



**Performance Freediving International
Standards and Procedures Manual**

Part 5: Adaptive Freediver Standards

PERFORMANCE FREEDIVING INTERNATIONAL

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Revision History

Revision Number	Date	Changes
0125	01/01/2025	Initial Standards.

1. Adaptive Course Overview Matrix

	Specialty Name	Minimum Age	Number of required dives	Student to Instructor Ratio in Confined Water	Student to Instructor Ratio in Open Water	Prerequisite Certification or Requirements	Certification Card must be issued by PFI	Experience Card can be issued by Instructor
3	Adaptive Snorkeler	6	0	4	2	None	Yes	Yes
4	Adaptive Intro to Freediving	10	0	4	2	None	No	Optional
5	Adaptive Basic Freediver	10	1	4	6	None	Yes	No
6	Adaptive Freediver	10	4	4	2	None	Yes	No
7	Adaptive Intermediate Freediver	12	2	4	2	None	Yes	No
8	Adaptive Advanced Freediver	16	4	4	2	Intermediate Freediver	Yes	No
9	Adaptive Freediver Buddy	16	4	8	8	CPR and First Aid, Safety Freediver or IFD with 40 Logged freedive sessions	Yes	No
10	Adaptive Freediver Instructor	18	4	8	8	Current Instructor, CPR and First Aid, PFI Adaptive Freediver Buddy	Yes	No

2. General Adaptive Freediver Course Standards

These standards apply to all PFI Adaptive Freediver Courses and Specialties.

2.1 *Administrative*

Instructors must ensure that all students complete the following forms – for each and every course and specialty the student participates in. These records must be kept for a minimum of seven years and must be completed prior to the start of the course. They are:

1. PFI Medical Statement.
2. PFI Liability and Assumption of Risk Form.

2.2 *Accidents*

Hopefully a member will never have to do this; if a member were involved in an accident or simply witnessed an accident the PFI Accident Report Form must be completed by the member/witness and faxed to PFI Headquarters immediately after the accident occurred. Please refer to the PFI Standards.

International Training strongly recommends that if any incident occurs, the freedive computers are safely secured and potentially downloaded. This should be done in full cooperation with local authorities by encouraging the police, or other investigating authorities to download and preserve data from the victim's freedive computer. Professional members should do this when they are giving their statements to the authorities. The professional member(s) involved in the incident must download their freedive computer information and submit it with the incident report.

2.3 *Definitions*

Assistant or Assisted by = A person who is assisting a primary and certified freediver supervisor, assistant instructor, instructor or instructor trainer for a course that they, the "assistant", is not certified to teach. Assistants can be used for the purposes of additional supervision and to increase ratios where standards and environmental conditions allow. Assistants listed on registrations will receive experience credits for courses they have assisted with only if listed on the initial registration form.

Co-Teach or 2nd Instructor = A person who is certified to teach the course taking place and is working together with an also certified instructor or instructor trainer. The 2nd instructor will receive equal credit for the course if listed on the initial registration form.

Student Prerequisites = conditions that must be met by students prior to beginning a course. These cannot be completed during the course unless specifically outlined in the standard. Conditions listed here cannot be waived by the instructor. Written standards

waivers for prerequisites may be issued by the HQ training department depending on the course, dive site, and the specific prior experience of course participants.

2.4 Equipment

Equipment may need to be modified to accommodate a freediver's disability provided it does not exclude mandatory equipment.

2.5 Confined Water Training

Confined water training must be conducted in a swimming pool or a confined body of water with the following conditions:

1. Approximately 3 Metres/10 Feet of visibility.
2. Calm surface conditions.
3. Easy access to depths that allow students to stand with their head above water.
4. Depths that allow skills, as defined in the confined water lesson guide, to be adequately demonstrated.
5. Equipment that is appropriate for the training site.
6. Confined water training sites, other than pools, must be approved by PFI Headquarters
7. prior to the beginning of the course.

2.6 Open Water Training

The instructor, with the following considerations, must carefully choose an open water training site:

1. Body of water similar to the regional freediving conditions: ocean, lake, etc.
2. Swimming pools are not considered an open water environment.
3. Water clarity.
4. Temperature above and below the water.
5. Weather conditions.
6. Water access.
7. Equipment adequate for the conditions.
8. Thermal protection appropriate for the conditions.
9. No dives will be conducted in an overhead environment.
10. A complete briefing that includes:
 - a. The freedive site.

- b. Water conditions.
 - c. Skills to be performed.
 - d. Entry/Exit to be used.
 - e. Emergency procedures.
11. A complete debriefing that includes:
- a. Performance of freedivers as a whole.
 - b. Areas that need improvement.
 - c. Environmental observations.
 - d. Question and answers.

2.7 Student – Minimum Equipment Requirements

The students must have the following equipment:

1. During all in-water training each student is to be equipped with the equipment as stated in the individual course standards.
2. Note: elimination or modification of individual pieces of equipment may be necessary to meet the students needs, i.e. no fins required for a student with an amputation.

2.8 Instructor – Minimum Equipment Requirements

During all open water training sessions, each PFI Professional is to be equipped with all student equipment plus a depth gauges, a separate timing device, an emergency visual and audible signaling device, a knife/line cutter, and oxygen unit.

In lieu of performing surface rescue scenarios on a person (student or instructor), a manikin may be used, provided it simulates a Freediver in size, shape, buoyancy, and movement characteristics. The manikin may be a purchased manikin, or one made by the instructor provided it fits the above requirements.

2.9 Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should

it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

3. Adaptive Snorkeler

3.1 Introduction

This entry level certification course is for individuals wishing to learn the basics of surface snorkeling or limited skin dives for the purpose of enjoying the underwater realm in a knowledgeable and comfortable manner.

***Note:** Snorkeling under the supervision of a qualified PFI Adaptive Freediver Buddy may be required.

3.2 Course Objectives

The objective of this course is to train individuals in the benefits, skills, techniques, and safety & problem management for snorkeling or limited skin diving to a depth no greater than 5 metre/16 Feet.

3.3 Program Prerequisites

1. Minimum age of 18, 6 with parental consent.
2. Competent swimming skills.

3.4 Required Student Equipment

1. Mask, fins, snorkel, exposure protection, weight belt and weights appropriate for local environment.
2. The use of a snorkel vest is optional.

Note: Removal or modification of equipment may be required to meet the student's needs.

3.5 Support Materials

Student Materials:

1. PFI Liability and Assumption of Risk Form.
2. PFI Medical Statement.
3. PFI Snorkeler eLearning course.

Instructor Materials:

1. There are no required instructor materials for this course.

3.6 Qualification of Graduates

1. Upon successful completion of this course, graduates may engage in snorkeling or skin-diving activities with a buddy without direct instructor supervision and to depths no greater than 5 metre/16 Feet.
2. Upon successful completion of this course, graduates are qualified to enroll in the Freediver course.

3.7 Who May Teach

This course may be taught by any active PFI Adaptive Freediver Instructor.

3.8 Student to Instructor Ratio

Classroom:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training.

Confined water:

1. A maximum of four students to one PFI Adaptive Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

Open Water:

1. A maximum of four students to one PFI Adaptive Freediver Instructor (4:1).
2. Maximum of six students to one PFI Adaptive Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors

3.9 Depth Restrictions

Open Water:

1. Maximum open water depth of 5 Metres/16 Feet.

Confined Water:

1. Minimum depth to not exceed student's ability to stand. Maximum depth of 5 Metres/16 Feet.

3.10 Recommended Course Minimums

Classroom time:

1. 1.5 Hours.

Confined water time:

1. 1.5 Hours.

Open water dive time:

1. 2.0 Hours (optional).

3.11 Knowledge Development Overview

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered during this course:

1. Introduction:
 - a. Course Overview.
 - b. Paperwork and Prerequisites.
 - c. Equipment Requirements Check.
 - d. Pool Protocols and Conduct.
 - e. In-water Protocols and Conduct.
 - f. Safety/Supervision Practices.
2. Equipment Options:
 - a. Masks, Fins, Snorkels.
 - b. Exposure Protection.
 - c. Buoyancy Systems.
3. In-Water Environment:
 - a. Local aquatic animal and plant life.
 - b. Environmental conditions.
4. Safety & Problem Management for Snorkel/Skin Diving:
 - a. Buddy contact.
 - b. Cramp removal.
 - c. Tired snorkeler/skin diver.
 - d. Surface signals.
5. In-Water Training Exercises:
 - a. Equalization techniques.
 - b. Communication.

3.12 Confined Water

To be certified as a PFI Snorkeler a student must demonstrate the following skills to the satisfaction of the PFI Instructor:

1. Watermanship Skills:
 - a. Swim 25 metre/82 Feet without snorkeling gear.
 - b. Tread water for a minimum of 1 minute without floatation.
 - c. Prepare snorkeling equipment with minimal assistance.
 - d. Successfully complete one of the following entries applicable to local environment with minimum assistance if required:
 - i. Reverse Walk In.
 - ii. Seated Entry.
2. Mask and Snorkel use:
 - a. Snorkel breathing with and without mask.
 - b. Snorkeling clearing using blast and displacement methods.
 - c. Partial mask clear at surface.
3. Buoyancy Device:
 - a. Snorkel Vest inflation/ deflation (only required if snorkel vest is used).
4. Surface Swimming- use of fins:
 - a. Proper fin use/flutter kick, or adaptive swim style/webbed gloves.
 - b. Surface swim for 25 metre/82 Feet showing proper buddy contact.
 - c. Dolphin kick (optional).
5. Optional Freedive (max depth 5 metre/16 Feet):
 - a. Breathing techniques:
 - i. 3-4 relaxed, deep breaths.
 - ii. Final breath.
 - b. Surface dive.
 - c. Equalization.
 - d. Head down descent.
 - e. Complete body submersion.
 - f. Raised hand ascent method.
 - g. Displacement/blast method snorkel clearing.
6. Problem Management:

- a. Assist with tired snorkeler/skin diver.
- b. Cramp removal.
- c. Surface signal for assistance.

