400 ft/120 m, no diving activity is to exceed this limit. The instructor(s) must also carry relevant insurance to the appropriate depth.
c. Dives must not be planned to incur more than 180 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.4.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.4.6 Academic Topics

a. Introduction: GUE project and exploration diving
b. Course overview (objectives, limits, expectations)
c. Extreme gas parameters, including hypoxic protocols with low oxygen content

d. Gas management during dives deeper than 300 ft/90 m:
    i. Thermal considerations
    ii. Gas properties, including HPNS
    iii. Deepwater CO_2 risks
e. Risks of decompression diving
    i. Accelerated, omitted, and general decompression strategies
    ii. In-water decompression sickness during ascent
f. Decompression consideration during dives deeper than 300 ft/90 m:
    i. In-water recompression
    ii. Decompression stations
g. Logistics and planning during dives deeper than 300 ft/90 m
h. Support teams and emergency management
i. Considerations for lost-at-sea scenarios
j. DPV considerations in deep diving

3.2.4.7 Land Drills and Topics

a. Protocols for in-water and surface teams
b. Gas switching procedures and protocols
c. Low oxygen content, including protocols with 10% or less O_2
d. Back gas, stage regulators, valve, and rebreather failures and management
e. Use of bottom stages and multiple decompression stages
f. Multiple rotation ascents
g. Unconscious diver recovery
h. Decompression gas sharing
i. Drop tank procedures and safety diver protocols

3.2.4.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Technical Diver Level 3 certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE CCR or PSCR equipment configuration used during training.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.

h. Demonstrate proficiency in proper ascents and descents while using a DPV and utilizing variable ascent rates and multiple tank rotations.
i. Demonstrate proficiency in conducting a bailout ascent while using a DPV and utilizing variable ascent rates, tank rotations, and multiple gas switches.
j. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
k. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
l. Demonstrate appropriate strength required to recover an unconscious diver and to manage all required dive equipment during water entry and exit.
m. Demonstrate proficiency in the ability to plan Tech 3 level dives while accounting for environmental conditions and logistics, available gas, and required decompression.
n. Demonstrate clean and effective removal and exchange of multiple stage cylinders while maintaining depth in a horizontal position (tank rotations).
o. Demonstrate proficiency in gas failure and rebreather failure procedures.
p. Demonstrate proficiency in managing gas-sharing scenarios, particularly gas management during the ascent.
q. Demonstrate proficiency in effective decompression techniques, including depth and time management, while also managing multiple gas switches and other tasks such as tank rotations.
r. Demonstrate diver rescue techniques, including effective underwater management of an unconscious diver.
s. Demonstrate proficiency in setting up drop tanks, briefing the surface team, and effectively receiving and deploying drop tanks.
t. Demonstrate proficiency in working with safety divers and a surface team as well as effectively receiving and deploying extra gas and managing tanks during decompression.

3.2.4.9 Equipment Requirements

GUE CCR or PSCR configuration as outlined in Appendix A, plus:

a. Five stages (bottom stages/decompression stages) with stage regulators
b. One primary reel per team
c. Three stage leashes
d. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture)
e. A minimum of 3 surface marker buoys (SMBs) and spools with appropriate line length to allow diver-to-surface communication
f. One GUE-approved DPV
g. At least one spare GUE-approved DPV per team

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.5 Passive Semi-Closed Circuit Rebreather Diver

3.2.5.1 Course Outcomes

GUE's Passive Semi-Closed Circuit Rebreather (PSCR) Diver course is designed to educate individuals in basic PSCR rebreather technologies and to cultivate diver proficiency in the use of GUE-approved passive semi-closed circuit rebreather configurations.

3.2.5.2 Prerequisites

Applicants for a PSCR Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2[13] certification.
c. Have conducted at least 25 non-training Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification, whichever is applicable.
d. Students participating in a PSCR course conducted in a cave environment must have conducted 25 Cave 2 level dives following completion of GUE Cave Diver Level 2 certification.
e. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.5.3 Course Content

The Passive Semi-Closed Circuit Rebreather Diver course is normally conducted over five days. It requires a minimum of eight dives and at least forty hours of instruction, encompassing lectures, land drills, and at least ten hours of in-water work.

3.2.5.4 Passive Semi-Closed Circuit Rebreather Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum depth of 100 ft/30 m.
c. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor.
e. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

[13] Including GUE CCR 2 issued under past versions of standards.

3.2.5.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.5.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Purpose
c. Common components of rebreathers and how they function
d. Inherent risks of rebreathers
e. Rebreather operation, alarms, and warnings
f. Oxygen risks: hypoxia, hyperoxia
g. Decompression consideration while using semi-closed rebreathers
h. Oxygen loading, potential drop, adjusted deco
i. Equipment configuration
j. Problem recognition and management
k. The importance of instinctive physiological monitoring
l. Pre-dive planning
m. Post-dive procedures
n. Need for continuing education and skill reinforcement

3.2.5.7 Land Drills and Topics

a. Flow checks
b. Rebreather-specific topics:
    i. Pre-dive preparation and verification
    ii. Appropriate diving procedures
    iii. Failure management
    iv. Maintenance and repair
c. Manifold failures
d. Gas addition failures
e. Gas sharing

3.2.5.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Passive Semi-Closed Circuit Rebreather Diver certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE PSCR equipment configuration.

e. Demonstrate proficiency in safe diving procedures, including assembly, vacuum and pressure tests, pre-dive preparation, pre-dive vacuum test, flow check, in-water activity, and post-dive assessment, breakdown and maintenance.
f. Demonstrate awareness of team members' rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency in the use of the rebreather during ascents, descents, and diving.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate ability to manage gas failures, including valve manipulation, gas sharing, and regulator switching as appropriate.
l. Demonstrate the ability to manage a flooded rebreather while discharging excess water.
m. Demonstrate the ability to diagnose and correctly respond to simulated rebreather problems.
n. Demonstrate effective valve management.
o. Demonstrate proficiency in removing and re-attaching stage cylinders while hovering horizontally.
p. Demonstrate the ability to comfortably switch gases while maintaining good trim and neutral buoyancy.
q. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver while using the rebreather.
r. Be able to comfortably demonstrate use, manipulation, and failure management of the gas addition system supplying the rebreather.

3.2.5.9 Equipment Requirements

GUE PSCR configuration as outlined in Appendix A, plus:

a. One bottom stage with stage regulator
b. One decompression stage with stage regulator
c. For classes conducted in a cave environment, exclude:
    i. Surface marker buoy with spool

    and students must additionally carry:

    i. One safety spool
    ii. At least two jump spools
    iii. One primary reel per team
    iv. At least twelve line markers; six directional and six non-directional

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.6 Closed-Circuit Rebreather Fundamentals

3.2.6.1 Course Outcomes

GUE's Closed-Circuit Rebreather Fundamentals course is an entry-level, closed-circuit rebreather course designed to educate GUE divers in basic rebreather technologies and to cultivate diver proficiency in the use of GUE-approved closed-circuit rebreather configurations.

3.2.6.2 Prerequisites

Applicants for a CCR-F Diver course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Technical Fundamentals certification[14].
c. Have conducted at least 150 non-training dives.
d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.6.3 Course Content

The Closed-Circuit Rebreather Fundamentals course is normally conducted over five days. It requires a minimum of six dive sessions and at least forty hours of instruction, encompassing lectures, land drills, and at least eight hours of dive time.

3.2.6.4 Closed-Circuit Rebreather Fundamentals Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth of 100 ft/30 m.
c. Minimum 6 ft^3/180 L of oxygen and 30 ft^3/825 L of bailout/diluent are required to begin a CCR-F dive.
d. The oxygen supply valve must never be closed completely during drills.
e. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
f. No overhead diving.
g. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

[14] Including GUE Fundamentals with Technical rating issued under past versions of Standards.

3.2.6.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.6.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Anatomy of rebreathers, common components and how they function
c. Benefits and disadvantages of using closed-circuit rebreathers
d. Inherent risks of using closed-circuit rebreathers
e. Closed-circuit rebreather operation, alarms, and warnings
f. Breathing gas dynamics, hyperoxia, hypoxia, hypercapnia, and gas density
g. Absorbent material: properties and canister endurance
h. Gas management: consumption, use, requirements, and reserves
i. Decompression considerations while using closed-circuit rebreathers
j. Diver safety and responsibilities

3.2.6.7 Land Drills and Topics

a. Rebreather assembly and set-up

b. Rebreather pre-dive checklist
c. Rebreather on-site checklist
d. CHAOS critical control checks and 5-minute pre-breathe
e. Dry land experience dive, including basic operations such as: switching to and off the loop (DSV open/close); achieving a proper seal around the mouthpiece; preventing nose exhalation; testing for, achieving, and maintaining optimal loop volume; pO_2 awareness using HUD and handset; communicating own pO_2 and current setpoint; requesting pO_2 and setpoint information from team
f. Electronically controlled setpoint and switches
g. Manually controlled setpoint and switches
h. Diluent flush techniques, including two-handed, one-handed, and exhalation-triggered ADV diluent gas addition
i. Basic failure management
j. Bailout and out-of-gas procedures
k. Maintenance and repair of closed-circuit rebreathers

3.2.6.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Closed-Circuit Rebreather Fundamentals certification:

a. Must be able to swim at least 300 yds/275 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 50 ft/15 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE CCR equipment configuration.
e. Demonstrate proficiency in safe diving procedures, including assembly and setup; rebreather pre-dive checklist; rebreather on-site checklist; CHAOS critical control checks and 5-minute pre-breathe; GUE EDGE; flow check; in-water activity; and post-dive assessment, breakdown, and maintenance.
f. Demonstrate awareness of team members' closed-circuit rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency with the use of the closed-circuit rebreather during ascents, descents, and bottom phase of the dive.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1.0 m from target depth.
j. Demonstrate the ability to manage a flooded closed-circuit rebreather by bailing out and returning to the surface.
k. Demonstrate the ability to diagnose and bailout in response to simple simulated closed-circuit rebreather problems.
l. Demonstrate the ability to switch and maintain desired pO_2 setpoints electronically throughout a dive.
m. Demonstrate the ability to switch and maintain desired pO_2 setpoints manually throughout a dive.
n. Demonstrate effective valve management.
o. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver while using the closed-circuit rebreather.

3.2.6.9 Equipment Requirements

GUE CCR configuration as outlined in Appendix A, except:

a. CCR-F students may use smaller bailout configurations than are appropriate for CCR-T1 and CCR-T2 dives.

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.7 Closed-Circuit Rebreather Technical Diver Level 1

3.2.7.1 Course Outcomes

GUE's Closed-Circuit Rebreather Technical Diver Level 1 course is designed to prepare divers for the rigors of technical diving and to familiarize them with the use of different breathing and decompression mixtures. Additional course outcomes include: cultivating, integrating, and expanding the essential skills required for safe technical diving; problem identification and resolution; the use of of GUE-approved closed-circuit rebreather and double tank configurations and the potential failure problems associated with them; the use of nitrox for accelerated and general decompression strategies and bailout; the use of helium to minimize narcosis; and the applications of single decompression stage diving with respect to decompression and bailout procedures.

3.2.7.2 Prerequisites

Applicants for a CCR-T1 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Closed-Circuit Rebreather Fundamentals certification.
c. Have conducted at least 50 non-training dives in the GUE CCR configuration following completion of GUE Closed-Circuit Rebreather Fundamentals certification. Dive experience must be verified through submission of a dive log to the instructor.
d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.7.3 Course Content

The Closed-Circuit Rebreather Technical Diver Level 1 course is normally conducted over six days. It requires a minimum of seven dive sessions and at least forty-eight hours of instruction, encompassing lectures, land drills, and at least ten hours of dive time.

3.2.7.4 Closed-Circuit Rebreather Technical Diver Level 1 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth of 170 ft/51 m.
c. Dives must not be planned to incur more than 30 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. No overhead diving.
e. The oxygen supply valve must never be closed completely during drills.
f. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.7.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.7.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Dive planning, minimum gas, gas strategies, and gas management
c. Gas properties: breathing gasses, oxygen, narcosis, and hypercapnia
d. Decompression theory: history, overview, and decompression sickness
e. Practical decompression: general guidelines, DecoPlanner, ratio deco, and other considerations
f. Inherent risks of using closed-circuit rebreathers
g. Closed-circuit rebreather operation, alarms, and warnings
h. Breathing gas dynamics, hyperoxia, hypoxia, hypercapnia, and gas density
i. Absorbent material: properties and canister endurance
j. Gas management: consumption, use, requirements, and reserves
k. Emergencies: accident prevention and management

3.2.7.7 Land Drills and Topics

a. Reel and guideline use
b. Dive team formation, communication, and protocols
c. Rebreather assembly, set-up, checklist and pre-breathe
d. CCR valve drills
e. Diluent flush techniques, including two-handed, one-handed, and exhalation-triggered ADV diluent gas addition
f. CCR failure management
g. OC failure management and implications for CCR operations
h. Bailout and out-of-gas procedures
i. Gas switch procedure
j. Unconscious diver recovery

3.2.7.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Closed-Circuit Rebreather Technical Diver Level 1 certification:

a. Must be able to swim at least 400 yds/375 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.

d. Demonstrate basic equipment proficiency and an understanding of the GUE CCR equipment configuration.
e. Demonstrate proficiency in safe diving procedures, including assembly and set-up; checklist and pre-breathe; GUE EDGE; flow check; in-water activity; and post-dive assessment, breakdown, and maintenance.
f. Demonstrate awareness of team members' closed-circuit rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency with the use of the closed-circuit rebreather and open-circuit during ascents, descents, and bottom phase of the dive.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Demonstrate proficiency in gas failure procedures, including valve manipulation (fixable, non-fixable, and erroneous failures), gas sharing, and regulator switching as appropriate and their implications to CCR operations and team resilience.
k. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
l. Demonstrate proficiency in switching to a backup mask.
m. Demonstrate the ability to manage a flooded closed-circuit rebreather while discharging excess water.
n. Demonstrate the ability to diagnose and correctly respond to simulated closed-circuit rebreather problems, including the capacity for higher level responses beyond bailing out and ascending.
o. Demonstrate proficiency with a single decompression cylinder.
p. Demonstrate proficiency in effective decompression techniques, including depth and time management.
q. Demonstrate the ability to switch and maintain desired pO_2 setpoints electronically and manually throughout a dive.
r. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver while using the closed-circuit rebreather.
s. Demonstrate diver rescue techniques, including effective underwater management of an unconscious diver.

3.2.7.9 Equipment Requirements

GUE CCR configuration as outlined in Appendix A.

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.8 Upgrade to Closed-Circuit Rebreather Technical Diver Level 1

3.2.8.1 Course Outcomes

GUE's Upgrade to Closed-Circuit Rebreather Technical Diver Level 1 is designed to to support GUE CCR-F divers holding a GUE Tech 1 rating and seeking qualification as a GUE CCR-T1 diver.

3.2.8.2 Prerequisites

Applicants for a upgrade to CCR-T1 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE CCR Fundamentals certification.
c. Hold a GUE Technical Diver 1 certification.
d. Have conducted at least 50 non-training dives in the GUE CCR configuration following completion of GUE Closed-Circuit Rebreather Fundamentals certification. Dive experience must be verified through submission of a dive log to the instructor.
e. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.8.3 Course Content

The Upgrade to Closed-Circuit Rebreather Technical Diver Level 1 course is normally conducted over three days. It requires a minimum of three dive sessions and at least twenty hours of instruction, encompassing lectures, land drills, and at least four hours of dive time.

