

## 2.2.3 GUE Fundamentals

### 2.2.3.1 Course Outcomes

The GUE Fundamentals course is designed to cultivate the essential skills required for sound diving practice. Included among its course outcomes are: to provide the recreational diver, who does not desire diver training beyond the recreational level, with an opportunity to advance their basic diving skills; 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.

### 2.2.3.2 Prerequisites

Applicants for a GUE Fundamentals course 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. Hold insurance that will cover diving emergencies such as hyperbaric treatment, e.g., DAN Master-level insurance or equivalent.
- 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 medical condition that may pose a risk while diving.
- f. 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.
- g. Be certified, at minimum, as an autonomous entry-level scuba diver (or equivalent) from a recognized training agency.

### 2.2.3.3 Course Content

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

### 2.2.3.4 GUE Fundamentals 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. 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.
- f. Can be combined with GUE Triox Primer, as per the Triox Primer Instructor Guidelines document.

### 2.2.3.5 Required Training Materials

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

### 2.2.3.6 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

### 2.2.3.7 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
- i. Diver rescue techniques (for Technical rating only)

### 2.2.3.8 Required Dive Skills and Drills

#### 2.2.3.8 (A) Required Dive Skills and Drills for a GUE Fundamentals - Recreational Rating

- 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 proficiency in safe diving practices, 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 good buoyancy and trim, i.e., approximate reference is a maximum of 30 degrees off horizontal while remaining within 5 ft/1.5 m of a target depth.
- f. Demonstrate proficiency in surface marker buoy deployment while using a spool.
- g. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
- h. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by an ascent to the surface utilizing minimum decompression.
- i. Demonstrate a safe and responsible demeanor throughout all training.
- j. Demonstrate proficiency in underwater communication.

- k. Demonstrate a comfortable demeanor while swimming without a mask in touch contact.
- l. Demonstrate aptitude in the following open water skills: mask clearing, mask removal and replacement, regulator removal and exchange, long hose deployment.
- m. Demonstrate safe ascent and descent procedures.
- n. Demonstrate proficiency in executing a valve drill.
- o. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
- p. Demonstrate three propulsion techniques, including comprehension of the components necessary for a successful backward kick.

### **2.2.3.8 (B) Required Dive Skills and Drills for a GUE Fundamentals - Technical Rating**

This rating is required for those trainees seeking entry into GUE's Cave and Technical courses.

- 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 proficiency in safe diving practices, 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 good buoyancy and trim, i.e., approximate reference is a maximum of 20 degrees off horizontal while remaining within 3 ft/1 m of a target depth.
- f. Demonstrate proficiency in the ability to deploy a surface marker buoy while using a spool.
- g. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver in multiple gas-sharing scenarios.
- h. Efficiently and comfortably demonstrate how to donate gas to an out-of-gas diver followed by an ascent to the surface utilizing minimum decompression.
- i. Demonstrate a safe and responsible demeanor throughout all training.
- j. Demonstrate proficiency in underwater communication.
- k. Demonstrate a comfortable demeanor while swimming without a mask in touch contact.
- l. Demonstrate aptitude in the following open water skills: mask clearing, mask removal and replacement, regulator removal and exchange, long hose deployment.
- m. Demonstrate safe ascent and descent procedures.
- n. Demonstrate an efficient valve drill with double tanks.
- o. Demonstrate basic equipment proficiency and an understanding of the GUE equipment configuration.
- p. Demonstrate proficiency in four propulsion techniques that would be appropriate in delicate and/or silty environments, including competence in the backward kick and helicopter turns.
- q. Demonstrate proficiency with a primary light by using it during all skills except SMB deployment.

- r. Demonstrate diver rescue techniques, including effective management of an unconscious diver underwater.

### **2.2.3.9 Equipment Requirements**

#### **2.2.3.9 (A) Equipment Requirements for a GUE Fundamentals - Recreational Rating**

GUE base equipment configuration as outlined in Appendix A.

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

#### **2.2.3.9 (B) Equipment Requirements for a GUE Fundamentals - Technical Rating**

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

- a. GUE double tank configuration
- b. One primary and two backup lights

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

## **Appendix A - GUE Base 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 (no 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 pencils
  - k. Surface marker buoy (SMB) with spool: when required, the SMB should be appropriate for environmental conditions and deployed using a spool with at least 100 ft/30 m of line.
  - l. Exposure suit appropriate for the duration of exposure

### Additional Course-Specific Equipment

- a. Where required, back gas and stage cylinders are marked 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 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.
  - ii. Backup lights should have a minimal amount of protrusions and a single attachment at the rear.
  - iii. The primary light should consist of a rechargeable battery pack and be fitted with a Goodman-style light handle.
  - iv. 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.