3.13 Open Water (Optional)

A student can demonstrate the following skills to the satisfaction of the PFI Adaptive Freediver Instructor.

The following are optional open water skills for the PFI Adaptive Snorkeler certification:

1. Mask and Snorkel use:
 - a. Snorkel breathing with and without mask.
 - b. Snorkeling clearing using blast and displacement methods.
 - c. Partial mask clear at surface.
2. Buoyancy Device:
 - a. Snorkel Vest inflation/ deflation (only required if snorkel vest is used).
3. Surface Swimming- use of fins/webbed gloves:
 - a. Proper fin use/flutter kick, or adaptive swim style/webbed gloves.
 - b. Surface swim for 25 metre/82 Feet showing proper buddy contact.
 - c. Dolphin kick (optional).
4. Surface dives:
 - a. Breathing techniques:
 - i. 3-4 relaxed, deep breaths.
 - ii. Final breath.
 - b. Surface dive (duck dive).
 - c. Equalization.
 - d. Head down descent.
 - e. Complete body & equipment submersion.
 - f. Raised hand ascent method.
 - g. Displacement snorkel clearing.
5. Problem Management:
 - a. Cramp removal with tired snorkeler assist.

3.14 Graduation Requirements

In order to successfully complete this course a student must:

1. Complete all of knowledge development and confined water sessions.
2. Complete all required skills.
3. Demonstrate mature and sound judgment concerning planning and execution.
4. Prepare snorkeling equipment with minimal assistance.
5. Successfully complete one of the following in-water entries applicable to local environment with minimum assistance if required:
 - a. Reverse Walk In.
 - b. Seated Entry.

3.15 Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

4. Adaptive Introduction to Freediving

4.1 Introduction

This program is designed as an experience only program for people with disabilities and is not intended to teach specific skills or provide certification. A respect for the safety and problem management of freediving should be relayed as well as an appreciation and excitement for furthering a participant's education in a proper full certification program.

4.2 Course Objectives

The objective of this course is to show and give examples of the benefits, skills, techniques, and safety & problem management for all facets of freediving and to provide an experience with basic level static apnea to a maximum of 2:00 minutes and/or a dynamic apnea of 25 metre/82 Feet.

4.3 Program Prerequisites

1. Minimum age 10 years.
2. Comfortable in the water.

4.4 Required Student Equipment

1. Mask.
2. Fins and Snorkel (optional).
3. Exposure protection (appropriate for local environment).
4. A timing device (optional).

4.5 Support Materials

Student Materials:

1. PFI Medical Statement.
2. PFI Liability and Assumption of Risk Form.

Instructor Materials:

1. *PFI Freediver* Instructor Manual.
2. *PFI Freediver* PowerPoint.

4.6 Qualification of Graduates

Upon successful completion of this course, graduates are qualified to enroll in the Safe Buddy or Freediver courses.

4.7 Who May Teach

This program may be taught by any active PFI Adaptive Freediver Instructor.

4.8 Student to Instructor Ratio

Classroom:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training.

Confined Water:

1. A maximum of four students to one PFI Adaptive Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

4.9 Depth Restrictions

Confined Water:

1. Maximum confined water depth of 5 metre/16 Feet.

4.10 Recommended Course Minimums

Classroom time:

1. 1.5 Hours

Confined water time:

1. 2.0 Hours

4.11 Knowledge Development Overview

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered during this course:

1. Introduction:
 - a. Course Overview.
 - b. Paperwork and Prerequisites.

- c. Equipment Requirements Check.
 - d. Pool Protocols and Conduct.
 - e. In-water Protocols and Conduct.
 - f. Safety/Supervision Practices.
2. History of Freediving:
 - a. Origin and History of Freediving.
 - b. Freediving Records and Competitions.
 3. Why Freedive:
 - a. Recreation.
 - b. Photo/video.
 - c. Marine harvest.
 - d. Competition.
 4. Equipment Introduction for Freediving:
 - a. Basic to advanced equipment introduction.
 5. Introduction to In-Water Environment:
 - a. Local aquatic animal and plant life & environmental conditions.
 6. Physics & Physiology of Freediving:
 - a. Introduction to the physics and physiology of freediving.
 7. Safety & Problem Management for the Freediver Course:
 - a. Direct supervision.
 - b. Hypoxia and blackouts.
 - c. Introduction to static, dynamic and depth procedures.
 - d. Safety signals and procedures for static apnea.

4.12 Confined Water

No certification exists for this program and no students' objectives are required except for instilling a respect and appreciation for safety procedures:

1. Prepare freediving equipment with the assistance of the instructor.
2. Basic elements of static and/or dynamic apnea.
3. Maximum of 3-4 static breath-holds with proper supervision.
4. Complete a maximum of 2:00 minute static apnea.
5. Dynamic apnea streamlining & kick technique with proper supervision.

6. Complete a maximum of a 25 metre/82 Feet dynamic apnea.
7. Complete all safety under the direct supervision and assistance of an instructor.

4.13 Graduation Requirements

There are no graduation requirements for this program.

5. Adaptive Basic Freediver

5.1 Introduction

This beginning certification course is for individuals with disabilities wishing to learn the fundamentals of proper breath hold diving for the purpose of increasing underwater awareness and enjoyment. An introduction to open water Freediving skills and techniques to depths no deeper than 10 metre/33 Feet are practiced with the program also encompassing static and optional dynamic apnea as introductory or stand-alone disciplines.

***Note:** Freediving under the supervision of a qualified PFI Adaptive Freediver Buddy may be required.

5.2 Course Objectives

The objective of this course is to train individuals in the benefits, skills, techniques, safety and problem management for beginning Freediving to a depth of 10 metre/33 Feet, with basic level static apnea development of 1:00 minute at a minimum and an optional dynamic apnea development of 10 metre/33 Feet.

5.3 Program Prerequisites

1. Minimum age of 10 for Junior Basic Freediver or 16 years for Basic Freediver.
2. Competent swimming skills.
3. PFI Snorkeler or equivalent skill level.

5.4 Required Student Equipment

1. Mask, Fins, Snorkel.
2. Exposure protection appropriate for local environment.
3. Weight belt and weights appropriate for local environment.
4. Timing device (preferred freediving computer or depth gauge).
5. Note: equipment may be removed or modified to meet the students' needs.

5.5 Support Materials

Student Materials:

1. PFI Medical Statement.
2. PFI Liability and Assumption of Risk Form.

3. PFI Freediver Manual or eLearning.

Instructor Materials:

1. PFI Freediver Instructor Guide.

5.6 Qualification of Graduates

1. Upon successful completion of this course, graduates may engage in buddy supported freediving activities appropriate for the environment without direct supervision of an instructor to depths no greater than 10 metre/33 Feet similar to their training.
2. Upon successful completion of this course, graduates are qualified to enroll in the Freediver or Intermediate Freediver programs.

5.7 Who May Teach

This course may be taught by any active PFI Basic Adaptive Freediver Instructor. The PFI Basic Adaptive Freediver Instructor may use active status PFI Assistant Adaptive Freediver Instructors to increase student ratios.

5.8 Student to Instructor Ratio

Classroom:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete learning.

Confined Water:

1. A maximum of four students to one PFI Adaptive Basic Freediver Instructor (4:1).
2. Maximum of six students to one PFI Adaptive Basic Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

Open Water:

1. A maximum of four students to one PFI Adaptive Basic Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Basic Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

5.9 Course Structure and Duration

General Execution:

1. No more than 2 in-water sessions per day.
2. Training sessions must be completed during daylight hours, or under conditions that simulate daylight conditions.

3. All skills are to be briefed, practiced, evaluated, and debriefed by the PFI Adaptive Basic Freediver Instructor or PFI Assistant Adaptive Freediver Instructor.
4. During all skills, students will act in a buddy team (buddy A – diver, buddy B – safety) during all skills to promote team freediving.

Confined Water Execution:

1. Students must complete a minimum of 1 confined water session.
2. Maximum confined water depth of 10 Metre/33 Feet.
3. Students should, where applicable, treat the confined water as an 'open water environment' and employ all protocols consistent with open water freediving.