3.2.8.4 Upgrade to Closed-Circuit Rebreather Diver Technical Diver Level 1 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth of 170 ft/51 m.
c. Dives must not be planned to incur more than 30 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. No overhead diving.
e. The oxygen supply valve must never be closed completely during drills.
f. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.8.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.8.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Dive planning, minimum gas, gas strategies, and gas management
c. Practical decompression for CCR: general guidelines, DecoPlanner, ratio deco, and other considerations
d. Absorbent material: properties and canister endurance
e. Gas management: consumption, use, requirements, and reserves
f. Emergencies: accident prevention and management

3.2.8.7 Land Drills and Topics

a. Rebreather assembly, set-up, checklist, and pre-breathe
b. CCR valve drills
c. Diluent flush techniques, including two-handed, one-handed, and exhalation-triggered ADV diluent gas addition
d. CCR failure management
e. OC failure management and implications for CCR operations
f. Bailout and out-of-gas procedures, including OC gas switches
g. Unconscious diver recovery

3.2.8.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Closed-Circuit Rebreather Technical Diver Level 1 certification:

a. Demonstrate a safe and responsible demeanor throughout all training.
b. Demonstrate basic equipment proficiency and an understanding of the GUE CCR equipment configuration.
c. Demonstrate proficiency in safe diving procedures, including assembly and set-up; checklist and pre-breathe; GUE EDGE; flow check; in-water activity; and post-dive assessment, breakdown, and maintenance.
d. Demonstrate awareness of team members' closed-circuit rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
e. Demonstrate proficiency in underwater communication.
f. Demonstrate proficiency with the use of the closed-circuit rebreather and open-circuit during ascents, descents, and bottom phase of the dive.
g. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
h. Demonstrate proficiency in gas failure procedures, including valve manipulation (fixable, non-fixable, and erroneous failures), gas sharing, and regulator switching as appropriate and the implications for CCR operations and team resilience.

i. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
j. Demonstrate the ability to manage a flooded closed-circuit rebreather while discharging excess water.
k. Demonstrate the ability to diagnose and correctly respond to simulated closed-circuit rebreather problems, including the capacity for higher level responses beyond bailing out and ascending.
l. Demonstrate proficiency with a single decompression cylinder.
m. Demonstrate proficiency in effective decompression techniques, including depth and time management.
n. Demonstrate the ability to switch and maintain desired pO_2 setpoints electronically and manually throughout a dive.
o. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver while using the closed-circuit rebreather.

3.2.8.9 Equipment Requirements

GUE CCR configuration as outlined in Appendix A.

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.9 Closed-Circuit Rebreather Technical Diver Level 2

3.2.9.1 Course Outcomes

GUE's Closed-Circuit Rebreather Technical Diver Level 2 course is designed to educate individuals in advanced rebreather technologies and to cultivate diver proficiency in the use of GUE-approved closed-circuit rebreather configurations. The course is also designed to enhance deep diving proficiency while using hypoxic helium diluent and bailout gases and oxygen-enriched decompression gases.

Other course outcomes include: the use of multiple bailout stages; use of hypoxic gas mixtures and required hypoxic protocols; gas management; oxygen management; extended decompression; accelerated, omitted, and general decompression strategies; dive planning; and management of multiple cylinders.

3.2.9.2 Prerequisites

Applicants for a CCR-T2 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 1[15] certification.

[15] Including GUE CCR or CCR 1 issued under past versions of Standards.

c. Have conducted at least 50 non-training CCR-T1 dives following completion of GUE Closed-Circuit Rebreather Technical Diver Level 1 certification. At least 25 of these must have been at a depth of at least 130 ft/40 m. Dive experience must be verified through submission of a dive log to the instructor.
d. Own a GUE-approved closed-circuit rebreather.
e. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.
f. Students participating in a CCR-T2 course conducted in a cave environment must have conducted at least 25 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.

3.2.9.3 Course Content

The Closed-Circuit Rebreather Technical Diver Level 2 course is normally conducted over six days. It requires a minimum of seven dive sessions and at least forty-eight hours of instruction, encompassing lectures, land drills, and at least ten hours of dive time.

3.2.9.4 Closed-Circuit Rebreather Technical Diver Level 2 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth of 250 ft/75 m.
c. Dives must not be planned to incur more than 90 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. No overhead diving except when taught by an Active GUE Cave 2 instructor.
e. The oxygen supply valve must never be closed completely during drills.
f. Students passing a CCR-T2 course conducted in a cave environment will be awarded a GUE Closed-Circuit Rebreather Diver Level 2 (Cave) certification.
g. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.9.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.9.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Rebreather operation and procedures
c. Failure management
d. Strategies necessary for a successful dive, decompression planning, absorbent management, gas and gas reserve management
e. Continuance management

3.2.9.7 Land Drills and Topics

a. Basic rebreather operation review
b. Basic rebreather failure management review
c. Basic open-circuit failure management review
d. Bailout and out-of-gas procedures review
e. Gas switching review
f. Advanced rebreather operation
g. Advanced rebreather failures
h. Bailout, including the use of a bottom stage and ascent with two additional gas switches and a tank rotation
i. Off-board use of oxygen and diluent
j. Semi-closed rebreather operation
k. Stage leash set up

3.2.9.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Closed-Circuit Rebreather Technical Diver Level 2 certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE CCR equipment configuration.
e. Demonstrate proficiency in safe diving procedures, including assembly and set-up; rebreather pre-dive checklist; rebreather on-site checklist; CHAOS critical control checks and 5-minute pre-breathe; GUE EDGE; flow check; in-water activity; and post-dive assessment, breakdown, and maintenance.
f. Demonstrate awareness of team members' closed-circuit rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate proficiency with the use of the rebreather during ascents, descents, and diving.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Demonstrate ability to manage gas failures, including valve manipulation, out-of-gas scenarios, and regulator switching as appropriate.
k. Demonstrate the ability to manage a flooded closed-circuit rebreather while discharging excess water.

l. Demonstrate the ability to diagnose and correctly respond to simulated rebreather problems.
m. Demonstrate the ability to switch and maintain desired pO_2 setpoints manually throughout a dive.
n. Demonstrate effective ability to connect and use off-board O_2 or diluent gas.
o. Demonstrate effective ability to dive the rebreather in semi-closed mode.
p. Demonstrate proficiency in removing, rotating, and re-attaching stage cylinders while hovering horizontally.
q. Demonstrate the ability to comfortably switch gases while maintaining good trim and neutral buoyancy.
r. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver while using the rebreather.
s. Be able to comfortably demonstrate use, manipulation, and failure management of the gas addition systems supplying the rebreather.

3.2.9.9 Equipment Requirements

GUE CCR configuration as outlined in Appendix A, plus:

a. Three stage cylinders with stage regulators
    i. The three stage cylinders may be either bottom or decompression stages.
    ii. All stage regulators must have a low pressure inflator hose, allowing them to be connected to the rebreather manual addition valve (MAV).
b. One stage leash
c. One primary reel per team
d. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)
e. For classes conducted in a cave environment, exclude:

    i. Surface marker buoy with spool

    and students must additionally carry:

    i. One safety spool
    ii. At least two jump spools
    iii. At least twelve line markers; six directional and six non-directional

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.10 Cave Diver Level 1

3.2.10.1 Course Outcomes

GUE's Cave Diver Level 1 course is designed to prepare divers for the rigors of the underwater cave environment and to establish an appreciation of its subtle dangers. Among its other outcomes: introduce divers to the principles of cave diving and the skills and knowledge required for limited penetration into underwater caves; increase environmental awareness; cultivate proficiency in dive planning; cultivate teamwork; promote an understanding of cave environments; teach stress management, navigation, conservation, standard and emergency procedures, and cave diving techniques; and instill an appreciation of the hazards of cave diving.

3.2.10.2 Prerequisites

Applicants for a Cave 1 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Technical Fundamentals[16] certification.
c. Have conducted at least 100 non-training dives following completion of autonomous scuba diver certification.
d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.10.3 Course Content

The Cave Diver Level 1 course is normally conducted over six days. It requires a minimum of twelve dives (including ten cave dives that are conducted in at least three different caves[17]) and at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work.

Divers wishing to use triox as a breathing gas are required to review all Deep Primer academics, including the exam, with their instructor and conduct at least two dives using triox. Successful completion of these objectives results in the addition of triox to the allowed post-certification breathing gases and will be noted on the GUE Cave Diver Level 1 certification card.

3.2.10.4 Cave Diver Level 1 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum of 1/3 of 2/3 of the total gas supply can be used for penetration.
c. Maximum depth of 100 ft/30 m.
d. Minimum 100 ft^3/2800 L of gas is required to begin a Cave 1 dive.

[16] Including GUE Fundamentals with Technical rating issued under past versions of Standards.
[17] In this context, caves are considered to be different if they have geographically distinct entrances.

e. No passages may be used in which divers are forced to travel single file for a prolonged distance (i.e., approximately 10 ft/3 m).
f. No complex navigation (jumps, traverses, circuits).
g. Navigation beyond one permanent intersection (also known as a "T" or "Y") and an unlimited number of temporary intersections is permitted. Permanent intersections are identified by the lack of a visible jump spool; temporary intersections provide visual access to a diver's jump spool. All intersections that appear permanent should be marked with non-directional markers.
h. Trainees may navigate gaps; a gap occurs where the main line ends and begins again a short distance later. Normally this occurs where the line has reached another entrance/exit point.
i. All dives must be within minimum decompression limits (MDLs), i.e., no required stops.
j. No DPV diving.
k. No exploration.
l. No stage cylinders.
m. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.10.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

Divers wishing to use triox as a breathing gas must be familiar with all academic materials included in Deep Primer.

3.2.10.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Environmental and cave conservation
c. Guideline use and cave etiquette
d. Dive team order and protocols
e. Touch contact
f. Basic navigation skills
g. Dive planning
h. Decompression theory
i. Gas management
j. Accident analysis
k. Stress
l. Environment
m. Communication
n. Deep Primer academic topics, when relevant

3.2.10.7 Land Drills and Topics

a. Guideline use and cave etiquette

b. Guideline use during emergency scenarios, including touch contact and gas-sharing emergencies
c. Back gas regulators and valve failure modes and management
d. Lost diver procedures
e. Lost guideline procedures
f. Unconscious diver recovery
g. Basic navigation skills

3.2.10.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Cave Diver Level 1 certification:

a. Must be able to swim at least 400 yds/375 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate proficiency in cave navigation, including visual references, guideline use, limited and simulated zero visibility, and the use of a penetration reel for a prolonged distance from open water until the team ties into the main line.
l. Demonstrate proficiency in gas failure procedures, including valve manipulation (fixable, non-fixable, and erroneous failures), gas sharing, and regulator switching as appropriate.
m. Demonstrate proficiency in managing gas-sharing scenarios in limited and/or simulated zero visibility, over a distance of at least 300 ft/90 m.
n. Demonstrate proficiency in the use of touch contact for limited and simulated zero visibility situations.
o. Demonstrate the ability to mentally record depth, time, and gas consumption during a dive and apply these parameters to future dive planning.
p. Demonstrate the efficient deployment of a backup light.

q. Demonstrate the ability to search for a missing diver while performing a simulated missing diver drill.
r. Demonstrate the skills needed to locate a lost line while performing a simulated lost line drill.
s. Demonstrate diver rescue techniques, including effective management of an unconscious diver.
t. Demonstrate proficiency in switching to a backup mask.
u. Divers wishing to use triox as a breathing gas must successfully conduct at least two dives while using triox.

3.2.10.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and two backup lights
b. One safety spool
c. One primary reel per team
d. At least six line markers; three directional and three non-directional
e. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)

Excluding:

a. Surface marker buoy with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.11 Cave Diver Level 2

3.2.11.1 Course Outcomes

GUE's Cave Diver Level 2 course is designed to expand the cave diving skills of experienced Cave 1 trained divers. Among its outcomes are: a focus on environmental awareness, capacity with extended penetration dives, advanced navigation, use of jump spools, enhanced team awareness, advanced problem resolution, stress management, and use of a bottom and decompression stage.

3.2.11.2 Prerequisites

Applicants for a Cave 2 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Cave Diver Level 1 certification.
c. Have conducted at least 25 non-training Cave 1 dives following completion of GUE Cave Diver Level 1 certification.

d. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.11.3 Course Content

The Cave Diver Level 2 course is normally conducted over six days. It requires a minimum of ten Cave 2 dives that are conducted in at least three different caves[18] and at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work.

Divers wishing to use triox as a breathing gas are required to review all Deep Primer academics, including the exam, with their instructor and conduct at least two dives using triox. Successful completion of these objectives results in the addition of triox to the allowed post-certification breathing gases and will be noted on the GUE Cave Diver Level 2 certification card.

3.2.11.4 Cave Diver Level 2 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 6:1 during land drill or surface exercises; it cannot exceed 3:1 during any in-water training.
b. Maximum of 1/3 of the total gas supply can be used for cave penetration.
c. Maximum depth of 100 ft/30 m.
d. Minimum 140 ft^3/4000 L of gas is required to begin a Cave 2 training dive.
e. No DPV diving.
f. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.11.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

Divers wishing to use triox as a breathing gas must be familiar with all academic materials included in Deep Primer.

3.2.11.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Guideline use, including the use of a jump spool
c. Dive team order and protocols
d. Touch contact
e. Advanced navigation
f. Advanced dive planning
g. Gas management with thirds and while using a stage cylinder

[18] In this context, caves are considered to be different if they have geographically distinct entrances.

h. Accident analysis
i. Stress management
j. Environmental considerations
k. Communication
l. Cave restrictions
m. Basic survey techniques
n. Decompression
o. Deep Primer (Triox) academic topics, when relevant

3.2.11.7 Land Drills and Topics

a. Guideline use and procedures, including use of a jump spool
b. Missing diver procedures
c. Unconscious diver recovery
d. Back gas regulator and valve failure modes and management
e. Stage cylinder set up
f. Bottom and decompression stage usage (drops and pickups)
g. Switching to and from a stage and decompression cylinders
h. Bottom and decompression stage failure management
i. Lost guideline procedures
j. Basic and advanced navigation skills, including gaps/jumps, circuits, and traverses
k. Guideline referencing skills

3.2.11.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Cave Diver Level 2 certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.

j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate proficiency in managing breathing system failures, including proper assessment and valve manipulation (fixable, non-fixable, and erroneous) with regulator switching as appropriate and bottom and decompression stage failure management.
l. Demonstrate proficiency in managing gas-sharing scenarios, including decompression gas sharing.
m. Demonstrate proficiency in cave navigation, including visual references, guideline use, and limited and simulated zero visibility.
n. Demonstrate proficiency in the use of touch contact for limited and simulated zero visibility situations.
o. Demonstrate the efficient deployment of a backup light.
p. Demonstrate the ability to search for a missing diver while performing a simulated missing diver drill.
q. Demonstrate the skills needed to locate a lost line while performing a simulated lost line drill.
r. Demonstrate capacity with advanced cave navigation.
s. Demonstrate capacity in planning for and dealing with minor and major restrictions.
t. Demonstrate a calm demeanor while sharing gas in simulated zero visibility for a prolonged distance.
u. Demonstrate the ability to use a stage cylinder with appropriate gas switching procedures during extended penetration cave dives.
v. Demonstrate diver rescue techniques, including effective management of an unconscious diver.
w. Divers wishing to use triox as a breathing gas must successfully conduct at least two dives while using triox.

3.2.11.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and two backup lights
b. One bottom stage with stage regulator
c. One decompression stage with stage regulator
d. One safety spool
e. At least two jump spools
f. One primary reel per team
g. At least twelve line markers; six directional and six non-directional
h. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture, if using a drysuit)

Excluding:

a. Surface marker buoy with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.12 Cave Diver Level 3

3.2.12.1 Course Outcomes

GUE's Cave Diver Level 3 course is designed to develop proficiency in planning and executing extended exposure cave dives at depth while utilizing due approved rebreathers, DPVs, and multiple gas mixtures (helium-based and oxygen-enriched). Other course outcomes include: the ability to execute and support dives in teams utilizing PSCR and CCR configurations, use of hypoxic gas mixture protocols; gas management; oxygen management; extended decompression; accelerated, omitted, and general decompression strategies; dive planning; management of multiple stages and decompression cylinders.

3.2.12.2 Prerequisites

Applicants for a Cave 3 course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Cave Diver Level 2 certification.
c. Hold a GUE Diver Propulsion Vehicle Cave certification.
d. Hold a GUE CCR or PSCR certification
    i. If using a CCR during the course, hold a GUE Closed-Circuit Rebreather Technical Diver Level 2[19] and a GUE Closed-Circuit Rebreather Cave Diver certification.
    ii. If using a PSCR during the course, hold a GUE Passive Semi-Closed Circuit Rebreather Diver certification.
e. Have conducted at least 25 non-training Tech 2 or CCR-T2 dives in open water following completion of GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2[20] certification, whichever is applicable.
f. Have conducted at least 50 non-training Cave 2 dives in the GUE-approved rebreather configuration (CCR or PSCR) to be used during Cave 3 training.
g. Have conducted at least 25 non-training Cave 2 dives utilizing GUE-approved DPVs following completion of GUE Diver Propulsion Vehicle Cave certification.
h. Have conducted at least 500 non-training dives following completion of autonomous scuba diver certification. At least 100 dives must have utilized the rebreather configuration that will be used during Cave 3 training.
i. Have conducted at least 100 non-training dives in a drysuit or have conducted 50 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

[19] Including GUE CCR or GUE CCR 2 issued under past versions of Standards.
[20] Including GUE CCR or GUE CCR 2 issued under past versions of Standards.