Open Water Execution:

1. Students must complete a minimum of 1 open water session.
2. The maximum depth may not exceed 10 Metre/33 Feet.

Course Structure:

1. PFI Allows Instructors to structure courses according to the number of students participating and their skill level.

Duration:

2. The suggested number of total course training hours is 9.

5.10 Administrative Requirements

1. Collect the course fees from all the students.
2. Ensure the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete:
 - a. *PFI General Liability and Express Assumption of Risk Form*
 - b. *PFI Medical History Form*

5.11 Knowledge Development Overview

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered during this course:

1. Introduction:
 - a. Participant and Staff Introductions.
 - b. Course Overview.
 - c. Paperwork and Prerequisites.

- d. Equipment Requirements Check.
 - e. Classroom, Confined and Open Water Protocols and Conduct.
 - f. Safety/Supervision Practices.
2. History of Freediving.
3. Safety & Problem Management:
- a. Freediving supervision:
 - i. Direct Supervision.
 - ii. One buddy up and one down.
 - b. Safety for depth freediving:
 - i. Being prepared.
 - ii. Remain close enough to protect the airway.
 - iii. Time your buddy's dive.
 - iv. Know which direction they are heading while under.
 - v. Rule of 9's.
 - c. Safety and signals for static apnea:
 - i. Signal Agreement.
 - ii. Proper Signaling.
 - iii. Two strikes rule.
 - iv. Air release (loss of airway control).
 - v. Target time and signals.
 - vi. Exiting static apnea.
 - vii. Loss of Motor Control (LMC)/Blackout (BO).
 - d. Safety for dynamic (optional):
 - i. Safety Positioning.
 - ii. Watch body style.
 - iii. Loss of airway control.
 - iv. Loss of Motor Control (LMC) /Blackout (BO).
 - e. Loss of Motor Control (LMC) and Blackout:
 - i. Depth Hypoxia vs. Apnea Hypoxia.
 - ii. Near Blackout, LMC, and Samba.
 - iii. Assisting an LMC at the Surface.
 - iv. Blackouts.

- v. Assisting Blackouts at the surface.
- f. Buddy separation:
 - i. At the surface.
 - ii. Underwater.
- 4. Breathing:
 - a. Respiratory muscles:
 - i. Diaphragm.
 - ii. Intercostals.
 - iii. Subclavian (scalene).
 - b. Correct breathing cycles:
 - i. Normal ventilations.
 - ii. Ventilations.
 - iii. Purging.
 - iv. Peak Inhalation.
 - v. Recovery breathing.
 - c. Recovery breathing:
 - i. What is Recovery Breathing:
 - 1. Six most important breaths.
 - 2. Upper chest.
 - 3. Gas exchange and maintains cerebral blood circulation.
 - 4. Cleansing VS Hook breaths; 6 Cleans VS 3 Hook + 3 Cleans.
 - ii. Static/Dynamic recovery breaths:
 - 1. 6 Cleansing breaths.
 - iii. Constant Weight recovery breaths:
 - 1. 3 Hook breaths; held for 3 seconds at full inhalation.
 - 2. 3 Cleansing breaths.
 - d. Anxiety stimulus:
 - i. Causes:
 - 1. Physical Stress.
 - 2. Physiological Stress.
 - 3. Psychological Stress.
 - ii. Stress Reduction:

5. Equipment for Freediving:

- a. Masks:
 - i. Volume.
 - ii. Fit.
 - iii. Materials and types.
 - iv. Maintenance.
- b. Fins:
 - i. Blade length.
 - ii. Materials and types.
 - iii. Maintenance.
- c. Snorkels:
 - i. Features.
 - ii. Placement.
 - iii. Submersion protocol.
 - iv. Maintenance.
- d. Exposure protection.
- e. Wetsuits:
 - i. Features.
 - ii. Materials and types.
 - iii. Maintenance.
- f. Hoods:
 - i. Materials and types.
 - ii. Equalizing.
- g. Gloves:
 - i. Features.
 - ii. Materials and types.
- h. Socks:
 - i. Features.
 - ii. Materials and types.
- i. Timing devices:
 - i. Waterproof Timers.
 - ii. Features of watches.

- iii. Features of freediving computers.
- j. Weight systems:
 - i. Materials and Types.
 - ii. Weights.
 - iii. Placement.
 - iv. Buckles.
 - v. Accessories and maintenance.
- k. Buoyancy systems:
 - i. Snorkeling vests features and types.
- l. Lines, flags and floats.
 - i. Diver Below Flag.
 - ii. Alpha Flag.
 - iii. Floats & Lines.
- m. Accessory freediving equipment:
 - i. Freediving knives and placement.
 - ii. Lights and markers.
 - iii. Goodie bags and stringers.
- n. In-Water Environment:
 - i. Local aquatic animal and plant life.
 - ii. Local environmental conditions.
 - 1. Water type.
 - 2. Temperature and thermoclines.
 - 3. Visibility.
 - 4. Wind, waves and currents.
 - 5. How to assess and plan accordingly.
 - iii. Local freediving procedures:
 - 1. Boat/shore freediving.
 - 2. In-water procedures.
 - 3. Entry/exit procedures.
- 6. Physics & Physiology of Freediving:
 - a. Pressure & volume changes:
 - i. Boyle's Law and its effects on a Freediver.

- ii. Pressure and Body Air Spaces:
 - 1. Pressure on rigid air space:
 - a. Sinuses.
 - b. Ears.
 - 2. Pressure on semi-rigid airspaces:
 - a. Lungs.
 - b. Stomach/gastrointestinal.
- iii. Pressure and Equipment Air Spaces:
 - 1. Mask and goggles.
 - 2. Wetsuit compression:
- b. Equalization Techniques – body:
 - i. Equalizing Ears & Sinuses:
 - ii. Methods of Equalization:
 - 1. Frenzel.
 - 2. Valsalva.
 - 3. Swallowing, Yawning, Jaw Thrust.
 - iii. Equalizing Issues:
 - 1. Ears vs sinuses.
 - 2. “Noisy” ears and unequal equalizing.
 - 3. Frequency.
 - 4. Losing air during equalization.
 - iv. Masks:
 - 1. Frequency.
 - 2. Recapturing air upon ascent.
- c. Pressure Related Injuries – barotrauma:
 - i. Barotitis Media:
 - 1. Symptoms.
 - 2. Causes.
 - 3. Treatment.
 - ii. Sinus Squeeze:
 - 1. Symptoms.
 - 2. Causes.

3. Treatment.
- iii. Perforated Eardrum:
 1. Symptoms.
 2. Causes.
 3. Treatment.
- iv. Reverse Block:
 1. Symptoms.
 2. Causes.
 3. Treatment.
- v. Mask Squeeze:
 1. Symptoms.
 2. Causes.
 3. Treatment.
- d. Buoyancy:
 - i. Archimedes Principle.
 - ii. Three States of Buoyancy:
 1. Positive – Safety/technique.
 2. Neutral – 10 metre/33 Feet.
 3. Negative – Safety/technique.
 - iii. Things that effect buoyancy:
 1. Lung volume.
 2. Wetsuits.
 3. Weights.
 4. Body type.
 5. Salt vs fresh.
 - iv. Buoyancy Checks:
 1. Surface ‘collar bone’ rule of thumb.
 2. Slight positive at 5 metre /16 Feet on first level exhalation.
 3. Neutral at 10 metre/33 Feet.
- e. Types & causes of blackouts:
 - i. Insufficient oxygen to the brain to support higher function.
 - ii. Recovery Blackout:

1. 90% - Critical hypoxia or Pulmonary Dump.
 2. Insufficient recovery breathing.
 3. Blood pressure disruption.
- iii. Ascent Blackout:
1. 10% (9% & 0.9%) – Critical hypoxia or 'Vacuum Effect'.
 2. Rapid lung volume expansion and rapid drop in partial pressures.
7. Aquatic adaptations:
- a. Bradycardia.
 - b. Splenic contractions.
 - c. Blood shunt (peripheral constriction).
8. In-Water Training Exercises:
- a. Confined Water Skills & Techniques.
 - b. Open Water Skills & Techniques.
 - c. Communications.

5.12 Confined Water

To be certified as a PFI Basic Freediver, students must demonstrate the following skills to the satisfaction of the PFI Instructor:

1. Watermanship and Stamina (May be completed in open water. If done in open water, must be completed prior to any other open water skills):
 - a. A distance swim of 200 Metre non-stop using mask, snorkel, and fins or equivalent.
 - b. Tread water for 10 minutes without flotation.
 - c. Blast Clear a flooded snorkel without removing head from water.

Note: If an exposure suit is worn for any of the above skills, the wearer must be neutrally buoyant at the surface.

2. Open Water Freedive Simulation:
 - a. Breathe up.
 - b. Descent with proper head position.
 - c. Equalizing at the surface and on the way down to the bottom of the pool.
 - d. Relaxed bottom kicking for 10 seconds.
 - e. Ascent with proper head position.
3. Assist with a simulated surface LMC as a safety:

- a. Physically support the Freediver.
 - b. Keep one hand on the chest above the waterline but below the chin.
 - c. Speak calmly to encourage the Freediver to breathe.
4. Respond to a simulated blackout at the surface:
- a. Protect airway with "head sandwich".
 - b. Place Freediver on their back into the "dosey-doe" position.
 - c. Remove their mask.
 - d. Blow, Tap, Talk 3 times.
 - e. 2 simulated rescue breaths.
5. Assist with a simulated underwater blackout:
- a. Recognize Freediver underwater signaling for assistance.
 - b. Freedive, take control of the Freediver asking for assistance.
 - c. Recognize blackout before surfacing.
 - d. Protect the airway with a "head sandwich".
 - e. Place Freediver on their back into the "dosey-doe" position.
 - f. Remove their mask.
 - g. Blow, Tap, Talk 3 times.
 - h. 2 simulated rescue breaths.
6. Self-rescue and buddy rescue skills:
- a. Flooded mask ascent:
 - i. Fully flood at depth in deep end of pool.
 - ii. Ascent and recovery breathe in a controlled manner.
 - b. Remove weight belt and ascend:
 - i. Remove weight belt at depth in deep end of pool.
 - ii. Ascend holding belt low at their side with buckle end down.
 - iii. Perform proper recovery breathing.
 - iv. Replace weight belt at the surface with right hand release.
 - c. Respond to a simulated surface LMC as a Safety
 - i. Physically support the Freediver.
 - ii. Keep one hand parallel to the water, above the water, but below the chin.
 - iii. Speak calmly to encourage the Freediver to breathe.
 - iv. Maintain control until the Freediver regains control.

- d. Respond to a simulated blackout at the surface:
 - i. Place the Freediver on their back with the airway protected using a "head sandwich".
 - ii. Securely support the Freediver's head with a "dosey-doe".
 - iii. Blow, tap, talk 3 times.
 - iv. Maintain control until the Freediver regains control.

7. Static and Dynamic Apnea

a. Static apnea:

- i. As a breath-holder student must complete a minimum of 4 consecutive static breath-holds.
 - 1. Vent – hold ratio.
 - a. 1 minute – 30 seconds
 - b. 2 minutes – 1 minute
 - c. 3 minutes – 2 minutes
 - d. 4 minutes – 2:30 minutes
 - ii. Complete a minimum 1:00 static apnea, not exceeding 2:30, without any hypoxic symptoms and demonstrating proper recovery breathing.
- iii. As a safety student must complete:
 - 1. Buddy supervision.
 - 2. Timing and safety signals.
 - 3. Recovery breathing and support assistance.

b. Dynamic apnea (optional):

- i. As a breath-holder student may complete a minimum of 3 dynamic performances:
 - 1. Vent – distance ratio:
 - a. 1 minute – 10 minutes.
 - b. 2 minutes – 10 minutes + turn
 - c. 2 minutes – 25 minutes
 - 2. Streamlining and kicks appropriate for dynamic.
 - 3. Complete a minimum 10 metre/33 Feet dynamic apnea, not exceeding 25 metre/82 Feet, without any hypoxic symptoms and demonstrating proper recovery breathing.
- 4. As a safety student must complete:
 - a. Surface safety with floatation.

- b. Recovery breathing and surface support assistance.

5.13 Open Water

To be certified as a PFI Basic Freediver a student must demonstrate the following skills to the satisfaction of the PFI Basic Freediver Instructor as follows:

1. Open Water Training Sessions:
 - a. A minimum of one (1) open water session must be completed.
2. Weighting and Buoyancy:
 - a. Establish positive buoyancy at the surface – collarbone at water level on peak inhalation and airway above water level on relaxed (first level) exhalation.
3. Fin Use:
 - a. Introduce proper flutter kick.
 - b. Dolphin kick (optional).
4. Free Immersion Warm-up Dives:
 - a. Complete a minimum of four (4) free immersion style freedives as a warm-up, reaching a minimum of 5 metre/16 Feet without barotrauma or hypoxic symptoms.
 - i. Breathe up properly.
 - ii. Remove snorkel.
 - iii. Descend using double or single leg descents.
 - iv. Ensure proper head position.
5. Complete four constant weight dives, reaching a minimum of 5 metre /16 Feet without barotrauma or hypoxic symptoms:
 - a. Surface breathing and preparation.
 - b. Remove snorkel.
 - c. Double leg, or single leg raised entry.
6. Demonstrate proper descent procedures:
 - a. Stay within arm's reach of the descent line.
 - b. Face line during descent.
 - c. Maintain proper head neutral position.
 - d. Equalize frequently with arm tucked.
 - e. Descend at approximately 1 metre/3 Feet a second.
 - f. Practice kick-cycle speed and depth determination.

- g. Utilize line for an effective bottom turn.
7. Demonstrate proper ascent procedures:
 - a. Maintain proper neutral head position.
 - b. Recapture expanding air from mask if possible.
 - c. 2 metre/6 Feet exhalation prior to surfacing.
 - d. Proper recovery breathing.
 8. Respond to a simulated surface LMC as a Safety:
 - a. Physically support the Freediver.
 - b. Keep one hand parallel to the water, above the water, but below the chin.
 - c. Speak calmly to encourage the Freediver to breathe.
 - d. Maintain control until the Freediver regains control.
 9. Respond to a simulated blackout at the surface:
 - a. Place the Freediver on their back with the airway protected using a "head sandwich".
 - b. Securely support the Freediver's head with a "dosey-doe".
 - c. Blow, tap, talk 3 times.
 - d. Maintain control until the Freediver regains control.
 10. Assist with a simulated underwater blackout:
 - a. Recognize Freediver underwater signaling for assistance.
 - b. Freedive, take control of the Freediver asking for assistance.
 - c. Recognize blackout before surfacing.
 - d. Protect the airway with a "head sandwich".
 - e. Place Freediver on their back into the "dosey-doe" position.
 - f. Remove their mask.
 - g. Blow, Tap, Talk 3 times.
 - h. 2 simulated rescue breaths.

5.14 Graduation Requirements

In order to successfully complete the course students must:

1. Successfully complete all the knowledge development, confined water, and open water training sessions.
2. Demonstrate mature and sound judgment concerning planning and execution.

3. Achieve a passing score of 80% on the final exam and show 100% knowledge comprehension.
4. Successfully complete all confined and open water skills

Instructors Must:

1. Submit certifications to PFI Headquarters within 7 days of course completion date for processing.

Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

6. Adaptive Freediver

6.1 Introduction

This is the entry-level certification course for individuals with disabilities wishing to learn the fundamentals of proper breath hold diving for the purpose of increasing underwater awareness and enjoyment. An introduction to open water Freediving skills and techniques to depths no deeper than 20 metre/66 Feet are practiced with the program also encompassing static and dynamic apnea as introductory or stand-alone disciplines.

A pool only certification may be issued to those not wishing to participate in open water training.

***Note:** Freediving under the supervision of a qualified PFI Adaptive Freediver Buddy may be required.

6.2 Course Objectives

The objective of this course is to train individuals in the benefits, skills, techniques and safety and problem management for entry level Freediving to a depth of 20 metre/66 Feet, with basic level static apnea development of 1:30 minutes at a minimum and an optional dynamic apnea development of 25 metre/82 Feet.

6.3 Program Prerequisites

1. Minimum age of 10 with parental consent for Junior Freediver or 16 years for Freediver.
2. Competent swimming skills.
3. PFI Snorkeler or equivalent skill level.

6.4 Required Student Equipment

1. Mask, Fins, Snorkel.
2. Exposure protection appropriate for local environment.
3. Weight belt and weights appropriate for local environment.
4. Timing device (preferred freediving computer or depth gauge).
5. Note: equipment may be removed or modified to meet the students' needs.

6.5 Support Materials

Student Materials:

1. PFI Medical Statement.
2. PFI Liability and Assumption of Risk Form.
3. PFI Freediver Manual or eLearning.

Instructor Materials:

1. *PFI Freediver* Instructor Manual
2. *PFI Freediver* Instructor Guide

6.6 Qualification of Graduates

1. Upon successful completion of this course, graduates may engage in buddy supported freediving activities appropriate for the environment without direct supervision of an instructor to depths no greater than 20 metre /66 Feet similar to their training.
2. Upon successful completion of this course, graduates are qualified to enroll in the Freediver Coaching, Intermediate Freediver, Open line Diving and Specialty Freediver programs.
3. Divers may be certified with a Freediver-Pool Only certification after successfully completing all knowledge Development and Confined Water training sessions. There is no open water training necessary for this level of certification and divers at this level are not certified for any open water activities.

6.7 Who May Teach

This course may be taught by any active PFI Adaptive Freediver Instructor. The PFI Adaptive Freediver Instructor may use active status PFI Assistant Adaptive Freediver Instructors to increase student ratios.

6.8 Student to Instructor Ratio

Classroom:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete learning.

Confined Water:

1. A maximum of four students to one PFI Adaptive Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

Open Water:

1. A maximum of four students to one PFI Adaptive Freediver Instructor (4:1).

2. A maximum of six students to one PFI Adaptive Freediver Instructor (6:1 max) with the use of active status PFI Assistant Adaptive Freediver Instructors.

6.9 Course Structure and Duration

General Execution:

1. No more than 2 in-water sessions per day.
2. Training sessions must be completed during daylight hours, or under conditions that simulate daylight conditions.
3. All skills are to be briefed, practiced, evaluated, and debriefed by the PFI Adaptive Freediver Instructor or PFI Assistant Adaptive Freediver Instructor.
4. During all skills, students will act in a buddy team (buddy A – diver, buddy B – safety) during all skills to promote team freediving.

Confined Water Execution:

1. Students must complete a minimum of 1 confined water session with 2 recommended.
2. Maximum confined water training session of 10 Metre/33 Feet for confined water skills, 20 Metre/66 Feet for open water skills for Freediver Deep Pool Only certification.
3. Students should, where applicable, treat the confined water as an 'open water environment' and employ all protocols consistent with open water freediving.

Open Water Execution:

1. Students must complete a minimum of 1 open water session with two recommended.
2. Training depth must be between 10 to 20 Metre/33 to 66 Feet; the maximum depth may not exceed 20 Metre/66 Feet.

Course Structure:

1. PFI Allows Instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The suggested number of total course training hours is 16.

6.10 Administrative Requirements

1. Collect the course fees from all the students.
2. Ensure the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete:
 - a. *PFI General Liability and Express Assumption of Risk Form*

- b. *PFI Medical History Form*

6.11 Knowledge Development Overview

Instructors may use any additional text or materials that they feel help present these topics.