3.2.12.3 Course Content

The Cave Diver Level 3 course is normally conducted over four days. It requires a minimum of four dives (including three trimix experience dives) and at least thirty hours of instruction, encompassing lectures, land drills, and in-water work.

GUE CCR divers who hold certification under past versions of Standards will undergo an assessment of their CCR skills at the start of the course. The program is extended to seven days to encompass comprehensive training in CCR-T2 skills before advancing to Cave Diver Level 3 lectures, land-drills, and in-water work.

3.2.12.4 Cave Diver Level 3 Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1 during land drills or surface exercises; it cannot exceed 2:1 during any in-water training.
b. Maximum depth of 330 ft/100 m.
c. Dives must not be planned to incur more than 180 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.12.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.12.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Extreme mixed gas diving, including severe hypoxic protocols
c. Risks of decompression diving
d. Gas management during cave dives at depth
e. Thermal considerations
f. Accelerated, omitted, and general decompression strategies
g. Extended range/exposure overhead dive logistics and planning
h. Stage configuration and gas choices
i. Mixed rebreather team logistics
j. DPV considerations
k. Habitats

3.2.12.7 Land Drills and Topics

a. Dive team order and protocols
b. Gas switching procedures and protocols, including severe hypoxic protocol
c. Use of multiple bottom stages and decompression cylinders
d. Cave set-up and clean-up
e. Staging/picking up stage/decompression bottles

f. Unconscious diver recovery
g. Decompression gas sharing
h. Surface and in-water support

3.2.12.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Cave Diver Level 3 certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate strength required to egress an unconscious teammate and manage all of the equipment needed for a dive for entry and exit.
l. Demonstrate proficiency in the ability to plan Cave 3 dives while accounting for environmental conditions, available gas, and required decompression.
m. Demonstrate clean and effective removal, drops and pick-ups, as well as an exchange of multiple stage cylinders while hovering horizontally (tank rotations).
n. Demonstrate proficiency in gas failure and rebreather failure procedures.
o. Demonstrate proficiency in managing gas-sharing scenarios, particularly gas management during prolonged exits (including managing small/silty areas).
p. Demonstrate proficiency in managing multiple DPVs while navigating small/silty areas.
q. Demonstrate proficiency in effective decompression techniques, including depth and time management, while also managing multiple gas switches and other tasks such as tank rotation skills.
r. Demonstrate diver rescue techniques, including effective underwater management of an unconscious diver.
s. Demonstrate proficiency in setting up drop tanks, briefing the surface team, and effectively receiving and deploying drop tanks.

t. Demonstrate proficiency in working with safety divers and a surface team as well as effectively receiving and deploying extra gas and managing tanks during decompression.

3.2.12.9 Equipment Requirements

GUE PSCR or GUE CCR configuration as outlined in Appendix A, plus:

a. Five stage/decompression stages with stage regulators
b. Three stage leashes
c. One safety spool
d. At least two jump spools
e. One primary reel per team
f. One GUE-approved DPV
g. At least one spare GUE-approved DPV per team
h. At least twelve line markers; six directional and six non-directional
i. Drysuit inflation system independent from back gas cylinders (while breathing a helium mixture)

Excluding:

a. Surface marker buoy with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.13 Underwater Cave Survey

3.2.13.1 Course Outcomes

GUE's Underwater Cave Survey course is designed to introduce experienced cave divers to the important skill of surveying underwater caves. Among the course's intended outcomes are: introducing divers to the basic principles of underwater cave survey, the implementation of a defined team approach to underwater survey data collection, preparing an experienced cave diver to productively assist in a coordinated cave project, and introducing divers to cartography methods.

3.2.13.2 Prerequisites

Applicants for an Underwater Cave Survey course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Cave Diver Level 2 certification.
c. Have conducted at least 25 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
d. Students participating in an Underwater Cave Survey course conducted utilizing DPVs must hold a GUE Diver Propulsion Vehicle Cave certification.

e. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.13.3 Course Content

The Underwater Cave Survey course is normally conducted over five days. It requires a minimum of ten diving hours and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

3.2.13.4 Underwater Cave Survey Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1 during land drill or surface exercises; it cannot exceed 2:1 during any in-water training.
b. Maximum depth of 100 ft/30 m.
c. Maximum of 1/3 of the total gas supply can be used for cave penetration.
d. Minimum 140 ft^3/4000 L of gas is required to begin an UW Cave Survey training dive.
e. All survey tasks must be completed before reaching penetration gas limits.
f. No DPV diving unless taught by an Active GUE DPV Cave instructor.
g. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.13.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.13.6 Academic Topics

a. Introduction
b. Course overview
c. Reasons to survey
d. Survey priorities
e. Equipment
f. Data collection
g. The “stick map”
h. Data archiving
i. Data manipulation and plotting
j. Expanding the frame
k. Sketching underwater details
l. Cartography
m. Overview of workflow
n. GUE and underwater cave survey

3.2.13.7 Land Drills and Topics

a. Handling survey equipment
b. Basic line survey
c. Division of team responsibilities
d. Measurements and estimates
e. Communication
f. Recording data
g. Extremity data collection
h. Survey line installation
i. Sidewall and interior sketching
j. Post survey archiving
k. Data manipulation and plotting
l. Cartography and map production

3.2.13.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Underwater Cave Survey certification:

a. Must be able to swim at least 500 yds/450 m in under 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Demonstrate proficiency in all aspects of Cave 2 level diving under survey conditions. These include, but are not limited to: guideline installation and retrieval, underwater communication, decompression, stability and trim, complex navigation, propulsion, bottom stage and decompression stage management, stress management while task loaded, and gas management.
k. Demonstrate proficiency in effectively performing all tasks associated with a team survey.
l. Demonstrate proficiency in the use of survey equipment.
m. Effectively take measurements and estimates.
n. Demonstrate consistent, clear, and concise underwater data recording.

3.2.13.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One safety spool
b. One primary reel per team
c. One exploration reel per team capable of holding a minimum of 800 ft/240 m of knotted line
d. One primary and two backup lights
e. At least twelve line markers; six directional and six non-directional
f. Survey package: Each student must have a survey compass, prepared underwater survey notes, spare pencils, and a prepared 3 ft/1 m measuring string.
g. One "open reel" design fiberglass tape per team, measuring between 100 ft/30 m and 170 ft/51 m
h. One handheld underwater sonar per team

Excluding:

a. Surface marker buoy with spool

Additionally, when diving with a DPV:

a. One GUE-approved DPV
b. At least one spare GUE-approved DPV per team

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.14 Sidemount Cave Diver

3.2.14.1 Course Outcomes

GUE's Sidemount Cave Diver course is designed to introduce experienced cave divers to the use of the sidemount configuration in a cave environment and to meet the challenges posed by such an environment. The course's intended outcomes are to help divers understand the techniques required to safely navigate confined cave passageways and the advantages and disadvantages of a lateral equipment configuration.

3.2.14.2 Prerequisites

Applicants for a Sidemount Cave course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Cave Diver Level 2 certification.
c. Have conducted at least 50 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
d. Have conducted at least 200 non-training dives following completion of autonomous scuba diver certification.

e. Students participating in a Sidemount Cave Diver course conducted utilizing DPVs must hold a GUE Diver Propulsion Vehicle Cave certification.
f. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.14.3 Course Content

The GUE Sidemount Cave Diver course is normally conducted over five days. It requires ten dives (of which four must include restrictive passages) and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

3.2.14.4 Sidemount Cave Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1 during land drills or surface exercises; it cannot exceed 2:1 during any in-water training.
b. Maximum depth of 100 ft/30 m.
c. Maximum of 1/3 of total gas supply can be used for penetration.
d. Minimum 140 ft^3/4000 L of gas is required to begin a Sidemount Cave Diver training dive.
e. No DPV diving unless taught by an Active GUE DPV Cave instructor.
f. Requires a minimum of two stage dives.
g. Students are required to navigate through a minimum of three sidemount-only restrictions.
h. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.14.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.14.6 Academic Topics

a. Introduction
b. Course overview
c. Benefits and disadvantages of sidemount
d. Sidemount history
e. Equipment configuration and setup
f. Geology and sidemount-specific cave morphology
g. Conservation considerations and landowner relationships
h. Gas management
i. Dive planning

3.2.14.7 Land Drills and Topics

a. Sidemount equipment set-up
b. Guideline use and navigation

c. Guideline entanglement, cutting, and repair
d. Loss of guideline
e. Regulator switches and gas monitoring
f. Feathering valves
g. Gas sharing
h. Stage cylinder positioning and related considerations
i. Backup light deployment

3.2.14.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Sidemount Cave Diver certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE-approved sidemount equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate clear and effective underwater communication in both limited and simulated zero visibility.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, helicopter turn, and modified flutter.
k. Demonstrate a full understanding of pre-dive gear set-up.
l. Demonstrate an efficient one-handed regulator switch.
m. Demonstrate proficiency in all aspects of sidemount diving in caves during training. This includes, but is not limited to: guideline installation and retrieval, underwater communication, decompression, stability and trim, complex navigation, propulsion, bottom stage and decompression stage management, stress management while task loaded, and gas management.
n. Demonstrate proficiency in cave navigation, including visual references, guideline use, and limited and simulated zero visibility.
o. Demonstrate proficiency in navigating restrictive passages.
p. Demonstrate proficiency in feathering a valve for at least 300 ft/90 m.
q. Demonstrate proficiency in managing gas-sharing scenarios.

r. Demonstrate proficiency in managing line entanglement, line traps, and broken line.
s. Demonstrate proficiency in managing keyhole restrictions and resolving stuck situations.

3.2.14.9 Equipment Requirements

GUE sidemount configuration as outlined in Appendix A, plus:

a. One safety spool
b. One primary reel per team
c. At least twelve line markers; six directional and six non-directional
d. At least two jump spools

Excluding:

a. Surface marker buoy with spool

Additionally, when diving with a DPV:

a. One GUE-approved DPV
b. At least one spare GUE-approved DPV per team

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.15 Diver Propulsion Vehicle Cave

3.2.15.1 Course Outcomes

GUE's Diver Propulsion Vehicle (DPV) Cave course is designed to cultivate mastery-level skill in the use of underwater propulsion vehicles in the cave environment. Other course outcomes include: reinforcing the outcomes of GUE's DPV 1 course, managing the ramifications of using multiple DPVs and stage cylinders, and environment-specific applications.

3.2.15.2 Prerequisites

Applicants for a DPV Cave course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Cave Diver Level 2 certification.
c. Hold a GUE Diver Propulsion Vehicle Level 1 certification.
d. Have conducted at least 50 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
e. Have conducted at least 25 non-training DPV 1 dives following completion of GUE Diver Propulsion Vehicle Level 1 certification.
f. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.15.3 Course Content

The Diver Propulsion Vehicle Cave course is normally conducted over five days. It requires a minimum of five dives and at least forty hours of instruction, encompassing lectures, land drills, and in-water work.

3.2.15.4 Diver Propulsion Vehicle Cave Specific Training Standards

a. Student-to-instructor ratio is not to exceed 4:1 during land drill or surface exercises; it cannot exceed 2:1 during any in-water training.
b. Maximum depth of 100 ft/30 m.
c. Minimum 140 ft^3/4000 L of gas is required to begin a DPV Cave training dive.
d. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.15.5 Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.15.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Equipment considerations
c. DPV components
d. DPV maintenance
e. Leashes (lengths, knots, lanyards)
f. Bottom stages and decompression stages
g. Exposure suit for the cave environment
h. Dive planning (operational, team, support, objectives)
i. Matching different speeds while using a DPV
j. Emergency procedures (includes: gas sharing, towing diver, and runaway scooter)
k. Gas planning
l. Trigger time and multiple scooter use
m. Towing a DPV
n. Stage management
o. Line use (installing, following, and retrieving)
p. Managing, switching, dropping, and stowing DPVs

3.2.15.7 Land Drills and Topics

a. Proper position while using a DPV
b. Ready position
c. Runaway DPV
d. Switching DPVs
e. Dropping DPVs

f. Use of a primary light while operating a DPV
g. Team order and protocols
h. Use of spools and reels
i. Navigation
j. Pre-dive drills

3.2.15.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Diver Propulsion Vehicle Cave certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, if necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication while using a DPV.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim while using a DPV, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Demonstrate proficiency in laying and retrieving line with a DPV; this includes the use of a primary reel and jumps/gaps.
k. Demonstrate proficiency in switching from one DPV to another.
l. Demonstrate proficiency in all aspects of stage cylinder management while also managing DPVs.
m. Demonstrate proficiency in calculating accurate available trigger time.
n. Demonstrate effective use of a compass and proficiency in navigation.
o. Demonstrate ability to match speeds with team members.
p. Demonstrate ability to tow a diver.
q. Demonstrate ability to tow a DPV.
r. Demonstrate control while managing a runaway DPV.
s. Demonstrate proficiency in the sequential management of an out-of-gas scenario.
t. Demonstrate ability to tow an out-of-gas diver for a distance of 500 ft/150 m while using a DPV.
u. Demonstrate proficiency in managing breathing system failures, including proper assessment and valve manipulation with regulator switching as appropriate.
v. Demonstrate proficiency in effective decompression techniques, including depth and time management.

w. Demonstrate an efficient exit on a backup light.
x. Demonstrate ability to follow a guideline in a simulated zero-visibility scenario while managing stage(s) and DPV(s).
y. Demonstrate ability to manage equipment through restrictive areas with concern for the environment.

3.2.15.9 Equipment Requirements

GUE double tank configuration as outlined in Appendix A, plus:

a. One primary and two backup lights
b. One bottom stage with stage regulator
c. One decompression stage with stage regulator
d. One safety spool
e. At least two jump spools
f. One primary reel per team
g. At least twelve line markers; six directional and six non-directional
h. One GUE-approved DPV
i. At least one spare GUE-approved DPV per team

Excluding:

a. Surface marker buoy with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.2.16 Closed-Circuit Rebreather Cave Diver

3.2.16.1 Course Outcomes

The GUE Closed-Circuit Rebreather Cave Diver course is designed to provide experienced GUE cave and closed-circuit rebreather divers with the additional knowledge and practice needed to safely use closed-circuit rebreathers in a cave environment. This course is an advanced level closed-circuit rebreather course aimed at teaching mastery level skills, knowledge, and procedures appropriate for the cave environment.

3.2.16.2 Prerequisites

Applicants for a CCR Cave course must abide by Training Prerequisites (2.1.4.1), plus:

a. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
b. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 1[21] certification.
c. Hold a GUE Cave Diver Level 2 certification.

[21] Including GUE CCR 1 and GUE CCR issued under past versions of Standards.

d. Have conducted at least 50 non-training CCR-T1 dives following completion of GUE Closed-Circuit Rebreather Technical Diver Level 1 certification.
e. Have conducted at least 25 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
f. Own a GUE-approved closed-circuit rebreather.
g. If using a drysuit during the course, have conducted at least 25 non-training dives in a drysuit or have conducted 15 non-training dives utilizing a drysuit following completion of GUE Drysuit Primer certification.

3.2.16.3 Course Content

The Closed-Circuit Rebreather Cave Diver course is normally conducted over four days. It requires a minimum of five dive sessions and at least thirty-two hours of instruction, encompassing lectures, land drills, and at least ten hours of dive time.

3.2.16.4 Closed-Circuit Rebreather Cave Diver Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Maximum depth of 100 ft/30 m.
c. Dives must not be planned to incur more than 30 minutes of unadjusted decompression time, as established by GUE's DecoPlanner.
d. Divers must always have sufficient bailout gas to exit the cave from the maximum penetration.
e. During any zero/limited visibility drills, the instructor must ensure that students' HUDs are clearly visible to them.
f. The oxygen supply valve must never be closed completely during drills.
g. Students must complete GUE Rescue Primer or equivalent from a recognized training agency prior to certification.

3.2.16.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.2.16.6 Academic Topics

a. Introduction and course overview
b. Risks specific to CCR diving in an overhead environment
c. Bailout gas calculations for bottom and decompression portions of the dive
d. Equipment configuration considerations

3.2.16.7 Land Drills and Topics

a. Stage cylinder set up
b. Use of MAV/quick disconnects and utilization of off-board gases
c. SCR mode

d. Gas-sharing exits
e. Zero visibility exits (controlling units using HUD only)

3.2.16.8 Required Dive Skills and Drills

Students must demonstrate competence in the following skills to attain GUE Closed-Circuit Rebreather Cave Diver certification:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE CCR equipment configuration.
e. Demonstrate proficiency in safe diving procedures, including assembly, vacuum and pressure tests, pre-dive preparation, pre-dive vacuum test, flow check, in-water activity, and post-dive assessment, breakdown, and maintenance.
f. Demonstrate awareness of team members' closed-circuit rebreather function and an overall concern for safety, responding quickly to visual or audible indications and dive partner needs during diving and failures.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Demonstrate proficiency with the use of the rebreather during ascents, descents, and diving.
k. Demonstrate ability to install a primary reel while maintaining constant awareness of the rebreather.
l. Demonstrate the ability to manage a flooded rebreather while discharging excess water.
m. Demonstrate the ability to switch and maintain desired pO_2 setpoints manually throughout a dive.
n. Demonstrate effective ability to connect and use off-board O_2 or diluent gas.
o. Demonstrate effective ability to dive the rebreather in semi-closed mode.
p. Demonstrate proficiency in removing, staging, picking up, and clipping off stage cylinders while hovering horizontally.
q. Demonstrate the ability to comfortably switch gases while maintaining good trim and neutral buoyancy.
r. Demonstrate a calm demeanor while conducting a prolonged full-bailout exit.
s. Demonstrate a calm demeanor and control during a prolonged zero-visibility exit while maintaining constant control of pO_2s using the HUD.

3.2.16.9 Equipment Requirements

GUE CCR configuration as outlined in Appendix A, plus:

a. Two stage cylinders with stage regulators
    i. One decompression stage
    ii. One bottom stage
    iii. All stage regulators must have a low pressure inflator hose, allowing them to be connected to the rebreather manual addition valve (MAV).
b. One stage leash
c. One jump spool
d. One safety spool
e. One primary reel per team
f. At least twelve line markers; six directional and six non-directional

Excluding:

a. Surface marker buoy with spool

Prior to the commencement of the class, students should consult with a GUE representative to verify equipment requirements and the appropriateness of any selected equipment.

3.3 GUE Dive Professional Curriculum

3.3.1 Dive Leader Training Course

3.3.1.1 Course Outcomes

GUE's Dive Leader Training Course is designed to develop GUE Dive Leaders who are qualified to perform duties as a professional dive leader. Included among its training outcomes are: knowledge and skills needed to plan and safely conduct guided recreational dives for certified divers and to act as a sanctioned video diver or safety diver during GUE Open Water Diver, GUE Advanced Open Water Diver, GUE Performance Diver, GUE Basic Fundamentals, and GUE Technical Fundamentals[22] classes.

Undertaking the Dive Leader Training Course is a required step in the Dive Leader Candidate Development Process (section 4.1.2.2).

3.3.1.2 Prerequisites

All GUE Dive Leader candidates must:

a. Fulfill GUE Dive Leader Candidate Prerequisites (section 4.1.2.1)

[22] Restricted to Dive Leaders who hold a GUE Technical Fundamentals certification, or a GUE Fundamentals with Technical rating issued under past versions of Standards, plus a certification from a recognized agency to dive to 100 ft/30 m or GUE Deep Primer certification.

3.3.1.3 Course Content

The Dive Leader Training Course is normally conducted over four days. It requires a minimum of thirty hours of instruction, encompassing lectures, land drills, in-water work, and a minimum of four dives, of which at least one must be a simulated guided dive,

3.3.1.4 Dive Leader Training Course Specific Training Standards

a. Student-to-instructor ratio is not to exceed 3:1.
b. Can be run with one trainee.

3.3.1.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.3.1.6 Academic Topics

a. Dive leader professionalism, responsibilities, and roles
b. Importance and use of GUE standards and procedures
    i. GUE General Training Standards, Policies, and Procedures document
        1. General Diving Standards (section 2.2)
        2. Equipment (section 1.1.4) and Appendix A
    ii. Standard Operating Procedures (SOP) document
c. Importance and content of GUE's Recreational Diver Curriculum (section 3.1) and the divers' capacity and limitations
d. Basic equipment knowledge and understanding of function (regulator; BC systems, adjustment and fitting; establishing a balanced rig; and proper setup of GUE configuration)
e. Minimum gas calculations, MDL table use, pragmatic minimum decompression, computer use
f. Understanding of underwater/surface control and positioning
    i. Awareness of divers' positions
    ii. Awareness of supervised divers' gas supplies
    iii. Awareness of supervised divers' MDLs
    iv. Environmental awareness
    v. Awareness of divers' comfort (stress recognition)
g. Risks and risk mitigation associated with performing GUE Dive Leader duties
h. Dive site choices, dive site and dive briefing techniques
i. Post-dive debriefing techniques

3.3.1.7 Land Drills and Topics

a. Gas analysis
b. GUE EDGE and pre-dive sequence and their proper implementation
c. Equipment fit, assembly and disassembly, and backplate fitting
d. Dive team protocols

e. Basic and advanced compass navigation and natural navigation review
f. Diver positioning and underwater control
g. Diver rescue techniques (both underwater recovery and surface rescue)

3.3.1.8 Required Dive Skills and Drills

All GUE Dive Leaders must demonstrate competence in the following:

a. Must be able to swim at least 500 yds/450 m in less than 14 minutes without stopping. This test should be conducted in a swimsuit and, where necessary, appropriate thermal protection.
b. Must be able to swim a distance of at least 60 ft/18 m on a breath hold while submerged.
c. Demonstrate a safe and responsible demeanor throughout all training.
d. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
e. Demonstrate proficiency in safe diving techniques, including pre-dive preparation, in-water activity, and post-dive assessment.
f. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs.
g. Demonstrate proficiency in underwater communication.
h. Demonstrate safe ascent and descent procedures.
i. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within a range of 3 ft/1 m from target depth.
j. Comfortably demonstrate at least four propulsion techniques that would be appropriate in a delicate and/or silty environment, including competence in the backward kick, and helicopter turn.
k. Demonstrate awareness of team member location and a concern for safety, responding quickly to visual indications and dive partner needs, as well as understanding of underwater/surface control and positioning while guiding certified divers.
l. Demonstrate proficiency in compass use and implementation of natural navigation.
m. Demonstrate proficiency in the ability to deploy a surface marker buoy (SMB) while using a spool.
n. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
o. Demonstrate proficiency in managing gas-sharing scenarios, including a direct ascent managing minimum decompression obligations while using a surface marker buoy and spool.
p. Demonstrate an efficient valve drill.
q. Demonstrate proficiency with a primary light by handling it during all skills .
r. Demonstrate diver rescue techniques, including effective management of an unconscious diver underwater and on the surface.
s. Demonstrate proficiency in dive site, dive, and post-dive briefing techniques.

3.3.1.9 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A.

3.3.2 Assistant Instructor Training Course

3.3.2.1 Course Outcomes

GUE's Assistant Instructor Training Course is designed to develop GUE Assistant Instructors who are qualified to perform duties as outlined in Assistant Instructor Qualifications (section 4.2.1) Included among its training outcomes are: knowledge and skills needed to plan and safely conduct the GUE Discover Diving program and coach divers, and to act as a sanctioned video diver or safety diver during GUE Open Water Diver, GUE Advanced Open Water Diver, GUE Performance Diver, GUE Basic Fundamentals, and GUE Technical Fundamentals[23] classes.

Undertaking the Assistant Instructor Training Course is a required step in the GUE Assistant Instructor Candidate Development Process (section 4.2.2.2)

3.3.2.2 Prerequisites

All GUE Assistant Instructor candidates must:

a. Fulfill GUE General Instructor Candidate Prerequisites (section 4.3.2.1).

3.3.2.3 Course Content

The Assistant Instructor Training Course is normally conducted over four days. It requires a minimum of thirty hours of instruction, encompassing lectures, land drills, and in-water work.

3.3.2.4 Assistant Instructor Training Course Specific Training Standards

a. Maximum candidate-to-staff ratio of 4:1
b. Can be run with one trainee

3.3.2.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.3.2.6 Academic Topics and Performance Requirements

The candidate must participate in the following academic sessions from the instructor training curriculum with a GUE IT or IE.

a. How to Teach: Part 1
b. How to Teach: Part 2

[23] Restricted to Assistant Instructors who hold a GUE Technical Fundamentals certification, or a GUE Fundamentals with Technical rating issued under past versions of Standards, plus a certification from a recognized agency to dive to 100 ft/30 m or GUE Deep Primer certification.

c. How to Teach: Part 3
d. Teaching and diving with non-divers and beginners
e. Basic positioning and control
f. Debriefing: Part 1
g. GUE General Training Standards, Policies, and Procedures overview and exam

The GUE Assistant Instructor candidate must earn a signature for each of the following components by participating in appropriate sessions and being evaluated by a GUE IT or IE. Component signatures are documented using the current GUE Fundamentals/Open Water Diver Intern Evaluation Form.

a. Physical fitness (all components)
b. Professionalism (all components)
c. General teaching skills (all components)
d. General classroom performance
    i. GUE overview
    ii. Buoyancy and weighting
    iii. Balance and trim
    iv. Minimum decompression procedures
    v. Dive planning
    vi. Diving safety
e. Recreational curriculum classroom performance
    i. Starting with the basics
    ii. Open water diving
    iii. Discover Diving presentation

3.3.2.7 Required Land Drills

The GUE Assistant Instructor candidate must earn a signature for each of the following components by participating in appropriate sessions and being evaluated by a GUE IT or IE. Component signatures are documented using the current GUE Fundamentals/Open Water Diver Intern Evaluation Form.

a. Equipment overview
b. Gas analysis
c. Basic 5 scuba skills
d. Propulsion
e. Backplate fitting

3.3.2.8 Required In-Water Skills and Drills

The GUE Assistant Instructor candidate must receive a signature for each of the following components by participating in appropriate sessions and being evaluated by a GUE IT or IE. Component signatures should be documented using the current GUE Fundamentals/Open Water Diver Intern Evaluation Form.

a. Buoyancy and trim
b. Propulsion and maneuvering: A minimum of two techniques are required, of which at least one must be a propulsion technique.
c. Basic 5 scuba skills
d. Debriefing (oral)

3.3.2.9 Personal Diving Skills

The GUE Assistant Instructor candidate must receive a signature for all personal skills components by participating in appropriate sessions and being evaluated by a GUE IT or IE. Component signatures are documented using the current GUE Fundamentals/Open Water Diver Intern Evaluation Form and must be scored with a minimum grade of 4.

3.3.2.10 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A.

3.3.3 Instructor Training Course

3.3.3.1 Course Outcomes

GUE's Instructor Training Course (ITC) is designed to develop qualified GUE instructors within relevant GUE curricula. After completing this course, the instructor candidate will be qualified to pursue experience-based training requirements toward their first endorsement.

Undertaking the Instructor Training Course is an elementary part of the GUE Instructor Candidate Development Process (section 4.3.2.2).

3.3.3.2 Prerequisites

All GUE Instructor candidates must:

a. Fulfill GUE General Instructor Candidate Prerequisites (section 4.3.2.1).
b. Fulfill the curriculum-specific instructor candidate prerequisites for the entry-level class of the curriculum in which they are seeking endorsement. These are listed in the respective curricula: Recreational (section 4.3.4.1), Technical and Cave (section 4.3.4.2)

3.3.3.3 Course Content

The Instructor Training Course is normally conducted over six days and requires at least forty-eight hours of instruction, encompassing lectures, land drills, and in-water work. Some curricula may require more time, which is specified in each curriculum's ITC schedules.

3.3.3.4 Instructor Training Course Specific Training Standards

a. Maximum candidate-to-staff ratio of 4:1
b. Can be run with one trainee

3.3.3.5 Required Training Materials

GUE training materials and recommended study as determined by the course study packet available online or via download after GUE course registration.

3.3.3.6 Academic Topics

a. Introduction: GUE organization and course overview (objectives, limits, expectations)
b. Instructor's role, duties, and responsibilities as a professional scuba educator and GUE representative in the diving industry
c. Risk assessment and mitigation associated with GUE instructor duties and responsibilities
d. Classroom, land drill, and in-water teaching techniques
e. Underwater student control and positioning
f. Briefing and debriefing strategies (including video analysis)
g. Course structure and content, logistics, customer satisfaction management, time management, use of qualified assistants (includes use of video divers)
h. Student evaluation process, administration, and minimum performance requirements
i. GUE General Training Standards, Policies, and Procedures

3.3.3.7 Required Dive Skills and Drills

All GUE Instructor candidates must:

a. Demonstrate proficiency in safe diving practices, including pre-dive preparation, in-water activity, and post-dive assessment.
b. Demonstrate awareness of student location and a concern for safety, responding quickly to visual indications and students' requirements.
c. Demonstrate good buoyancy and trim, i.e., approximate reference is a maximum of 10 degrees off horizontal while remaining within a range of 2 ft/0.5 m from target depth.
d. Demonstrate personal skills at a minimum grade of 4, as defined in GUE's Grading Scale (section 2.1.1).
e. Demonstrate a safe and responsible demeanor throughout all training.
f. Demonstrate proficiency in underwater communication while teaching.
g. Demonstrate safe ascent and descent procedures and control while teaching.
h. Demonstrate equipment proficiency and an understanding of the GUE equipment configuration at a level adequate for a GUE educator.
i. Demonstrate efficient time management, logistics, and concern for a proper learning environment, both out of and in water.
j. Demonstrate adequate professionalism as expected from a GUE representative and GUE educator.
k. Demonstrate adequate understanding of GUE standards, procedures, and administrative processes as expected from a GUE representative and GUE educator.
l. Demonstrate proficiency in delivering properly structured land drills from relevant curricula.

m. Demonstrate proficiency in delivering properly structured academic components from relevant curricula.
n. Demonstrate proficiency in conducting properly structured training sessions and dives, including dive briefings, skill demonstrations, assessment of student skills, active teaching, and post-dive performance evaluation and feedback in relevant curricula.
o. Demonstrate adequate in-water control and application of proper in-water positioning.
p. Demonstrate adequate techniques for efficient in-water skill demonstrations.

3.3.3.8 Equipment Requirements

GUE base equipment configuration as outlined in Appendix A.

Additional equipment needs may vary with the ITC being conducted. Please verify requirements with the leading Instructor Trainer (IT) and/or Instructor Evaluator (IE).

3.3.4 Instructor Trainer Development Course

3.3.4.1 Course Outcomes

GUE's Instructor Trainer Development Course (ITDC) is designed to provide qualified, Active status GUE instructors with the skills necessary to cultivate and evaluate prospective GUE instructors in conformity with GUE standards.

3.3.4.2 Prerequisites

All GUE Instructor Trainer candidates must:

a. Fulfill GUE Instructor Trainer Candidate Prerequisites (section 4.4.2.1).

3.3.4.3 Course Content

The Instructor Trainer Development Course involves two days and a minimum of sixteen hours of instruction and leadership training during which candidates will engage in a management-level understanding of the GUE General Training Standards, Policies, and Procedures document, review and discuss instructor candidate development strategies and organizational expectations, and work to cultivate a precise understanding of what constitutes a minimum standard for certification.

3.3.4.4 Instructor Trainer Development Course Specific Training Standards

a. Maximum candidate-to-staff ratio of 4:1
b. Can be run with one trainee

4. GUE Dive Professional Standards and Procedures

4.1 Dive Leader

4.1.1 Qualifications

A GUE Dive Leader is qualified to perform duties as a professional dive leader.

4.1.2 Dive Leader Candidate Development

4.1.2.1 Dive Leader Candidate Prerequisites

All GUE Dive Leader candidates must:

a. Submit a completed Course Registration Form, Medical History Form, and Liability Release Form to GUE HQ.
b. Be physically and mentally fit.
c. Be a nonsmoker.
d. Be a minimum of 18 years of age. Documented parental or legal guardian consent must be submitted to GUE HQ when the participant is a minor.
e. Obtain a physician's prior written authorization for the use of prescription drugs, except for birth control, or for any medical condition that may pose a risk while diving.
f. Hold a GUE Advanced Open Water Diver or GUE Fundamentals certification. All fundamental skills, including primary light use, must be performed with good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees of horizontal while remaining within a range of 3 ft/1 m from target depth.
g. Have conducted at least 200 dives; 50 of which must have been in a GUE configuration and 50 must have been at a depth of at least 80 ft/24 m.
h. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
i. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
j. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
k. Have personal diving insurance that specifically covers diving medical emergencies, as well as third party liability that covers GUE in case of a claim.