The following topics must be covered during this course:

1. Introduction:
 - a. Participant and Staff Introductions.
 - b. Course Overview.
 - c. Paperwork and Prerequisites.
 - d. Equipment Requirements Check.
 - e. Classroom, Confined and Open Water Protocols and Conduct.
 - f. Safety/Supervision Practices.
2. History of Freediving.
3. Safety & Problem Management:
 - a. Freediving supervision:
 - i. Direct Supervision.
 - ii. One buddy up and one down.
 - b. Safety for depth freediving:
 - i. Being prepared.
 - ii. Remain close enough to PROTECT THE AIRWAY!
 - iii. Time your buddy's dive.
 - iv. Know which direction they are heading while under.
 - v. Rule of 9's.
 - c. Safety and signals for static apnea:
 - i. Signal Agreement.
 - ii. Proper Signaling.
 - iii. Two strikes rule.
 - iv. Air release (loss of airway control).
 - v. Target time and signals.
 - vi. Exiting a static apnea
 - vii. Loss of Motor Control (LMC)/Blackout (BO).
 - d. Safety for dynamic (optional):

- i. Safety Positioning.
 - ii. Watch body style.
 - iii. Loss of airway control.
 - iv. Loss of Motor Control (LMC) /Blackout (BO).
 - e. Loss of Motor Control (LMC) and Blackout:
 - i. Depth Hypoxia vs. Apnea Hypoxia.
 - ii. Near Blackout, LMC, and Samba.
 - iii. Assisting an LMC at the Surface.
 - iv. Blackouts.
 - v. Assisting Blackouts at the surface.
 - vi. Responding to Bailouts and Blackout below surface.
 - f. Buddy separation:
 - i. At the surface.
 - ii. Underwater.
- 4. Breathing:
 - a. Respiratory muscles:
 - i. Diaphragm.
 - ii. Intercostals.
 - iii. Subclavian (scalene).
 - b. Correct breathing cycles:
 - i. Normal ventilations.
 - ii. Ventilations.
 - iii. Purging.
 - iv. Peak Inhalation.
 - v. Recovery breathing.
 - c. Recovery breathing:
 - i. What is Recovery Breathing:
 - 1. Six most important breaths.
 - 2. Upper chest.
 - 3. Gas exchange and maintains cerebral blood circulation.
 - 4. Cleansing VS Hook breaths; 6Cleans VS 3Hook + 3 Cleans.
 - ii. Static/Dynamic recovery breaths:

1. Cleansing breaths.
 - iii. Constant Ballast recovery breaths:
 1. Hook breaths; held for 3 seconds at full inhalation.
 - d. Anxiety stimulus:
 - i. Causes.
 1. Physical Stress.
 2. Physiological Stress.
 3. Psychological Stress.
 - ii. Stress Reduction.
5. Equipment for Freediving:
- a. Masks:
 - i. Volume.
 - ii. Fit.
 - iii. Materials and types.
 - iv. Maintenance.
 - b. Fins:
 - i. Blade length.
 - ii. Materials and types.
 - iii. Maintenance.
 - c. Snorkels:
 - i. Features.
 - ii. Placement.
 - iii. Submersion protocol.
 - iv. Maintenance.
 - d. Exposure protection.
 - e. Wetsuits.
 - i. Features.
 - ii. Materials and types.
 - iii. Maintenance.
 - f. Hoods:
 - i. Materials and types.
 - ii. Equalizing.

- g. Gloves:
 - i. Features.
 - ii. Materials and types.
- h. Socks:
 - i. Features.
 - ii. Materials and types.
- i. Timing devices:
 - i. Waterproof Timers:
 - 1. Features of watches.
 - 2. Features of freediving computers.
- j. Weight systems:
 - i. Materials and Types.
 - ii. Weights.
 - iii. Placement.
 - iv. Buckles.
 - v. Accessories and maintenance.
- k. Buoyancy systems:
 - i. Snorkeling vests features and types.
- l. Lines, flags and floats:
 - i. Diver Below Flag.
 - ii. Alpha Flag.
 - iii. Floats & Lines.
- m. Accessory freediving equipment:
 - i. Freediving knives and placement.
 - ii. Lights and markers.
 - iii. Goodie bags and stringers.
- n. In-Water Environment:
 - i. Local aquatic animal and plant life.
 - ii. Local environmental conditions:
 - 1. Water type.
 - 2. Temperature and thermoclines.
 - 3. Visibility.

4. Wind, waves and currents.
 5. How to assess and plan accordingly.
 - iii. Local freediving procedures:
 1. Boat/shore freediving.
 2. In-water procedures.
 3. Entry/exit procedures.
6. Physics & Physiology of Freediving:
- a. Pressure & volume changes:
 - i. Boyle's Law and its effects on a Freediver.
 - ii. Pressure and Body Air Spaces:
 1. Pressure on rigid air space:
 - a. Sinuses.
 - b. Ears.
 2. Pressure on semi-rigid airspaces:
 - a. Lungs.
 - b. Stomach/gastrointestinal.
 - iii. Pressure and Equipment Air Spaces:
 1. Mask and goggles.
 2. Wetsuit compression.
 - b. Equalization Techniques – body:
 - i. Equalizing Ears & Sinuses.
 - ii. Three methods of Equalizing and most preferred:
 1. Frenzel.
 2. Valsalva.
 3. Swallowing, Yawning, Jaw Thrust.
 4. Frequency.
 5. Losing air during equalization.
 - iii. Equalizing Issues:
 1. Ears vs sinuses.
 2. "Noisy" ears and unequal equalizing.
 - iv. Masks:
 1. Frequency.

2. Recapturing air upon ascent.
- c. Pressure Related Injuries – barotrauma:
 - i. Barotitis Media:
 1. Symptoms.
 2. Causes.
 3. Treatment.
 - ii. Sinus Squeeze:
 1. Symptoms.
 2. Causes.
 3. Treatment.
 - iii. Perforated Eardrum:
 1. Symptoms.
 2. Causes.
 3. Treatment.
 - iv. Reverse Block:
 1. Symptoms.
 2. Causes.
 3. Treatment.
 - v. Mask Squeeze:
 1. Symptoms.
 2. Causes.
 3. Treatment.
 - d. Buoyancy:
 - i. Archimedes Principle.
 - ii. Three States of Buoyancy:
 1. Positive – Safety/technique.
 2. Neutral – 10 metre/33 Feet.
 3. Negative – Safety/technique.
 - iii. Things that effect buoyancy:
 1. Lung volume.
 2. Wetsuits.
 3. Weights.

4. Body type.
5. Salt vs fresh.
- iv. Buoyancy Checks:
 1. Surface 'collar bone' rule of thumb.
 2. Slight positive at 5 metre/16 Feet.
 3. Neutral at 10 metre/33 Feet.
- e. Types & causes of blackouts:
 - i. Insufficient oxygen to the brain to support higher function.
 - ii. Recovery Blackout:
 1. 90% - Critical hypoxia or Pulmonary Dump.
 2. Insufficient recovery breathing.
 3. Blood pressure disruption.
 - iii. Ascent Blackout:
 1. 10% (9% & 0.9%) – Critical hypoxia or 'Vacuum Effect'.
 2. Rapid lung volume expansion and rapid drop in partial pressures.
7. Aquatic adaptations:
 - a. Bradycardia.
 - b. Splenic contractions.
 - c. Blood shunt (peripheral constriction).
8. In-Water Training Exercises:
 - a. Confined Water Skills & Techniques.
 - b. Open Water Skills & Techniques.
 - c. Communications.

6.12 Confined Water

To be certified as a PFI Freediver students must demonstrate the following skills to the satisfaction of the PFI Instructor:

1. Watermanship and Stamina (May be completed in open water. If done in open water, must be completed prior to any other open water skills).
 - a. Distance swim of 200 Metre nonstop using any stroke without the use of swimming aids (mask or swim goggles may be used), or 300 Metre nonstop using mask, snorkel, and fins or equivalent.
 - b. Tread water for 10 minutes without flotation.

Note: If an exposure suit is worn for any of the above skills, the wearer must be neutrally buoyant at the surface.

2. Snorkel breathing:
 - a. Swim continuously at the surface without a mask for a minimum of 25 minutes without removing the face from the water while breathing continuously through the snorkel.
3. Open Water Freedive Simulation:
 - a. Breathe up.
 - b. Descent with proper head position.
 - c. Equalizing at the surface and on the way down to the bottom of the pool.
 - d. Relaxed bottom kicking for 10 seconds.
 - e. Ascent with proper head position.
 - f. Drop arms at 10 metre/33 Feet (simulated depth) and shallower.
4. Assist with a simulated surface LMC as a safety:
 - a. Physically support the Freediver.
 - b. Keep one hand on the chest above the waterline but below the chin.
 - c. Speak calmly to encourage the Freediver to breathe.
5. Respond to a simulated blackout at the surface:
 - a. Protect airway with "head sandwich".
 - b. Place Freediver on their back into the "dosey-doe" position.
 - c. Remove their mask.
 - d. Blow, Tap, Talk 3 times.
6. Assist with a simulated underwater blackout:
 - a. Recognize Freediver underwater signaling for assistance.
 - b. Freedive, take control of the Freediver asking for assistance.
 - c. Recognize blackout before surfacing.
 - d. Protect the airway with a "head sandwich".
 - e. Place Freediver on their back into the "dosey-doe" position.
 - f. Remove their mask.
 - g. Blow, Tap, Talk 3 times.
 - h. 2 simulated rescue breaths.
7. Static and Dynamic Apnea:
 - a. Static apnea:

- i. As a breath-holder student must complete a minimum of 4 consecutive static breath-holds.
 1. 1st session:
 - a. Vent – hold ratio:
 - i. 1 minute – 1 minute.
 - ii. 3 minutes – 2 minutes.
 - iii. 3 minutes - 2:30 minutes.
 - iv. 4 minutes – 3 minutes.
 2. 2nd session (optional):
 - a. Vent – hold ratio:
 - i. 3 minutes – 2 minutes.
 - ii. 4 minutes – 3 minutes.
 - iii. 5 minutes – 4 minutes.
 - ii. Complete a minimum 1:30 minute static apnea, not exceeding 4:00 minutes, without any hypoxic symptoms.
 - iii. As a safety student must complete:
 1. Buddy supervision.
 2. Timing and safety signals.
 3. Recovery breathing and support assistance.
 - b. Dynamic apnea (optional):
 - i. As a breath-holder student must complete a minimum of 3 dynamic performances.
 1. Vent – distance ratio:
 - a. 1 minute – 25 metre/82 Feet.
 - b. 2 minutes – 25 metre/82 Feet + turn.
 - c. 2 minutes – 50 metre/82 Feet.
 2. Streamlining and kicks appropriate for dynamic.
 3. Complete a minimum 25 metre/82 Feet dynamic apnea, not exceeding 75 metre/246 Feet, without any hypoxic symptoms.
 4. As a safety student must complete:
 - a. Surface safety with floatation.
 - b. Recovery breathing and surface support assistance.

6.13 Open Water

To be certified as a PFI Freediver a student must demonstrate the following skills to the satisfaction of the PFI Freediver Instructor as follows:

1. Open Water Training Sessions:
 - a. A minimum of one (1) open water session must be completed with two (2) recommended.
2. Weighting and Buoyancy:
 - a. Establish positive buoyancy at approximately 5 metre/16 Feet after 1st level exhalation without sculling, finning, treading, or pushing off plate.
 - b. Establish neutral buoyancy at approximately 10 metre/33 Feet with peak inhalation without sculling, finning, treading, or pushing off plate.
3. Fin Use:
 - a. Introduce proper kick cycles determinations to landmark depths:
 - i. Landmark 10 metre/33 Feet kick cycles.
 - ii. Landmark 15 metre/50 Feet and 20 metre/66 Feet kick cycles (optional).
 - b. Dolphin kick (optional).
4. Free Immersion Warm-up Dives:
 - a. Complete a minimum of four (4) free immersion style freedives as a warm-up.
 - b. Reach a minimum of 10 metre/33 Feet without barotrauma or hypoxic symptoms:
 - i. Breathe up properly.
 - ii. Remove snorkel.
 - iii. Descend using double or single leg descents.
 - iv. Ensure proper head position.
5. Complete six constant ballast dives:
 - a. Reach a minimum of 10 metre/33 Feet without barotrauma or hypoxic symptoms.
 - i. Surface breathing and preparation.
 - ii. Remove snorkel.
 - iii. Double leg, or single leg raised entry.
6. Demonstrate proper descent procedures:
 - a. Stay within arm's reach of the descent line.
 - b. Face line during descent.
 - c. Maintain proper head neutral position.
 - d. Equalize frequently with arm tucked.

- e. Descend at approximately 1 metre/3 Feet a second.
 - f. Practice kick-cycle speed and depth determination.
 - g. Utilize line for an effective bottom turn.
7. Demonstrate proper ascent procedures:
- a. Double raised hands if flexibility and comfort allow.
 - b. Drop arms at 10 metre – 5 metre/33 Feet – 16 Feet.
 - c. Recapture expanding air from mask if possible.
 - d. 2 metre/6 Feet exhalation prior to surfacing
 - e. Proper recovery breathing.

6.14 Graduation Requirements

In order to successfully complete the course students must:

1. Successfully complete all the knowledge development, confined water, and open water training sessions. Open water training is not necessary for Pool Only certification.
2. Demonstrate mature and sound judgment concerning planning and execution.
3. Achieve a passing score of 80% on the final exam and show 100% knowledge comprehension.
4. Complete the following skills:
 - a. Equipment:
 - i. Prepare equipment with minimal assistance.
 - ii. Buddy check all equipment.
 - b. Entry and exit:
 - i. Enter water with techniques appropriate for the environment.
 - ii. Signal buddy/shore/boat.
 - iii. Exit water with techniques appropriate for the environment.
 - c. Proper weighting and buoyancy:
 - i. Test for approximate neutral buoyancy at surface by floating upright at collar bone without sculling, finning, or treading.
 - ii. After buoyancy has been established – either collarbone for pool only, or 10 metre/33 Feet during open water for Freediver, perform a first level exhalation at the surface - If the student sinks – they are over weighted.
 - d. Snorkel Use:
 - i. Successfully clear and blast the snorkel without removing the head from the water.

- e. Proper fin use:
 - i. Flutter kick at the surface.
 - ii. Maintain a stationary position with sculling.
- f. Descent and Ascent Procedures:
 - i. Surface breathing and preparation.
 - ii. Remove snorkel prior to entry.
 - iii. Demonstrate a double leg raised entry or a single leg raised entry in the order of:
 - 1. Bend.
 - 2. Leg(s).
 - 3. Pull.
 - 4. Kick.
 - iv. Demonstrate proper ascent procedures:
 - 1. Head in neutral position.
 - 2. Recapturing expanding air in the mask if possible.
 - 3. Exhale at approximately 2 metre/7 Feet.
 - 4. Proper recovery breathing.
 - v. During descents and ascents – the students' head position must remain neutral.
- g. Self-emergency Ascent Procedures:
 - i. Flooded mask ascent:
 - 1. Fully flood at depth.
 - a. Pool only – deep end of pool.
 - b. Freediver – at 5 metre /16 Feet
 - 2. Remain at depth for approximately 10 seconds before ascending.
 - 3. Ascent and recovery breathe in a controlled manner.
 - ii. Remove weight belt and ascend:
 - 1. Remove weight belt at depth:
 - a. Pool only – deep end of pool.
 - b. Freediver – minimum 5 metre/16 Feet.
 - 2. Ascend holding belt low at their side with buckle end down.
 - 3. Perform proper recovery breathing.

- h. Replace weight belt at the surface with right hand release.
- i. Recovery Breathing:
 - i. Proper exhalation from 2 metre/6 Feet.
 - ii. Position both hands on float/side of pool.
 - iii. Show proper 3 hook and 3 cleansing breaths on upper half of lung volume.
 - iv. Hook breaths are held for a full 3 seconds.
- j. Safety & Problem Management:
 - i. Assist with recovery breathing as a safety:
 - 1. Be 2 metre/7 Feet to 3 metre/10 Feet to the side of the Freediver.
 - 2. Use audio coaching when necessary.
 - 3. Remain attentive and vigilant for a minimum of 30 seconds after the Freediver has surfaced.
 - ii. Respond to a simulated surface LMC as a Safety:
 - 1. Physically support the Freediver.
 - 2. Keep one hand parallel to the water, above the water, but below the chin.
 - 3. Speak calmly to encourage the Freediver to breathe.
 - 4. Maintain control until the Freediver regains control.
 - iii. Respond to a simulated blackout at the surface:
 - 1. Place the Freediver on their back with the airway protected using a "head sandwich".
 - 2. Securely support the Freediver's head with a "dosey-doe".
 - 3. Blow, tap, talk 3 times.
 - 4. Maintain control until the Freediver regains control.
 - iv. Assist with a simulated underwater blackout no deeper than 5 metre/16 Feet:
 - 1. Recognize signal for assistance.
 - 2. Physically support the Freediver.
 - 3. Ensure proper hand placement.
 - 4. Recognize blackout before the surface.
 - 5. Protect the airway with a "head sandwich".
 - 6. Perform surface blackout procedures through 2 rescue breaths once the student has ascended with the blacked out Freediver.

Instructors Must:

1. Submit certifications to PFI Headquarters within 7 days of course completion date for processing.

6.15 Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

7. Adaptive Intermediate Freediver

7.1 Introduction

This follow-up program to the PFI Adaptive Freediver course continues to develop the comfort and safety skills of entry level freediving. The PFI Adaptive Intermediate Freediver is the foundation program for the PFI Adaptive Advanced Freediver. It brings a whole knowledge approach introducing skills and techniques as well as a high-level of knowledge in physics, physiology, and safety & problem management. During this program participants work in depths as deep as 40 metre/132 Feet while learning valuable warm-up skills to enhance this capacity. This program encompasses static apnea and may also introduce dynamic apnea. A PFI Adaptive Intermediate Pool Only certification may be issued to those not wishing to participate in open water training.

***Note:** Freediving under the supervision of a qualified PFI Adaptive Freediver Buddy maybe required.

7.2 Course Objectives

This program will also focus on a high level of safety & problem management by learning how to take care of black-outs underwater and initiating BLS recovery procedures while also developing appropriate kick cycles while also developing the sink phase part of negative buoyancy.

7.3 Program Prerequisites

1. Minimum age of 12 for Junior Intermediate Freediver or 16 years for Intermediate Freediver.
2. Competent swimming skills.
3. PFI Freediver or equivalent skill level.

7.4 Required Student Equipment

1. Freediving quality mask, fins and snorkel.
2. Freediving quality exposure protection (appropriate for local environment).
3. Freediving quality weight belt and weights (appropriate for local environment).
4. A timing device (preferred freediving computer or gauge).

***Note:** equipment may be removed or modified to meet the student's needs.

7.5 Support Materials

Student Materials:

1. PFI Medical Statement.
2. PFI Liability and Assumption of Risk Form.
3. PFI Intermediate Manual or eLearning.

Instructor Materials:

1. PFI Intermediate Freediver Instructor Manual.
2. PFI Intermediate Freediver Instructor Guide.
3. PFI Intermediate Freediver final exam and answer sheet.