4.1.2.2 Dive Leader Candidate Development Process

After fulfilling the GUE Dive Leader Candidate Prerequisites (section 4.1.2.1), dive leader candidates must in sequence:

a. Undertake a GUE Dive Leader Training Course (section 3.3.1).

b. Be ratified: Following successful completion of the Dive Leader Training Course, dive leader candidates must:
    i. Communicate with GUE HQ and ensure that all dive leader candidate development documents have been properly executed and submitted to HQ.
    ii. Ensure that dive leader candidate-specific documentation is in order, e.g., insurance, BLS certification, etc.
    iii. Submit a signed dive leader agreement and standards agreement, along with the appropriate dive leader fee.

4.1.3 Dive Leader Status

4.1.3.1 Active Status Dive Leader

To perform their duties, a GUE Dive Leader must be in Active Status. Active status GUE Dive Leaders are dive leaders in good standing who are sanctioned to represent GUE and act as a dive guide to certified divers.

To maintain this status, the GUE Dive Leader must:

a. Apply for renewal every three years.
b. Log at least twenty-five non-training dives per year. Twelve dives must have been as a dive leader.
c. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
d. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
e. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
f. Provide evidence of a current personal diving insurance policy that specifically covers diving medical emergencies, as well as third party liability that covers GUE in case of a claim.
g. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.1.3.2 Inactive Status Dive Leader

Inactive status dive leaders are dive leaders who are not sanctioned to represent GUE in any official capacity, no longer pay dive leader membership dues, nor participate in the benefits of GUE professional membership in any way. Inactive diver leaders must return their dive leader certification cards to GUE HQ.

4.1.3.3 Dive Leader Status Changes

Inactive status dive leaders may change their status to Active by meeting the following requirements:

a. Undergo an update workshop with a GUE Dive Leader instructor.
b. Log at least twenty-five non-training dives in the twelve months prior to their application.
c. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
d. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
e. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
f. Provide evidence of a current personal diving insurance policy that specifically covers diving medical emergencies, as well as third party liability that covers GUE in case of a claim.
g. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.2 Assistant Instructor

4.2.1 Qualifications

A GUE assistant instructor is qualified to:

a. Act as an instructor's assistant in the following courses: Discover Diving, Scuba Diver, Open Water Diver, Advanced Open Water Diver (including Navigation Primer, Rescue Primer, and Deep Primer), GUE Performance Diver, GUE Basic Fundamentals, GUE Technical Fundamentals[24], Drysuit Primer, and Doubles Primer.
b. Act as an instructor's assistant in other courses from the Recreational curriculum, if certified at that level.
c. Coach students in a 2:1 ratio in the following skills while in confined water: trim, balance, buoyancy, basic 5 scuba skills, and propulsion and maneuvering techniques. The GUE Assistant Instructor is limited to coaching and active feedback, and cannot offer an evaluation of students' performance, which is the sole responsibility of the GUE instructor.
d. Conduct GUE Discover Diving programs in confined water only and with a reduced student-to-assistant-instructor ratio of 2:1 during land drills, surface exercises, and in-water training.

[24] Restricted to Assistant Instructors who hold a GUE Technical Fundamentals certification, or a GUE Fundamentals with Technical rating issued under past versions of Standards, plus a certification from a recognized agency to dive to 100 ft/30 m or GUE Deep Primer certification.

e. Accompany students to the surface and perform descents and ascents with students if approved by the instructor.
f. Act as a sanctioned video diver or safety diver during any class for which they are qualified to act as an assistant instructor (4.2.1, a and b)

4.2.2 Assistant Instructor Candidate Development

4.2.2.1 Assistant Instructor Candidate Prerequisites

All GUE Assistant Instructor candidates must:

a. Fulfill GUE General Instructor Candidate Prerequisites (section 4.3.2.1) with Open Water Instructor amendment (4.3.2.1.1).
b. Hold a GUE Advanced Open Water Diver or GUE Fundamentals certification. All fundamental skills, including primary light use, must be performed with good buoyancy and trim, i.e., approximate reference is a maximum of 10 degrees off horizontal while remaining within a range of 2 ft/0.5 m from target depth.
c. Have conducted at least 200 dives, 50 of which must have been in a GUE configuration and 50 must have been at a depth of at least 80 ft/24 m.

4.2.2.2 Assistant Instructor Candidate Development Process

After fulfilling the GUE General Instructor Candidate Prerequisites (section 4.3.2.1) and the Assistant Instructor Candidate Prerequisites (section 4.2.2.1), assistant instructor candidates must in sequence:

a. Observe—as a registered intern—one complete GUE entry-level class in the curriculum in which they are seeking credentialing run by an Active GUE instructor who has taught at least five classes in the given curriculum. This internship must occur no more than six months before formal commencement of an Assistant Instructor Development Course.
b. Undertake an Assistant Instructor Training Course (section 3.3.2).
c. Earn component signatures from a GUE IT or IE, as specified in sections 3.3.2.6 through 3.3.2.9.
d. Be ratified: Following their final component signature, and before they may be placed in Active status, assistant instructor candidates must:
    i. Communicate with GUE HQ and ensure that all assistant instructor candidate development documents have been properly executed and submitted to HQ.
    ii. Ensure that assistant instructor candidate-specific documentation is in order, e.g., insurance, BLS certification, fitness form, etc.
    iii. Submit a signed assistant instructor agreement and standards agreement, along with the appropriate assistant instructor fee.

4.2.3 Assistant Instructor Status

4.2.3.1 Active Status Assistant Instructor

To perform their duties, a GUE Assistant Instructor must be in Active Status. Active status GUE Assistant Instructors are assistant instructors in good standing who are sanctioned to represent GUE and assist in specific GUE classes commensurate with their certifications.

To maintain this status, a GUE Assistant Instructor must:

a. Maintain a current mailing address with GUE HQ.
b. Annually complete and submit an Assistant Instructor Renewal Form.
c. Be familiar with the most current version of the GUE General Training Standards, Policies, and Procedures document.
d. Pay all outstanding debts owed to GUE.
e. Be a nonsmoker.
f. Log at least twenty-five non-training dives per year. Twelve dives must be at the highest level of certification. The remaining documented dives should be oriented toward enhancing personal skill development.
g. Document that they have assisted, audited, or participated in one complete GUE diving course or have conducted at least three Discover Diving programs in the preceding year.
h. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
i. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
j. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
k. Carry instructional liability insurance and annually provide proof of the policy.
    i. Instructors in the following categories must carry US-based liability insurance, as recommended and approved by GUE HQ.
        1. *ALL* instructors of any nationality teaching in U.S. territories.
        2. *ALL* U.S. citizens teaching U.S. citizens in *ANY* location.
    ii. Liability insurance carried by all instructors must, at minimum, meet the following criteria:
        1. Certificates of insurance must cover GUE in case of a claim.
        2. Minimum coverage: $1 million.
    iii. Waivers: Instructors who are covered by city, state, federal, or private institutional liability insurance must request, in writing, an exemption for the insurance requirement. U.S. military personnel who teach diving as part of their military duties and teach ONLY U.S. military are exempt from the insurance requirement but must apply, in writing, for the exemption and provide letters of exemption from their commanding officers.

l. Provide evidence that they have current personal diving insurance, equivalent to the DAN Europe Pro Bronze Plan, to cover diving medical emergencies including, but not limited to, third party liability, emergency hyperbaric treatment, hospitalization and repatriation. It is the responsibility of the instructor to ensure that any insurance policy has equivalent levels of cover.
m. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.2.3.2 Inactive Status Assistant Instructor

Inactive status assistant instructors are assistant instructors who are not sanctioned to represent GUE in any official capacity, no longer pay instructor membership dues, nor participate in the benefits of GUE professional membership in any way. Inactive assistant instructors must return their assistant instructor certification cards to GUE HQ.

4.2.3.3 Assistant Instructor Status Changes

Inactive status assistant instructors may change their status to Active by meeting the following requirements:

a. Apply for reinstatement to GUE's Panel of Program Directors, who will determine what instructional requirements must be met prior to reinstatement.
b. Maintain a current mailing address with GUE HQ.
c. Be familiar with the most current version of the GUE General Training Standards, Policies, and Procedures document.
d. Pay all outstanding debts owed to GUE.
e. Be a nonsmoker.
f. Log at least twenty-five non-training dives within the twelve months prior to their application. Twelve dives must be at the highest level of certification. The remaining documented dives should be oriented toward enhancing personal skill development.
g. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
h. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
i. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
j. Carry instructional liability insurance and provide proof of the policy.
    i. Instructors in the following categories must carry US-based liability insurance, as recommended and approved by GUE HQ.
        1. *ALL* instructors of any nationality teaching in U.S. territories.
        2. *ALL* U.S. citizens teaching U.S. citizens in ANY location.

ii. Liability insurance carried by all instructors must, at minimum, meet the following criteria:
    1. Certificates of insurance must cover GUE in case of a claim.
    2. Minimum coverage: $1 million.
iii. Waivers: Instructors who are covered by city, state, federal, or private institutional liability insurance must request, in writing, an exemption for the insurance requirement. U.S. military personnel who teach diving as part of their military duties and teach ONLY U.S. military are exempt from the insurance requirement but must apply, in writing, for the exemption and provide letters of exemption from their commanding officers.

k. Provide evidence that they have current personal diving insurance, equivalent to the DAN Europe Pro Bronze Plan, to cover diving medical emergencies including, but not limited to: third party liability, emergency hyperbaric treatment, hospitalization, and repatriation. It is the responsibility of the instructor to ensure that any insurance policy has equivalent levels of coverage.
l. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.3 Instructor

4.3.1 Qualifications

A GUE Instructor is qualified to:

a. Conduct GUE courses for which they are credentialed.
b. Conduct GUE courses in the equipment configuration(s) for which they are qualified to teach.
c. Certify their students for the courses for which they are credentialed.

4.3.2 Instructor Candidate Development

GUE's training curricula are designed to cultivate a common platform comprising a complementary set of concepts and skills that divers can exercise in any environment to augment their safety, comfort, and skill. Nonetheless, GUE recognizes the existence of differing educational needs as well as environment-specific practices and thus requires its instructor candidates to undertake rigorous training in general and environment-specific areas before they are sanctioned to teach GUE courses. GUE's instructor candidate development mixes scheduled instructor training courses (ITCs) with internship requirements that enable candidates to fuse theory and practice en route to providing elite education and training to students.

4.3.2.1 General Instructor Candidate Prerequisites

All GUE instructor candidates (entry-level or upgrading) must:

a. Be a minimum of 18 years of age for the Recreational curriculum, and a minimum of 21 years of age for the Technical and Cave curriculum.
b. Be able to swim at least 600 yds/550 m in less than 14 minutes without stopping.
c. Be able to swim a distance of at least 70 ft/21 m while submerged on a breath hold.
d. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
e. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
f. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
g. Be a nonsmoker.
h. Be physically and mentally fit.
i. Hold insurance that will cover diving emergencies such as hyperbaric treatment, e.g., DAN Master-level insurance or equivalent.
j. Be medically screened as suitable for diving in accordance with procedures laid down by a competent medical authority. If such procedures are not specified, instructor candidates must provide evidence of a diver medical examination not older than two years unless the medical doctor who has carried out the examination specifies a shorter or longer validity.
k. Obtain a physician's prior written authorization for the use of prescription drugs, except for birth control, or for any medical condition that may pose a risk while diving.
l. Fulfill the curriculum-specific instructor candidate prerequisites for the curriculum in which they are seeking endorsement. These are listed in the respective curricula: Recreational (section 4.3.4.1), Technical and Cave (section 4.3.4.2).
m. Apply to be a GUE instructor candidate: this requires completing an application form, instructor candidate assessment form, fitness form, and instructor candidate agreement and submitting these to GUE HQ for approval.
n. Upon approval as a candidate, register as a GUE instructor candidate by paying the registration fee.
o. Meet the equipment requirements of the course they are seeking endorsement to teach.
p. Possess and demonstrate knowledge of the training materials required for the class they are seeking endorsement to teach.
q. Demonstrate in-depth understanding of the academic topics that are part of the course they are seeking endorsement to teach.
r. Demonstrate a high level of proficiency in the skills and drills that define the course outcomes for the class they are seeking endorsement to teach.
s. Comply with GUE's General Training Standards (section 2.1.4) and the course-specific training standards governing the course they are seeking endorsement to teach.

4.3.2.1.1 Open Water Instructor Candidate Prerequisites

All GUE Open Water instructor candidates must abide by General Instructor Candidate Prerequisites, except :

a. Be able to swim at least 600 yds/550 m in less than 14 minutes without stopping.
b. Be able to swim a distance of at least 70 ft/21 m while submerged on a breath hold.

And instead must:

a. Be able to swim at least 500 yds/450 m in less than 14 minutes without stopping.
b. Be able to swim a distance of at least 60 ft/18m while submerged on a breath hold.

4.3.2.2 General Instructor Candidate Development Process

After fulfilling the general instructor candidate prerequisites and the curriculum-specific instructor candidate prerequisites for the curriculum in which they are seeking credentialing, instructor candidates must in sequence:

a. Observe—as a registered intern—one complete GUE class in the curriculum in which they are seeking credentialing, run by an Active GUE instructor who has taught at least five classes in the given curriculum. This internship must occur no more than six months before formal commencement of an Instructor Training Course.
b. Initiate an Instructor Training Course (section 3.3.3).
c. Earn one or two endorsements from appropriately credentialed GUE personnel. Specific parameters guiding these endorsements are found under each curriculum.
    i. For a GUE instructor candidate to qualify as an Active status GUE instructor they must be endorsed by sanctioned GUE representatives, credentialed to give endorsements for the rating sought. The path followed as well as the nature of the endorsement varies, depending upon the rating sought. GUE requires that instructors new to a given curriculum (i.e., recreational, technical, or cave) must earn two endorsements; the two endorsements must come from different GUE representatives as defined below.
    ii. Where two endorsements are required, the first endorsement may be awarded by an Instructor Trainer (IT) or an Instructor Evaluator (IE). This endorsement is earned by collecting a given set of component signatures (i.e., partial endorsements) with different ITs or IEs, which attest to readiness with the discrete component parts. This may involve a number of evaluative procedures of teaching capacity—e.g., ITC, distance learning, video, sanctioned GUE classes, mock classes (classes in which the students are divers already credentialed in that category), private testing (one-on-one), etc.
    iii. The final endorsement must be secured from an Instructor Evaluator (IE). Unless indicated within course specific standards, this final endorsement may only be awarded during a validating examination (Instructor Evaluation) conducted during

the course of one actual[25], complete[26], and uninterrupted[27] class. The instructor candidate is required to be responsible for all facets of this class, from logistical planning to document processing. The final endorsement must be secured within one year of the first endorsement's completion. Co-teaching is prohibited during a validating examination.

d. Be ratified. Following their final endorsement, and before they may be placed in Active status, instructor candidates must:
    i. Communicate with GUE HQ and ensure that all instructor development documents have been properly executed and submitted to HQ.
    ii. Ensure that instructor-specific documentation is in order, e.g., insurance, BLS certification, fitness form signed by the final endorsement Instructor Evaluator.
    iii. Submit a signed instructor agreement and standards agreement, along with the appropriate instructor fee.

4.3.2.2.1 Open Water Instructor Candidate Development Process

After fulfilling the Open Water instructor candidate prerequisites, instructor candidates must in sequence:

a. Observe—as a registered intern—one complete GUE Open Water Diver or Performance Diver class, run by an Active GUE instructor who has taught at least five classes in the given curriculum. This internship must occur no more than six months before formal commencement of an Instructor Training Course.
b. Initiate an Instructor Training Course (section 3.3.3).
c. Earn required endorsements from appropriately credentialed GUE personnel. Specific parameters guiding these endorsements are found under each course.
    i. For a GUE instructor candidate to qualify as an Active status GUE instructor, they must be endorsed by a sanctioned GUE representative credentialed for the rating sought. GUE requires that Open Water instructors earn two endorsements, which must come from different GUE representatives as defined below.
    ii. The first endorsement may be awarded by an Instructor Trainer (IT) or an Instructor Evaluator (IE). This endorsement is earned by collecting a given set of component signatures (i.e., partial endorsements) with different ITs or IEs, which attest to readiness with the discrete component parts. This may involve a number of evaluative procedures of teaching capacity—e.g., ITC, distance learning, video, sanctioned GUE classes, mock classes (classes in which the students are divers already credentialed in that category), private testing (one-on-one), etc.

[25] Throughout section 4.3, "actual" means that the students have not yet been GUE certified at the level of the course being taught.

[26] Throughout section 4.3, "complete" means that every component of the course must be taught.

[27] Throughout section 4.3, "uninterrupted" means that all course days must be consecutive days.

iii. The final endorsement must be secured from an Instructor Evaluator (IE). The final endorsement can be conducted in the following format under the supervision of an Instructor Trainer (IT) or Instructor Evaluator (IE):
    1. Conduct one complete and uninterrupted GUE Discover Diving Program with an actual student who does not possess a scuba diving certification, and
    2. Conduct one complete and uninterrupted Performance Diver course with two students with no previous GUE training.

    OR

    1. Conduct one actual, complete, and uninterrupted GUE Scuba Diver course with at least two students.

iv. The Instructor Evaluator (IE) must witness the training either by observing in-person or by reviewing submitted video documentation from the examination as defined below. If the Instructor Evaluator (IE) is not present during training, an Instructor Trainer must be present during all components of the course(s).
    1. Video of the instructor candidate demonstrating at least one propulsion technique, a back kick, and basic 5 skills underwater.
    2. Video of the instructor candidate teaching two propulsion techniques and the S-drill while underwater (video must document control, communication, and active teaching).
    3. Video of the instructor candidate conducting land drills for two propulsion techniques and the S-drill.
    4. Video of the students' performance from dive 2 of the GUE Performance Diver course or confined session 4 of the Scuba Diver course, plus the final open water dive of the course. During the final open water dive, the students must demonstrate buoyancy, trim, propulsion techniques, and an out-of-gas ascent.

d. Be ratified. Following their final endorsement, and before they may be placed in Active status, instructor candidates must:
    i. Communicate with GUE HQ and ensure that all instructor development documents have been properly executed and submitted to HQ.
    ii. Ensure that instructor-specific documentation is in order, e.g., insurance, BLS certification, fitness form signed by the IT or IE who is present for the final endorsement training.
    iii. Submit a signed instructor agreement and standards agreement, along with the appropriate instructor fee.

After completion of the final endorsement and activation as a GUE Open Water Diver Instructor, the instructor will be qualified to teach the following courses in the GUE double tank and/or single tank configuration, per their final endorsement evaluation:

a. The complete GUE open water curriculum (Discover Diving, Scuba Diver, Open Water Diver)
b. GUE Performance Diver

4.3.3 Instructor Status

4.3.3.1 Active Status Instructor

To teach GUE-sanctioned training courses, one must be a GUE Active status instructor. Active status instructors are instructors in good standing who are sanctioned to represent GUE and conduct GUE classes commensurate with their rating.

To maintain this status, instructors must:

a. Maintain a current mailing address with GUE HQ.
b. Annually complete and submit an Instructor Renewal Form.
c. Complete an Instructor Requalification Workshop every four years.
d. Be familiar with the most current GUE instructor material relevant to their rating(s) and the most current version of the GUE General Training Standards, Policies, and Procedures document.
e. Meet the standards required to teach all courses for which they are rated.
f. Pay all outstanding debts owed to GUE.
g. Be a nonsmoker.
h. Log at least twenty-five non-training dives per year.
    i. For recreational instructors, all dives must be conducted at the highest level of instructional (not diver) certification, with a minimum of twelve dives submitted at the time of renewal.
    ii. For technical instructors, at least twelve dives must be conducted at or above the level required to achieve their highest level of instructional certification. The remaining documented dives should be oriented toward enhancing personal skill development. Instructors qualified in both cave and technical curricula must submit renewal dives specific to each curriculum.
i. Annually document that they have fulfilled at least one of the following:
    i. Taught at least one formal GUE course (excluding Gas Blender) as the instructor of record, or
    ii. Served as staff on one GUE ITC, or
    iii. Co-taught, as a registered co-instructor, three GUE diving courses.
j. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
k. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
l. Carry instructional liability insurance and annually provide proof of the policy.
    i. Instructors in the following categories must carry US-based liability insurance, as recommended and approved by GUE HQ.
        1. *ALL* instructors of any nationality teaching in U.S. territories.
        2. *ALL* U.S. citizens teaching U.S. citizens in ANY location.

ii. Liability insurance carried by all instructors must, at a minimum, meet the following criteria:
    1. Certificates of insurance must cover GUE in case of a claim.
    2. Minimum coverage: $1 million.
iii. Waivers: Instructors who are covered by city, state, federal, or private institutional liability insurance must request, in writing, an exemption from the insurance requirement. U.S. military personnel who teach diving as part of their military duties and teach ONLY U.S. military are exempt from the insurance requirement but must apply, in writing, for the exemption and provide letters of exemption from their commanding officers.

m. Provide proof of personal diving insurance, equivalent to the DAN Europe Pro Bronze Plan, to cover diving medical emergencies including, but not limited to: third party liability, emergency hyperbaric treatment, hospitalization, and repatriation. It is the responsibility of the instructor to ensure that any insurance policy has equivalent levels of coverage.
n. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.3.3.2 Sustaining Status Instructor

Sustaining status instructors are instructors who are no longer sanctioned to conduct GUE classes, but who retain their GUE instructor status, membership status, are able to participate in GUE instructor internal communication, and receive all GUE instructor information.

To maintain Sustaining status, GUE instructors are required to:

a. Maintain a current mailing address with GUE HQ.
b. Annually complete and submit an Instructor Renewal Form.
c. Pay all outstanding debts owed to GUE.

4.3.3.3 Inactive Status Instructor

Inactive status instructors are instructors who are not sanctioned to represent GUE in any official capacity, no longer pay instructor membership dues, nor participate in the benefits of GUE professional membership in any way. Inactive instructors must return their instructor certification cards to GUE HQ.

4.3.3.4 Instructor Status Changes

Sustaining or Inactive status instructors may change their status to Active by meeting the following requirements:

a. Apply for reinstatement to GUE's Panel of Program Directors, who will determine what instructional requirements must be met prior to reinstatement.
b. If in Sustaining status for more than one year, but less than three years, attend a requalification workshop.
c. If in Sustaining status for more than three years, or if in Inactive status:

i. Intern a minimum of one class for each course in which they wish to be reinstated.
ii. Secure one Instructor Evaluator (IE) endorsement for each course in which they wish to be reinstated.

d. Maintain a current mailing address with GUE HQ.
e. Be familiar with the most current GUE instructor material relevant to their rating(s) and the most current version of the GUE General Training Standards, Policies, and Procedures document.
f. Meet the standards required to teach all courses for which they seek to be re-established in Active status.
g. Pay all outstanding debts owed to GUE.
h. Be a nonsmoker.
i. Log at least twenty-five non-training dives within the twelve months prior to their application.
    i. For recreational instructors, all dives must be conducted at the highest level of instructional (not diver) certification, with a minimum of twelve dives submitted at the time of reinstatement.
    ii. For technical instructors, at least twelve dives must be conducted at or above the level required to achieve their highest level of instructional certification. The remaining documented dives should be oriented toward enhancing personal skill development. Instructors qualified in both cave and technical curricula must submit reinstatement dives specific to each curriculum.
j. Provide evidence of a current basic life support (BLS) skills and procedures certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
k. Provide evidence of a current oxygen administration and handling certification; this certification must have been earned or renewed within the previous 24 months unless it has a listed expiration or is an instructor-level certification.
l. Provide evidence of a diver rescue skills and procedures certification (conscious and unconscious diver, underwater and surface management).
m. Carry instructional liability insurance and provide proof of the policy.
    i. Instructors in the following categories must carry US-based liability insurance, as recommended and approved by GUE HQ.
        1. *ALL* instructors of any nationality teaching in U.S. territories.
        2. *ALL* U.S. citizens teaching U.S. citizens in ANY location.
    ii. Liability insurance carried by all instructors must, at minimum, meet the following criteria:
        1. Certificates of insurance must cover GUE in case of a claim.
        2. Minimum coverage: $1 million.
    iii. Waivers: Instructors who are covered by city, state, federal, or private institutional liability insurance must request, in writing, an exemption for the insurance requirement. U.S. military personnel who teach diving as part of their military duties and teach ONLY U.S. military are exempt from the insurance requirement but must

apply, in writing, for the exemption and provide letters of exemption from their commanding officers.

n. Provide evidence that they have current personal diving insurance, equivalent to the DAN Europe Pro Bronze Plan, to cover diving medical emergencies including, but not limited to: third party liability, emergency hyperbaric treatment, hospitalization, and repatriation. It is the responsibility of the instructor to ensure that any insurance policy has equivalent levels of coverage.
o. Maintain a good state of mental and physical fitness and annually submit fitness and submit an annual fitness form and provide proof of valid medical forms. Medical forms are considered valid for 24 months from the date of issue unless documented otherwise.

4.3.4 Instructor Candidate Curriculum-Specific Prerequisites and Progression

4.3.4.1 Recreational Curriculum

4.3.4.1.1 Open Water Diver Instructor Candidate Curriculum-Specific Prerequisites

All GUE Open Water Diver instructor candidates must:

a. Fulfill GUE Open Water Instructor Candidate Prerequisites (section 4.3.2.1.1).
b. Hold a GUE Advanced Open Water Diver, GUE Performance Diver, or GUE Fundamentals certification. All fundamental skills, including primary light use, must be performed with good buoyancy and trim, i.e., approximate reference is a maximum of 10 degrees of horizontal while remaining within a range of 2 ft/0.5 m from target depth.
c. Hold a GUE Technical Fundamentals[28] certification (for those wishing to teach using the GUE double tank configuration and corded primary light).
d. Have conducted at least 200 dives, 25 of which must have been in a GUE configuration and 50 must have been at a depth of at least 80 ft/24 m.
e. Apply to be an Open Water Diver instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
f. Complete the internship requirement by observing—as a registered intern—one complete GUE Performance Diver, GUE Open Water Diver, or GUE Fundamentals[29] class. (4.3.2.2.1 a) .
g. Initiate an Instructor Training Course (4.3.2.2.1, b).
h. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2.1, c).
i. Have their instructor fitness test witnessed by the IT or IE present during final endorsement training, no more than six months prior to instructor activation.
j. Submit final paperwork to GUE HQ (4.3.2.2.1, d).

[28] Including GUE Fundamentals with Technical rating issued under past versions of Standards.
[29] If observing a GUE Technical Fundamentals class, the intern must hold a GUE Technical Fundamentals certification, or a GUE Fundamentals with Technical rating issued under past versions of Standards, plus a certification from a recognized agency to dive to 100 ft/30 m or GUE Deep Primer certification.

4.3.4.1.2 Open Water Diver to Advanced Open Water Diver Instructor Progression

All GUE Advanced Open Water instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Fundamentals[30] certification (for those wishing to teach using the GUE double tank configuration).
c. Earn one endorsement from a GUE IE by demonstrating an understanding of the Advanced Open Water Diver program content and structure.
d. This endorsement can be earned at the end of a recreational ITC if the ITC is taught by an Advanced Open Water Diver IE and if the ITC encompasses both the Open Water Diver and Advanced Open Water Diver programs. In this particular case, the instructor candidate becomes an Active Open Water Diver and Advanced Open Water Diver instructor after obtaining the second endorsement for Open Water Diver instructor status.
e. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.3 Open Water Diver or Advanced Open Water Diver to Master Diver Instructor Progression

All GUE Master Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Diver Level 1 certification.
c. Have conducted at least 25 non-training Tech 1 dives following completion of GUE Technical Diver Level 1 certification.
d. Have taught at least five actual, complete, and uninterrupted GUE Open Water Diver and/or Advanced Open Water Diver classes.
e. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE Master Diver program content and structure by teaching either an actual or a mock GUE Master Diver class.
f. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.4 GUE Fundamentals, Cave, or Technical Instructor to Open Water Diver, Advanced Open Water Diver, or Master Diver Instructor Progression

All GUE Open Water Diver, Advanced Open Water Diver, or Master Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Have conducted at least 25 non-training Tech 1 dives following completion of GUE Technical Diver Level 1 certification (for Master Diver instructor progression only).
c. Have taught at least five actual, complete, and uninterrupted GUE classes (excluding Gas Blender).

[30] Including GUE Fundamentals with Technical rating issued under past versions of Standards.

d. Earn one endorsement from a GUE IE by demonstrating an understanding of the relevant course's content and structure.
e. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.5 GUE Fundamentals, Cave, or Technical Instructor to GUE Dive Leader Instructor Progression

All GUE Diver Leader instructor candidates must:

a. Be an Active status GUE Fundamentals instructor.
b. Have conducted at least 500 dives.
c. Have taught at least five actual, complete, and uninterrupted GUE Fundamentals classes.
d. Undertake an orientation workshop with a qualified GUE IE.
e. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.6 GUE Performance Diver Instructor Progression

All GUE Performance Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Fundamentals[31] certification (for those wishing to teach using the GUE double tank configuration).

4.3.4.1.7 Navigation, Rescue, or Deep Primer Instructor Progression

All GUE Navigation, Rescue, or Deep Primer instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Fundamentals[32] certification (for those wishing to teach using the GUE double tank configuration).
c. Must earn one endorsement from a GUE IE by demonstrating an understanding of the relevant GUE Navigation, Rescue, or Deep Primer program content and structure.
d. Submit final paperwork to GUE HQ (4.3.2.2, d).

Active status GUE Advanced Open Water Diver instructors are exempt from the above requirements. Active status GUE Master Diver and GUE Tech 1 instructors are exempt from the above requirements for Deep Primer only.

4.3.4.1.8 Doubles Primer Instructor Progression

All GUE Doubles Primer instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Fundamentals[33] certification.

[31] Including GUE Fundamentals with Technical rating issued under past versions of Standards.
[32] Including GUE Fundamentals with Technical rating issued under past versions of Standards.
[33] Including GUE Fundamentals with Technical rating issued under past versions of Standards.

c. Have conducted at least 200 non-training dives, 100 of which must have been in the GUE double tank configuration.
d. Own a GUE double tank configuration.
e. Earn one endorsement from a GUE IE (for recreational instructors only) by demonstrating an understanding of the GUE Doubles Primer program content and structure.
f. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.9 Drysuit Primer Instructor Progression

All GUE Drysuit Primer instructor candidates must:

a. Be an Active status GUE instructor.
b. Have conducted at least 200 non-training dives, 100 of which must have been in a drysuit.
c. Own a drysuit.
d. Earn one endorsement from a GUE IE (for recreational instructors only) by demonstrating an understanding of the GUE Drysuit Primer program content and structure.
e. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.10 Diver Propulsion Vehicle Level 1 Instructor Progression

All GUE Diver Propulsion Vehicle Level 1 instructor candidates must:

a. Be an Active status GUE Advanced Open Water Diver instructor or an Active status GUE Fundamentals instructor.
b. Have taught at least three actual, complete, and uninterrupted GUE classes (excluding Gas Blender).
c. Have conducted at least 300 non-training dives.
d. Hold a GUE Diver Propulsion Vehicle Level 1 certification.
e. Have conducted at least 50 non-training dives utilizing GUE-approved DPVs.
f. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE DPV 1 program content and structure during a workshop that includes academic and in-water evaluation.
g. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.11 Documentation Diver Instructor Progression

All GUE Documentation Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Have taught at least three actual, complete, and uninterrupted GUE classes (excluding Gas Blender).
c. Hold a GUE Documentation Diver certification.
d. Have conducted at least 300 non-training dives.
e. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE Documentation Diver program content and structure.
f. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.12 Photogrammetry Diver Instructor Progression

All GUE Photogrammetry Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Have taught at least three actual, complete, and uninterrupted GUE classes (excluding Gas Blender).
c. Hold a GUE Photogrammetry Diver certification.
d. Have conducted at least 300 non-training dives.
e. Submit a photogrammetry portfolio showing at least three photogrammetry models created and processed entirely by themselves. This will be evaluated by the Photogrammetry Diver IEs.
f. Own a licensed copy of Agisoft Metashape Professional Edition (Academic license or above).
g. Own a computer capable of processing models in a reasonable time for in-class demonstrations.
h. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE Photogrammetry Diver program content and structure.
i. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.13 Scientific Diver Instructor Progression

All GUE Scientific Diver instructor candidates must:

a. Be an Active status GUE instructor.
b. Have taught at least three actual, complete, and uninterrupted GUE classes (excluding Gas Blender).
c. Hold a bachelor's degree or above in marine sciences (e.g., marine biology, geoscience, nautical archaeology, hydrology).
d. Hold a GUE Scientific Diver certification.
e. Have conducted at least 300 non-training dives, 100 of which must have been scientific dives.
f. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE Scientific Diver program content and structure.
g. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.1.14 Gas Blender Instructor Progression

All GUE Gas Blender instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a trimix gas blender certification from a recognized training agency.
c. Earn one endorsement from a GUE IE by demonstrating an understanding of the GUE Gas Blender program content and structure.
d. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2 Technical and Cave Curriculum