7.6 Qualification of Graduates

1. Upon successful completion of this course, graduates may engage in buddy supported freediving activities appropriate for the environment without direct supervision of an instructor to depths no greater than 40 metre/132 Feet.
2. Upon successful completion of this course, graduates are qualified to enroll in the Intermediate Freediver Coaching, Advanced Freediver, Open line Diving, Freediver Safety, and Specialty Freediver programs.
3. Divers may be certified with an Intermediate Freediver-Pool Only certification after successfully completing all knowledge Development and Confined Water training sessions.

There is no open water training necessary for this level of certification and divers at this level are not certified for any open water activities.

7.7 Who May Teach

This course may be taught by any active PFI Adaptive Intermediate Freediver Instructor. The PFI Intermediate Freediver Instructor may use active status PFI Adaptive Assistant Intermediate Instructors to increase student ratios.

To qualify as a PFI Adaptive Assistant Intermediate Freediver Instructor:

1. Active PFI Assistant Intermediate Freediver Instructor.
2. Active PFI Adaptive Freediver Instructor course.

7.8 Student to Instructor Ratio

Classroom:

1. Unlimited so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training.

Confined Water:

1. A maximum of four students to one PFI Adaptive Intermediate Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Intermediate Freediver Instructor (6:1 max) with the use of active status PFI Adaptive Assistant Intermediate Freediver Instructors.

Open Water:

1. A maximum of four students to one PFI Adaptive Intermediate Freediver Instructor (4:1).
2. A maximum of six students to one PFI Adaptive Intermediate Freediver Instructor (6:1 max) with the use of active status PFI Adaptive Assistant Intermediate Freediver Instructors.

7.9 Course Structure and Duration

General Execution:

1. No more than 2 in-water sessions per day.
2. Training sessions must be completed during daylight hours, or under conditions that simulate daylight conditions.
3. All skills are to be briefed, practiced, evaluated, and debriefed by the PFI Intermediate Freediver Instructor or PFI Assistant Intermediate Freediver Instructor.
4. During all skills, students will act in a buddy team (buddy A – diver, buddy B – safety) during all skills to promote team freediving.

Confined Water Execution:

1. Students must complete a minimum of 2 confined water sessions.
2. Maximum confined water training session of 10 metre/33 Feet for confined water skills, 40 metre/132 Feet for open water skills for Intermediate Freediver Deep Pool Only certification.
3. Students should, where applicable, treat the confined water as an 'open water environment' and employ all protocols consistent with open water freediving.

Open Water Execution:

1. Students must complete a minimum of 2 open water sessions with 3 recommended.
2. Training depth must be between 25 to 40 Metre/82 to 132 Feet; the maximum depth may not exceed 40 Metre/132 Feet.

Course Structure:

1. PFI Allows Instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The suggested number of total course training hours is 24.5.

7.10 Administrative Requirements

1. Collect the course fees from all the students.
2. Ensure the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete:
 - a. *PFI General Liability and Express Assumption of Risk Form*
 - b. *PFI Medical History Form*

7.11 Knowledge Development Overview

The following topics must be covered during this course by the PFI Intermediate Freediver Instructor and/or active status PFI Assistant Intermediate Freediver Instructor as outlined in the PFI General Standards and Procedures section. Instructors may use additional texts or materials they feel help present these topics.

The following topics must be covered during this course:

1. Introduction:
 - a. Participant and staff introductions.
 - b. Course overview.
 - c. Paperwork and prerequisites.
 - d. Equipment requirements check.
 - e. Classroom, Confined and Open Water protocols and conduct.
 - f. Safety/supervision practices.
2. History of Freediving:
 - a. Origin of freediving
 - i. Roman and Greek armies.
 - ii. Ama Freedivers.
 - iii. Modern day freediving.
3. Safety & Problem Management:
 - a. Freediving supervision:
 - i. Supervision.
 - ii. Proximity.

- iii. Technique.
- b. Safety for depth freediving:
 - i. Styles of depth freediving.
 - ii. Constant ballast.
 - iii. Constant ballast no-fins.
 - iv. Free immersion.
 - v. Rule of 9's.
 - vi. Positioning and proximity:
 - 1. Safety depth - meet at 1/3 Freediver's max depth:
 - a. Safety time - intercepts Freediver 10 seconds after reaching safety depth (dive time +10 seconds)
 - 2, 3 and 4 person teams.
- c. Safety and signals for static apnea:
 - i. What is static apnea.
 - ii. Why train in static apnea.
 - iii. Signals.
 - iv. Two strikes rule.
 - v. Target times.
 - vi. Exiting a static apnea.
 - vii. Responding to emergencies.
- d. Safety for dynamic:
 - i. What is dynamic apnea.
 - ii. Why train in dynamic apnea.
 - iii. Safety positioning.
 - iv. Responding to emergencies.
- e. Performance evaluations:
 - i. Determine the next target time, depth, and distance.
 - ii. The 10 evaluation criteria:
 - 1. Tired/exhaustion.
 - 2. Technique.
 - 3. Equalizations.
 - 4. Near-blackout/blackout.

5. Urge to breath/contractions.
 6. Pressure contractions.
 7. Tired legs/failure.
 8. Equipment performance.
 9. Chest compression/squeeze.
 10. Narcosis.
- f. Self-bailout underwater:
- i. Steps of self-bailout:
 1. Terminate the Freedive.
 2. Use line for assistance.
 3. Signal buddy for help.
 4. Release weight belt and hold it in hand for future release.
 5. Drop weight belt.
 6. Keep your eyes open.
 7. Discontinue freediving day with any signs of hypoxia.
 8. Moderate freediving time, depth, distance, exertion.
- g. Assisted bailout underwater:
- i. Bailout signal:
 1. Hand signal and/or head signal.
 2. Started before reaching safety at depth.
 - ii. Line signals:
 1. Safety lightly holds line and feels for pulls.
 - iii. Provide support and propulsion.
 - iv. Under arm, waist, or hands.
 - v. Utilize ascent line for propulsion assistance if possible.
 - vi. Monitor airway for LMC/BO.
 - vii. Ditch weight belt if required.
- h. Protective breathing reflexes:
- i. Cessation of breathing.
 - ii. Restart breathing response with blow tap talk.
 - iii. Laryngospasms.
- i. Freediver rescue breathing (FRB):

- i. Create airway by 'dosey doe' position and head tilt.
 - ii. Remove mask.
 - iii. Three blow-tap-talks (BTT).
 - iv. Call for assistance.
 - v. Rescue breaths.
 - j. Near-blackouts (LMC):
 - i. Near Blackout/LMC/Samba.
 - ii. Signs and Symptoms of near blackout/LMC.
 - iii. Assisting an LMC underwater.
 - iv. Assisting an LMC at the surface.
 - k. Blackouts (BO):
 - i. Depth vs. Apnea Hypoxia.
 - ii. Signs and symptoms of Blackouts/BO.
 - iii. Assisting Blackouts at the surface.
 - iv. Assisting blackouts underwater.
 - l. Buddy separation:
 - i. Surface.
 - ii. Underwater.
 - 1. Search patterns:
 - a. U patterns.
 - b. Expanding square.
4. Equipment for Intermediate Freediving
- a. Masks:
 - i. Types.
 - ii. Features and materials.
 - iii. Proper maintenance.
 - b. Fins:
 - i. Mono-fins vs long fins.
 - ii. Benefits of long blade fins.
 - iii. Blade materials.
 - iv. Full foot vs. open heel foot pockets.
 - v. How to properly fit a fin.

- vi. Proper maintenance.
- c. Snorkels:
 - i. Features of a good freediving snorkel.
 - ii. Placement of snorkel on mask strap.
 - iii. Use.
 - iv. Proper maintenance.
- d. Exposure protection:
 - i. Wetsuits:
 - 1. Types.
 - 2. Features and materials.
 - ii. Hoods:
 - 1. Types.
 - 2. Features and materials.
 - iii. Gloves:
 - 1. Types.
 - 2. Features and materials.
 - iv. Socks:
 - 1. Types.
 - 2. Features and materials.
- e. Freediving computers:
 - i. Freediving computer vs timers:
 - 1. Types.
 - 2. Features.
 - 3. Care and maintenance.
- f. Weight systems:
 - i. Types of weight systems.
 - ii. Rubber vs. nylon belts.
 - iii. Weights.
 - iv. Proper placement of belt.
 - v. Buckles.
 - vi. Accessories and maintenance.
- g. Lines, flags and floats:

- i. "Diver Below Flag".
 - ii. Alpha Flag.
 - iii. Floats.
 - h. Accessory freediving equipment:
 - i. Nose clips & fluid goggles.
 - ii. Gear bags.
 - iii. Freediving knives.
 - iv. Lights and markers.
 - v. Goodie bags and stringers.
- 5. In-Water Environment:
 - a. Local aquatic animal and plant life.
 - b. Hazardous animals and plants.
 - c. Animals/plants of interest.
 - d. Local environmental conditions:
 - i. Fresh vs salt.
 - ii. Temperature and thermoclines.
 - iii. Visibility.
 - iv. Wind, waves and currents.
 - v. How to assess and plan accordingly.
 - vi. Sea sickness medications.
 - e. Local freediving procedures.
 - f. Entry/exit procedures.
- 6. Freediving Breathing Techniques:
 - a. Respiratory muscles/breathing segments:
 - i. Diaphragm.
 - ii. Intercostal.
 - iii. Scalene/subclavian.
 - iv. Neck.
 - b. Breathing techniques:
 - i. Normal ventilations.
 - ii. Ventilations.
 - iii. Purging.