4.3.4.2.1 GUE Fundamentals Instructor Candidate Curriculum-Specific Prerequisites

All GUE Fundamentals instructor candidates who are not yet Active status GUE instructors must:

a. Fulfill GUE General Instructor Candidate Prerequisites (section 4.3.2.1).
b. Hold a GUE Technical Diver Level 1 certification.
c. Have conducted at least 500 dives, 300 of which must have been in a GUE configuration and 250 dives must have been in the GUE double tank configuration.
d. Have conducted at least 150 non-training cave and/or tech dives, 75 of which must have been cave and/or tech dives following completion of GUE Cave and/or GUE Technical certification.
e. Apply to be a GUE Fundamentals instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
f. Complete the internship requirement by observing—as a registered intern—one complete GUE Fundamentals class (4.3.2.2, a).
g. Initiate an Instructor Training Course (4.3.2.2, b).
h. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c).
i. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
j. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.2 Open Water Instructor to GUE Fundamentals Instructor Progression

All GUE Fundamentals instructor candidates must:

a. Be an Active status GUE instructor.
b. Hold a GUE Technical Diver Level 1 certification.
c. Have conducted at least 500 dives, 100 of which must have been in a GUE configuration and 50 dives must have been in the GUE double tank configuration.
d. Have conducted at least 150 non-training cave and/or tech dives, 75 of which must have been cave and/or tech dives following completion of GUE Cave and/or GUE Technical certification, respectively.
e. Have taught at least five actual, complete, and uninterrupted GUE recreational classes (excluding Gas Blender).
f. Apply to be a GUE Fundamentals instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
g. Complete the internship requirement by observing—as a registered intern—one complete GUE Fundamentals class (4.3.2.2, a).
h. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c).
i. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
j. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.3 Technical Diver Level 1 Instructor Candidate Curriculum-Specific Prerequisites

All GUE Technical Diver Level 1 instructor candidates must:

a. Be an Active status GUE Fundamentals instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Technical Fundamentals[34] classes to a minimum of 10 actual students.
c. Hold a GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification.
d. Hold a GUE Cave Diver Level 1 certification.
e. Have conducted at least 600 non-training dives, 50 of which must have been Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or Closed-Circuit Rebreather Technical Diver Level 2 certification, whichever is applicable.
f. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
g. Apply to be a Tech 1 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE Tech 1 class (4.3.2.2, a).
i. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c).
j. Provide proof of at least 15 non-training Tech 2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE).
k. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
l. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.2.4.2.4 Closed-Circuit Rebreather Fundamentals Instructor to Technical Diver Level 1 Instructor Progression

All GUE Technical Diver Level 1 instructor candidates must:

a. Be an Active status GUE Closed-Circuit Rebreather Fundamentals instructor.
b. Have taught at least ten actual, complete, and uninterrupted GUE CCR Fundamentals classes to a minimum of 20 actual students.
c. Hold a GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification.
d. Hold a GUE Cave Diver Level 1 certification.
e. Have conducted at least 600 non-training dives, 50 of which must have been Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or Closed-Circuit Rebreather Technical Diver Level 2 certification, whichever is applicable.

[34] Including GUE Fundamentals classes conducted under past versions of Standards.

f. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
g. Apply to be a Tech 1 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE Tech 1 class (4.3.2.2, a).
i. Earn one endorsement from a GUE IE by teaching a GUE Tech 1 class (4.3.2.2, c, iii).
j. Provide proof of at least 15 non-training Tech 2 or CCR-T2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE).
k. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
l. Submit final paperwork to GUE HQ (4.3.2.2, d)

4.3.4.2.5 Closed-Circuit Rebreather Technical Diver Level 1 Instructor to Technical Diver Level 1 Instructor Progression

All GUE Technical Diver Level 1 instructor candidates must:

a. Be an Active status GUE Closed–Circuit Rebreather Technical Diver Level 1 instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Closed-Circuit Rebreather Technical Diver Level 1 classes to a minimum of 10 actual students.
c. Hold a GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification.
d. Hold a GUE Cave Diver Level 1 certification.
e. Have conducted at least 600 non-training dives, 50 of which must have been Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or Closed-Circuit Rebreather Technical Diver Level 2 certification, whichever is applicable.
f. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
g. Apply to be a Tech 1 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE Tech 1 class (4.3.2.2, a).
i. Earn one endorsement from a GUE IE by demonstrating an understanding of the relevant program content and structure.
j. Provide proof of at least 15 non-training Tech 2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE).
k. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.6 Technical Diver Level 2 Instructor Progression

All GUE Technical Diver Level 2 instructor candidates must:

a. Be an Active status GUE Tech 1 instructor.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Have taught at least five actual, complete, and uninterrupted GUE Tech 1 classes to a minimum of 10 actual students.
d. Hold a GUE Technical Diver Level 2 or GUE Closed-Circuit Rebreather Technical Diver Level 2 certification.
e. Have conducted at least 800 non-training dives, 75 of which must have been conducted in the last 3 years and must have been Tech 2 or CCR-T2 dives following completion of GUE Technical Diver Level 2 or Closed-Circuit Rebreather Technical Diver Level 2 certification.
f. Have participated in at least one project requiring technical dives in open water.
g. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
h. Apply to be a Tech 2 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
i. Complete the internship requirement by observing—as a registered intern—one complete GUE Tech 2 class (4.3.2.2, a) .
j. Provide proof of at least 15 non-training Tech 2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE). Dives must be conducted in an environment with sea-like conditions.
k. Earn one endorsement from a GUE IE by teaching a GUE Tech 2 class (4.3.2.2, c, iii).
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.7 Technical Diver Level 3 Instructor Progression

All GUE Technical Diver Level 3 instructor candidates must:

a. Be an Active status GUE CCR-T2 or an Active status GUE PSCR instructor.
b. Be an Active status GUE DPV 1 instructor.
c. Not actively teach diving or professional level courses for other dive training agencies.
d. Have taught at least twenty actual, complete, and uninterrupted GUE Tech 2, GUE CCR-T2, and/or GUE PSCR classes to a minimum of 40 actual students.
e. Have taught at least 100 GUE classes.
f. Prior to activation as a Tech 3 instructor, have participated in at least three projects requiring technical dives deeper than 250 ft/75 m in open water.
g. Own a GUE-approved passive semi-closed circuit rebreather or GUE-approved closed-circuit rebreather.
h. Apply to be a Tech 3 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.

i. Complete the internship requirement by observing—as a registered intern—one complete GUE Tech 3 class (4.3.2.2, a).
j. Provide proof of at least 60 non-training Tech 3 dives conducted within the 60 months prior to their activation as a Tech 3 instructor (form to be submitted to an IE). Dives must be conducted in an environment with sea-like conditions deeper than 250 ft/75 m with at least 2 hours run time.
k. Co-teach one actual, complete, and uninterrupted GUE Tech 3 class.
l. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.8 Passive Semi-Closed Circuit Rebreather Diver Instructor Progression

All GUE Passive Semi-Closed Circuit Rebreather Diver instructor candidates must:

a. Be an Active status GUE Tech 1 or an Active status GUE Cave 1 instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Tech 1 and/or GUE Cave 1 classes to a minimum of 10 actual students.
c. Hold a GUE Passive Semi-Closed Circuit Rebreather Diver certification.
d. Have conducted at least 300 non-training PSCR dives, 200 of which must have been PSCR dives following completion of GUE Passive Semi-Closed Circuit Rebreather Diver certification and while using a GUE-approved passive semi-closed circuit rebreather.
e. Own a GUE-approved passive semi-closed circuit rebreather.
f. Apply to be a PSCR Diver instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
g. Complete the internship requirement by observing—as a registered intern—one complete GUE PSCR class (4.3.2.2, a).
h. Earn one endorsement from a GUE IE by teaching a GUE PSCR class (4.3.2.2, c, iii).
i. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
j. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.9 Closed-Circuit Rebreather Fundamentals Instructor Candidate Curriculum-Specific Prerequisites

All GUE Closed-Circuit Rebreather Fundamentals instructor candidates who are not yet Active status GUE Tech 1 or GUE Cave 2 instructors must:

a. Be an Active status GUE Fundamentals instructor.
b. Have taught at least fifteen actual, complete, and uninterrupted GUE Technical Fundamentals[35] classes to a minimum of 30 actual students.
c. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 1 certification.
d. Have conducted at least 200 non-training dives following completion of GUE Closed-Circuit Rebreather Fundamentals[36] certification, while using a GUE-approved closed-circuit rebreather.

[35] Including GUE Fundamentals classes conducted under past versions of Standards.
[36] Including GUE CCR or GUE CCR 1 issued under past versions of Standards.

e. Own a GUE-approved closed-circuit rebreather.
f. Apply to be a CCR-F instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
g. Complete the internship requirement by observing—as a registered intern—one complete GUE CCR-F class (4.3.2.2, a).
h. Complete an ITC where all components of the class are demonstrated and practiced to ensure capacity.
i. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c).
j. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
k. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.10 Technical Diver Level 1 or Cave Diver Level 2 Instructor to Closed-Circuit Rebreather Fundamentals Instructor Progression

All GUE Closed-Circuit Rebreather Fundamentals instructor candidates must:

a. Be an Active status GUE Tech 1 instructor or an Active status GUE Cave 2 instructor.
b. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 1 certification.
c. Have conducted at least 200 non-training dives following completion of GUE Closed-Circuit Rebreather Fundamentals[37] certification, while using a GUE-approved closed-circuit rebreather.
d. Own a GUE-approved closed-circuit rebreather.
e. Apply to be a CCR-F instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
f. Complete the internship requirement by observing—as a registered intern—one complete GUE CCR-F class (4.3.2.2, a).
g. Complete an ITC where all components of the class are demonstrated and practiced to ensure capacity.
h. Earn one endorsement from a GUE IE by demonstrating an understanding of the relevant program content and structure. If sufficient capacity is demonstrated, this endorsement can be earned at the conclusion of the ITC.
i. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.11 Closed-Circuit Rebreather Technical Diver Level 1 Instructor Progression

All GUE Closed-Circuit Rebreather Technical Diver Level 1 instructor candidates must:

a. Be an Active status GUE CCR-F instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE CCR-F classes to a minimum of 10 actual students.
c. Hold a GUE Closed-Circuit Rebreather Technical Diver Level 2 certification.

[37] Including GUE CCR or GUE CCR 1 issued under past versions of Standards.

d. Have conducted at least 300 non-training dives following completion of GUE Closed-Circuit Rebreather Fundamentals[38] certification, while using a GUE-approved closed-circuit rebreather.
e. Own a GUE-approved closed-circuit rebreather.
f. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
g. Apply to be a CCR-T1 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE CCR-T1 class (4.3.2.2, a).
i. If the candidate is an Active status Tech 1 instructor and has taught at least five actual, complete, and uninterrupted GUE Tech 1 classes to a minimum of 10 actual students, earn one endorsement from a GUE IE by teaching a GUE CCR-T1 class (4.3.2.2, c, iii).
j. If the candidate is not an Active status Tech 1 instructor or hasn't taught five actual, complete, and uninterrupted GUE Tech 1 classes to a minimum of 10 actual students, earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c, ii).
k. Provide proof of at least 15 non-training CCR technical dives conducted within the 12 months prior to their IE (dive log to be submitted to an IE). Dives must be conducted in an environment with sea-like conditions.
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.12 Closed-Circuit Rebreather Technical Diver Level 2 Instructor Progression

All GUE Closed-Circuit Rebreather Technical Diver Level 2 instructor candidates must:

a. Be an Active status GUE CCR-T1 instructor.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Have taught at least five actual, complete, and uninterrupted CCR-T1[39] classes to a minimum of 10 actual students.
d. Have conducted at least 400 non-training dives following completion of GUE Closed-Circuit Rebreather Fundamentals[40] certification, while using a GUE-approved closed-circuit rebreather.
e. Have conducted at least 75 non-training CCR-T2 dives while using a GUE-approved closed-circuit rebreather within the three years prior to their IE.
f. Own a GUE-approved closed-circuit rebreather.

[38] Including GUE CCR or GUE CCR 1 issued under past versions of Standards.
[39] Including GUE CCR or GUE CCR 1 issued under past versions of Standards.
[40] Including GUE CCR or GUE CCR 1 issued under past versions of Standards.

g. Have conducted at least 15 non-training technical dives in a GUE configuration within the 12 months prior to their instructor candidate application. Dives must have been conducted in an environment with sea-like conditions.
h. Apply to be a CCR-T2 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
i. Complete the internship requirement by observing—as a registered intern—one complete GUE CCR-T2 class (4.3.2.2, a).
j. Earn one endorsement from a GUE IE by teaching a GUE CCR-T2 class (4.3.2.2, c, iii).
k. Provide proof of at least 15 non-training CCR level 2 technical dives conducted within the 12 months prior to their IE (dive log to be submitted to an IE). Dives must be conducted in an environment with sea-like conditions.
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.13 Cave Diver Level 1 Instructor Candidate Curriculum-Specific Prerequisites

All GUE Cave Diver Level 1 instructor candidates must:

a. Be an Active status GUE Fundamentals instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Technical Fundamentals[41] classes to a minimum of 10 actual students.
c. Hold a GUE Cave Diver Level 2 certification.
d. Hold a GUE Technical Diver Level 1 certification.
e. Have conducted at least 600 non-training dives, 50 of which must have been Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
f. Have conducted at least 15 non-training Cave 2 dives in a GUE configuration within the 12 months prior to their instructor candidate application.
g. Apply to be a Cave 1 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE Cave 1 class (4.3.2.2, a).
i. Earn two endorsements from appropriately credentialed GUE personnel (4.3.2.2, c).
j. Provide proof of at least 15 non-training Cave 2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE).
k. Prior to their final IE, intern with at least two different IT/IEs, in geologically different regions.
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

[41] Including GUE Fundamentals classes conducted under past versions of Standards.

4.3.4.2.14 Cave Diver Level 2 Instructor Progression

All GUE Cave Diver Level 2 instructor candidates must:

a. Be an Active status GUE Cave 1 instructor.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Have taught at least five actual, complete, and uninterrupted GUE Cave 1 classes to a minimum of 10 actual students.
d. Have conducted at least 800 non-training dives, 75 of which must have been in the last 3 years and must have been Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
e. Hold a GUE Diver Propulsion Vehicle Cave certification.
f. Have conducted at least 25 non-training DPV cave dives following completion of GUE Diver Propulsion Vehicle Cave certification.
g. Have experience in high-flow systems and systems that require decompression.
h. Have conducted at least 15 non-training Cave 2 dives in a GUE configuration within the 12 months prior to their instructor candidate application.
i. Apply to be a Cave 2 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
j. Complete the internship requirement by observing—as a registered intern—one complete GUE Cave 2 class (4.3.2.2, a).
k. Provide proof of at least 15 non-training Cave 2 dives conducted within the 12 months prior to their final IE (form to be submitted to an IE).
l. Provide proof of diving experience in at least two geologically different regions within the 12 months prior to their final IE.
m. Earn one endorsement from a GUE IE by teaching a GUE Cave 2 class (4.3.2.2, c, iii).
n. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
o. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.15 Cave Diver Level 3 Instructor Progression

All GUE Cave Diver Level 3 instructor candidates must:

a. Be an Active status GUE Cave 2 instructor.
b. Be an Active status GUE CCR-T2 or an Active status GUE PSCR instructor.
c. Be an Active status GUE DPV Cave instructor.
d. Have taught at least twenty actual, complete, and uninterrupted GUE Cave 2, GUE DPV Cave, GUE CCR-T2, and/or GUE PSCR classes in cave environments to a minimum of 40 actual students.
e. Have taught at least 100 GUE classes.
f. Prior to activation as a Cave 3 instructor, have participated in at least three sanctioned GUE Cave Projects.
g. Own a GUE-approved passive semi-closed circuit rebreather or the model of GUE-approved closed-circuit rebreather they intend to teach on.

h. Apply to be a Cave 3 instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
i. Complete the internship requirement by observing—as a registered intern—one complete GUE Cave 3 class (4.3.2.2, a).
j. Provide proof of at least 60 non-training Cave 3 dives conducted within the 60 months prior to their activation as a Cave 3 instructor (form to be submitted to an IE).
k. Co-teach one actual, complete, and uninterrupted GUE Cave 3 class.
l. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.16 Underwater Cave Survey Instructor Progression

All GUE Underwater Cave Survey instructor candidates must:

a. Be an Active status GUE Cave 2 instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Cave 2 classes to a minimum of 10 actual students..
c. Hold a GUE Underwater Cave Survey certification.
d. Have conducted at least 300 non–training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
e. Have participated in one sanctioned GUE Cave Project.
f. Have acted as the lead surveyor and cartographer for at least one sanctioned GUE Cave Project that resulted in the production of an accurate cave map.
g. Apply to be an Underwater Cave Survey instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
h. Complete the internship requirement by observing—as a registered intern—one complete GUE Underwater Cave Survey class (4.3.2.2, a).
i. Earn one endorsement from a GUE IE by teaching a GUE Underwater Cave Survey class (4.3.2.2, c, iii).
j. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
k. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.17 Sidemount Cave Diver Instructor Progression

All GUE Sidemount Cave Diver instructor candidates must:

a. Be an Active status GUE Cave 2 instructor.
b. Have taught at least five actual, complete, and uninterrupted GUE Cave 2 classes to a minimum of 10 actual students.
c. Hold a GUE Sidemount Cave Diver certification.
d. Have conducted at least 300 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
e. Have conducted at least 50 cave dives in a sidemount configuration, in caves where such configuration is generally preferred over backmount.

f. Apply to be a Sidemount Cave Diver instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
g. Complete the internship requirement by observing—as a registered intern—one complete GUE Sidemount Cave Diver class (4.3.2.2, a).
h. Earn one endorsement from a GUE IE by teaching a GUE Sidemount Cave Diver class (4.3.2.2, c, iii).
i. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
j. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.18 Diver Propulsion Vehicle Cave Instructor Progression

All GUE Diver Propulsion Vehicle Cave instructor candidates must:

a. Be an Active status GUE Cave 2 instructor.
b. Be an Active status GUE DPV 1 instructor.
c. Have taught at least five actual, complete, and uninterrupted GUE Cave 2 classes to a minimum of 10 actual students.
d. Have taught at least five actual, complete, and uninterrupted GUE DPV 1 classes to a minimum of 10 actual students.
e. Hold a GUE Diver Propulsion Vehicle Cave certification.
f. Have conducted at least 500 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
g. Have conducted at least 100 cave dives using multiple stages and DPVs.
h. Have participated in a sanctioned GUE Cave Project.
i. Apply to be a DPV Cave instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
j. Complete the internship requirement by observing—as a registered intern—one complete GUE DPV Cave class (4.3.2.2, a).
k. Earn one endorsement from a GUE IE by teaching a GUE DPV Cave class (4.3.2.2, c, iii).
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.3.4.2.19 Closed-Circuit Rebreather Cave Diver Instructor Progression

All GUE Closed-Circuit Rebreather Cave Diver instructor candidates must:

a. Be an Active status GUE Cave 2 instructor.
b. Be an Active status GUE CCR-T1 instructor.
c. Have taught at least five actual, complete, and uninterrupted GUE Cave 2 classes to a minimum of 10 actual students.
d. Have taught at least five actual, complete, and uninterrupted GUE CCR-T1 classes to a minimum of 10 actual students.

e. Hold a GUE Closed-Circuit Rebreather Cave Diver or GUE Closed-Circuit Rebreather Diver Level 2 (Cave) certification.
f. Have conducted at least 300 non-training Cave 2 dives following completion of GUE Cave Diver Level 2 certification.
g. Have conducted at least 300 non-training dives using a GUE-approved closed-circuit rebreather, 100 of which must have been in an overhead environment.
h. Own a GUE-approved closed-circuit rebreather.
i. Apply to be a CCR Cave Diver instructor candidate, and upon approval by the Panel of Program Directors, register with GUE HQ.
j. Complete the internship requirement by observing—as a registered intern—one complete GUE CCR Cave Diver class (4.3.2.2, a).
k. Earn one endorsement from a GUE IE by teaching a CCR Cave Diver class (4.3.2.2, c, iii).
l. Have their instructor fitness test witnessed by the qualifying IE, no more than six months prior to instructor activation.
m. Submit final paperwork to GUE HQ (4.3.2.2, d).

4.4 Instructor Trainer (IT)

4.4.1 Qualifications

A GUE Instructor Trainer (IT) is qualified to:

a. Conduct a GUE-approved ITC in the curricula for which they are credentialed.
b. Conduct internships during which instructor candidates are able to earn signatures for component parts, testifying to their readiness to teach the component in question.
c. Award the first of two endorsements that allow an instructor candidate to be ratified as a GUE instructor.

4.4.2 Instructor Trainer Candidate Development

4.4.2.1 Recreational

4.4.2.1.1 Recreational Instructor Trainer Candidate Prerequisites

All GUE Recreational Instructor Trainer candidates must:

a. Have been an Active status GUE Fundamentals instructor for at least five years.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Have taught at least fifteen GUE recreational, and/or GUE Fundamentals courses[42].
d. Demonstrate a commitment to mentoring and developing instructor candidates.
e. Possess leadership-level administrative skills.
f. Possess leadership-level educational skills.

[42] If these courses include a combination of Recreational and GUE Fundamentals, at least ten of them must be Recreational courses.

g. Demonstrate impartiality, equanimity, and sound judgment.
h. Always conduct themselves in a manner consistent with GUE General Training Standards, Policies, and Procedures, and that promotes the best interests of GUE.

4.4.2.1.2 Recreational Instructor Trainer Candidate Development Process

In order to obtain the Recreational IT rating, candidates must in sequence:

a. Submit an Instructor Trainer Application Form to GUE's Panel of Program Directors, outlining their reasons for pursuing this rating and their suitability for it.
b. Be approved as an IT candidate by GUE's Panel of Program Directors.
c. Undertake a GUE Instructor Trainer Development Course (ITDC).
d. Be confirmed as an IT by GUE's Panel of Program Directors.

4.4.2.2 Technical

4.4.2.2.1 Technical Instructor Trainer Candidate Prerequisites

All GUE Technical Instructor Trainer candidates must:

a. Have been an Active status GUE Fundamentals instructor or higher[43] for at least five years.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Have taught at least fifteen GUE Fundamentals courses if seeking Fundamentals IT status, or at least ten courses in the curriculum for the IT status being pursued.
d. Demonstrate a commitment to mentoring and developing instructor candidates.
e. Possess leadership-level administrative skills.
f. Possess leadership-level educational skills.
g. Demonstrate impartiality, equanimity, and sound judgment.
h. Always conduct themselves in a manner consistent with GUE General Training Standards, Policies, and Procedures, and that promotes the best interests of GUE.

4.4.2.2.2 Technical Instructor Trainer Candidate Development Process

In order to obtain the Technical IT rating, candidates must in sequence:

a. Submit an Instructor Trainer Application Form to GUE's Panel of Program Directors, outlining their reasons for pursuing this rating and their suitability for it.
b. Be approved as an IT candidate by GUE's Panel of Program Directors and GUE's BOD.
c. Undertake a GUE Instructor Trainer Development Course (ITDC) (first-time candidates only).
d. Assist as acting staff during at least one complete[44] and uninterrupted[45] GUE-approved Instructor Training Course (ITC) (entry-level candidates only).

[43] In this context, "or higher" refers to levels within the Technical and Cave Diver Curriculum only.
[44] In this context, "complete" means that every component of the course must be taught.
[45] In this context, "uninterrupted" means that all course days must be consecutive days.

e. Be confirmed as an IT by GUE's Panel of Program Directors.

4.4.2.3 Maintaining IT Rating

The GUE IT rating is reviewed annually and requires renewal by GUE's Panel of Program Directors. GUE ITs who wish to maintain their IT rating must:

a. Annually submit the IT/IE Renewal Form as part of their instructor renewal, documenting that they have actively engaged in instructor candidate development activities.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Demonstrate leadership-level administrative skills.
d. Demonstrate leadership-level educational skills.
e. Demonstrate a commitment to mentoring and developing instructor candidates.
f. Demonstrate impartiality, equanimity, and sound judgment.
g. Conduct themselves in a manner consistent with GUE General Training Standards, Policies, and Procedures, and promote the best interests of GUE.
h. Demonstrate that they are promoting the best interests of instructor candidates, e.g., providing excellent training while mitigating unnecessary costs to the candidate.

4.5 Instructor Evaluator (IE)

4.5.1 Qualifications

A GUE Instructor Evaluator (IE) is qualified to:

a. Conduct a GUE-approved ITC in the curricula for which they are credentialed.
b. Conduct internships during which instructor candidates are able to earn signatures for component parts, testifying to their readiness to teach the component in question.
c. Award the first and second of two endorsements that allow an instructor candidate to be ratified as a GUE instructor, though they may not award both the first and the second endorsement for a given candidate.
d. Conduct an instructor requalification.
e. Conduct instructor upgrades.

4.5.2 Obtaining IE Rating

4.5.2.1 Instructor Evaluator Progression

All GUE Instructor Evaluator (IE) candidates must:

a. Be an Active GUE IT in the curriculum for which they are seeking IE status.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Demonstrate a commitment to mentoring and developing instructor candidates.
d. Possess exemplary leadership-level administrative skills.
e. Possess exemplary leadership-level educational skills.
f. Demonstrate impartiality, equanimity, and sound judgment.

g. Always conduct themselves in a manner consistent with GUE General Training Standards, Policies, and Procedures, and that promotes the best interests of GUE.
h. Submit an Instructor Evaluator (IE) Application Form to GUE's Panel of Program Directors, outlining their reasons for pursuing this rating and their suitability for it.
i. Be approved as an Instructor Evaluator by GUE's Panel of Program Directors and GUE's BOD.

4.5.2.2 Maintaining IE Rating

The GUE IE rating is reviewed annually and requires renewal by GUE's Panel of Program Directors. GUE IEs who wish to maintain their IE rating must:

a. Annually submit the IT/IE Renewal Form as part of their instructor renewal, documenting that they have actively engaged in instructor candidate development activities.
b. Not actively teach diving or professional level courses for other dive training agencies.
c. Demonstrate exemplary leadership-level administrative skills.
d. Demonstrate exemplary leadership-level educational skills.
e. Demonstrate continued interest in developing and mentoring instructor candidates.
f. Demonstrate impartiality, equanimity, and sound judgment.
g. Conduct themselves in a manner consistent with GUE General Training Standards, Policies, and Procedures, and promote the best interests of GUE.
h. Demonstrate that they are promoting the best interests of instructor candidates, e.g., providing excellent training while mitigating unnecessary costs to the candidate.

Appendix A - GUE Equipment Configuration

The GUE base equipment configuration is comprised of:

a. Tanks/cylinders: Students may use a single tank/cylinder with a single- or dual-outlet valve. Students may also use dual tanks/cylinders connected with a dual-outlet isolator manifold, which allows for the use of two first stages. Dual tanks/cylinders connected with a dual-outlet, non-isolator manifold can be used, but only in recreational (minimum decompression) diving, and are considered an alternative for a single tank/cylinder. Consult course-specific standards and your instructor to verify size requirements.

b. Regulators:
   i. Single tank: The first stage must supply a primary second stage via a 5 to 7 ft/1.5 to 2 m hose. A backup second stage must be necklaced and supplied via a short hose. The first stage must also supply an analog pressure gauge, inflation for the buoyancy compensator (BC), and (when applicable) inflation for a drysuit.
   ii. Double tank: One first stage must supply a primary second stage via a 5 to 7 ft/1.5 to 2 m hose (7 ft/2 m hose is required for all cave classes), and inflation for the buoyancy compensator (BC). The other first stage must supply a necklaced backup second stage via a short hose, an analog pressure gauge, and (when applicable) inflation for a drysuit.

c. Backplate system:
   i. Is held to the diver by one continuous piece of webbing. This webbing is adjustable and uses a buckle to secure the system at the waist.
   ii. A crotch strap is attached and looped through the waistband to prevent the system from riding up a diver's back.
   iii. The continuous webbing must support five D-rings;
      1. The first placed at the left hip
      2. The second placed in line with a diver's right collarbone
      3. The third placed in line with the diver's left collarbone
      4. The fourth and fifth are placed on the front and back of the crotch strap when divers plan to use advanced equipment such as DPVs.
   iv. The harness below the diver's arms has small restrictive bands to allow for the placement of backup lights. The webbing and system retains a minimalist approach.

d. Buoyancy compensation device (BC):
   i. A diver's BC is back-mounted and minimalist in nature.
   ii. It is free of extraneous strings, tabs, or other material.
   iii. There are no restrictive bands or restrictive elastic affixed to the buoyancy cell.
   iv. Wing size and shape is appropriate to the cylinder size(s) employed for training.

e. At least one time/depth measuring device

f. Wrist-mounted compass

g. Mask and fins: Mask is low-volume; fins are rigid, non-split.

h. Backup mask

i. At least one cutting device

j. Wetnotes with at least one pencil
k. Exposure suit appropriate for the duration of exposure
l. Surface marker buoy (SMB) with spool: Where required, the SMB should be appropriate for environmental conditions and deployed using a spool with at least 100 ft/30 m of line.

The GUE PSCR configuration is comprised of:

a. GUE base equipment configuration (except Tanks/Cylinder)
b. One primary and two backup lights
c. A GUE-approved passive semi-closed circuit rebreather
d. Modified tank configuration as appropriate for use with a GUE-approved passive semi-closed circuit rebreather
e. Modified regulator configuration as appropriate for use with a GUE-approved passive semi-closed circuit rebreather

The GUE CCR configuration is comprised of:

a. GUE base equipment configuration (except Tanks/Cylinder)
b. One primary and two backup lights
c. A GUE-approved closed-circuit rebreather
    i. Where required, students must own a GUE-approved closed-circuit rebreather before attending the course; they can, however, use a rented or borrowed unit during the course.
    ii. The closed-circuit rebreather used by the student, with all associated components, must be fully functional (pass all tests on the rebreather pre-dive checklist) and serviced according to manufacturer specifications.
    iii. All oxygen sensors must be less than one year from manufacturing date.
    iv. Both the rebreather controller and SOLO board must be updated with the latest software and firmware versions published by the manufacturer.
d. Modified tank configuration as appropriate for use with a GUE-approved closed-circuit rebreather
e. Modified regulator configuration as appropriate for use with a GUE-approved closed-circuit rebreather
f. Spare parts and consumables, including one set of controller, HUD, and solenoid batteries; one oxygen sensor; and one DSV/BOV mouthpiece.
g. If using a drysuit inflation cylinder attached to the backplate, extended inflation cylinder straps need to be used to ensure that it does not interfere with or restrict the counterlung's function.

The GUE Sidemount configuration is comprised of:

a. GUE base equipment configuration (except Tank/cylinders, Regulators, Backplate, BC)
b. One primary and two backup lights

c. Tanks/cylinders: Students are required to use independent cylinders with single valves and without manifolds, which allow for the use of one first stage each. Stage cylinders with proper cylinder marking (2.2, e) will also be utilized.
d. Regulators: One of the second stages must be on a 7 ft/2 m hose. Both first stages must supply a pressure gauge and provide inflation for a drysuit (where applicable) and a wing.
e. Sidemount harness: A diver's sidemount setup should be back-mounted and minimalist in nature. Wing size and shape should be appropriate to the cylinder size(s) employed for training.

Additional Course-Specific Equipment

a. Where required, back gas and stage cylinders with proper cylinder marking (2.2, e) will also be utilized in accordance with the GUE General Training Standards, Policies, and Procedures document and configured in line with GUE protocols.
b. When drysuit inflation systems are applicable, they should be sized appropriately for the environment; small tanks are placed on the left side of the backplate with larger supplies affixed to the diver's left back gas tank.
c. Underwater lights:
    i. When required, backup lights should be powered by alkaline batteries (not rechargeable) and stowed on the D-rings at a diver's chest (except when diving sidemount).
    ii. Backup lights should have a minimal amount of protrusions and a single attachment at the rear.
    iii. Backup lights should feature a twist-on/off switch for operation
    iv. The primary light should consist of a rechargeable battery pack and be fitted with a Goodman-style light handle.
    v. When burn time requirements create the need for an external battery pack, it should reside in a canister mounted on the diver's right hip.
d. Guideline devices, as required during cave diving activities:
    i. A primary reel is required for all cave diving and provides a minimalist form factor with a handle designed to support a Goodman or "hands free" handle operation. The primary reel must contain at least 150 ft/45 m of line.
    ii. A safety spool is required for each diver while cave diving and must contain at least 150 ft/45 m of line.
    iii. A jump or gap spool is required during Cave 2 diving and must contain at least 75 ft/23 m of line.
e. Where required, GUE-approved DPV must:
    i. Be a tow-behind style with adjustable speed and clutch mechanism.
    ii. Include an attached cord at the back with bolt snap to be clipped on the front crotch strap D-ring.
    iii. Include a leash attached to the front to be used for towing.