- iv. Peak Inhalation.
- c. Specialty breathing techniques:
 - i. Packing.
 - ii. Reverse packing.
- d. Recovery breathing:
 - i. Hook breaths.
 - ii. Cleanse breaths.
 - iii. Pool - static/dynamic recovery breaths.
 - iv. Ocean – depth/constant ballast/free immersion recovery breaths.
 - v. Safety Procedures.
- e. Breathing exercises:
 - i. Segmented breathing.
 - ii. Negative diaphragm.
 - iii. Packing stretches.
 - iv. Reverse packing.
- 7. Equalization Techniques – body:
 - a. Equalizing ears, sinuses and mask.
 - b. Methods of equalizing:
 - i. Frequency.
 - c. Equalizing Issues.
 - d. Masks.
- 8. Physics of Freediving:
 - a. Depth and pressure:
 - i. Biggest change in our physiology.
 - ii. Weight 100 km/62 miles of atmosphere = 14.7 psi/1 bar/ 1 ATA at sea level.
 - iii. Every 10 metre/33 Feet of sea water is the equivalent of 1 ATA.
 - b. Pressure and volume:
 - i. Boyles Law.
 - ii. 5 airspaces affected by Boyle’s law.
 - 1. Lungs, ears, sinuses, mask, wetsuit.
 - 2. Lung compression vs importance of small mask volumes.

3. Not losing air during descents due to equalizing.
 4. Re-inhale mask air volume during ascent.
- c. Partial pressures:
 - i. Daltons law of pressures.
 - ii. Effects of varying partial pressures of O₂ during a Freedive.
 - d. Buoyancy principles:
 - i. Archimedes' principle.
 - ii. Three states of buoyancy.
 - iii. Effects of buoyancy.
 - iv. Descents and ascent techniques.
 - e. Streamlining and hydrodynamics:
 - i. Density of water versus air.
 - ii. Drag and hydrodynamics.
9. Physiology of Freediving:
- a. Nervous system:
 - i. Central nervous system:
 1. Peripheral nervous system.
 2. Sympathetic/Parasympathetic nervous system.
 - b. Circulatory system:
 - i. Purpose.
 - ii. Functions.
 - iii. Differences between sexes.
 - iv. Relation to freediving.
 - c. Respiratory system:
 - i. Purpose.
 - ii. Functions.
 - iii. Differences between sexes.
 - iv. Relation to freediving.
 - d. Lung volumes and freediving:
 - i. Pulmonary function test.
 - ii. Main lung volume measurements:
 1. Inspiratory volume (IV).

2. Expiratory volume (EV).
 3. Vital capacity (VC).
 4. Functional residual capacity (FRC = EV + RV).
 5. Packing volume (PV).
- e. What makes us breathe:
- i. Reflex respiratory center (RRC).
 - ii. Chemoreceptors.
 - iii. Stretch receptors.
- f. Types of blackouts:
- i. 3 freediving blackouts:
 1. Static blackout.
 2. Ascent blackout.
 - ii. Whiteout.
 - iii. Excessive hyperventilation.
 - iv. Excessive lung expansion.
 - v. CO₂/N₂ blackouts.
 - vi. Barotrauma blackouts.
- g. Aquatic adaptations:
- i. Mammalian diving reflex.
 - ii. Four main adaptations.
 - iii. Blood shunting or blood prioritization:
 1. Effects of immersion.
- h. Pressure and body airspaces:
- i. Airspaces in the body:
 1. Elastic.
 2. Rigid.
 3. Semi-rigid.
 - ii. Intestinal squeeze.
- i. Barotraumas – pressure related injuries:
- i. Middle ear.
 - ii. Barotitis media:
 1. Alternobaric vertigo.

- iii. Transient vertigo.
 - iv. Mask squeeze.
 - j. Physiological stresses and dangers:
 - i. Hypoxia.
 - ii. Hypercapnia.
 - iii. Hypocapnia.
 - iv. Decompression sickness.
10. Psychology of Freediving:
- a. Anxiety Stimulus:
 - i. Physiology of stress.
 - ii. Causes:
 - 1. Physical Stress.
 - 2. Physiological Stress.
 - 3. Psychological Stress.
 - iii. Stress Reduction:
 - 1. Stop – Think – Act.
 - 2. Employ Psychological techniques.
 - iv. Self-talk.
 - v. Step by step.
 - vi. Compensatory changes.
 - vii. Visualization.
11. Training Programs for Freediving:
- a. In-Water Training Exercises:
 - i. Confined Water Skills & Techniques.
 - ii. Open Water Skills & Techniques.
 - iii. Communications.

7.12 Confined Water

To be certified as a PFI Intermediate Freediver a student must demonstrate the following skills to the satisfaction of the PFI Instructor as follows:

1. Watermanship and Stamina (May be completed in open water. If done in open water, must be completed prior to any other open water skills):

- a. Distance swim of 200 Metre nonstop using any stroke without the use of swimming aids (mask or swim goggles may be used), or 300 Metre nonstop using mask, snorkel, and fins.
- b. Tread water for 10 minutes without flotation.

Note: If an exposure suit is worn for any of the above skills, the wearer must be neutrally buoyant at the surface.

2. Snorkel Breathing:

- a. Swim continuously at the surface without a mask for a minimum of 25 metre/82 Feet without removing your face from the water while breathing continuously through the snorkel.

3. Open Water Freedive Simulation:

- a. Breathe up.
- b. Remove snorkel.
- c. Descent with proper head position.
- d. Appropriate kick cycles to simulate freediving to 20 metre/66 Feet plus 10 seconds relaxed kicking against the bottom.
- e. Ascent with proper head position.
- f. Drop arms at 10 metre/33 Feet (simulated depth) and shallower.

4. Static and Dynamic Apnea:

a. Static apnea:

- i. As a breath-holder student must complete a minimum of 4 consecutive static breath-holds:

1. 1st session vent – hold – purge ratios:

- a. 2 minutes – 1 minute – no purging.
- b. 3 minutes – 2 minutes – purges start at approximately 0:30 minute.
- c. 4 minutes – 3 minutes – purges start at approximately 0:45 minute.
- d. 5 minutes – 4 minutes – purges start at approximately 1:00 minute.

2. 2nd optional static session vent – hold – purge ratios:

- a. 3 minutes – 2 minutes – no purging.
- b. 4 minutes – 3 minutes – purges start at approximately 0:30 minute.

- c. 5 minutes – 4 minutes or unlimited – purges start approximately 1:15 Minute.
 - ii. Complete a minimum 3:00 minutes static apnea without any hypoxic signs or symptoms.
 - iii. As a safety, student must complete:
 - 1. Buddy supervision.
 - 2. Monitor timing.
 - 3. Perform safety signals.
 - 4. Recovery breathing and support assistance.
- 5. Dynamic apnea (optional).
 - a. As a breath-holder student must complete a minimum of 3 dynamic performances:
 - i. Vent – distance ratio:
 - 1. 1 minute – 25 minutes.
 - 2. 2 minutes – 25 minutes + turn.
 - 3. 2 minutes– 50 minutes.
 - b. Streamlining and kicks appropriate for dynamic.
 - c. Complete a minimum 50 metre/164 Feet dynamic apnea without any hypoxic symptoms.
 - d. As a safety student must complete:
 - i. Surface safety with floatation.
 - ii. Recovery breathing and surface support assistance.
- 6. Negative Pressure Dives:
 - a. Students work as Buddy A and Buddy B, switching back and forth after each dive.
 - b. Students must complete a maximum of 6 negative pressure dives:
 - i. 1 – 2: first level exhalation; mouth fill and Frenzel mouth fill out of mask through nose
 - ii. 3 – 4: second level exhalation, focus on head position, practice mouth fills on bottom.
 - iii. 5 – 6: third level exhalation with mouth fill, focus on head position, relaxation and air management.
 - c. Complete at minimum, first level exhalation with proper equalization at minimum depth of 3 metre/10 Feet, or second level exhalation with proper equalization for pools shallower than 3 metre /10 Feet.
 - d. Complete all dives as follows:

- i. Employ surface pre-equalizations; ½ way down and once on bottom.
- ii. Hand over head for protection holding mask in place.
- iii. Head down vertical position during sink and while on bottom (exception dive #6 where students may take heart rate relaxed on bottom).
- iv. Perform recovery breathing.
- e. As Safety, provide supervision and assistance with recovery breathing.

7.13 Open Water

To be certified as a PFI Intermediate Freediver a student must demonstrate the following skills to the satisfaction of the PFI Instructor as follows:

1. Open Water Training Sessions:
 - a. A minimum of two (2) separate ocean sessions must be completed with three (3) recommended.
2. Weighting and Buoyancy:
 - a. Establish positive buoyancy at approximately 5 metre/16 Feet after a 1st level exhalation without sculling, finning, treading, or pushing off plate.
 - b. Establish neutral buoyancy at approximately 10 metre/33 Feet without sculling, finning, treading, or pushing off plate.
3. Fin Use:
 - a. Demonstrate proper kick cycles determinations to landmark depths:
 - i. Landmark 10 metre/33 Feet kick cycles count.
 - ii. Landmark 15 metre/50 Feet kick cycles count.
 - iii. Landmark 20 metre/66 Feet kick cycles count.
 - iv. Landmark 25 metre/82 Feet kick cycles count.
4. Free Immersion Warm-up Dives:
 - a. Eight free immersion warm-up dives.
 - b. Complete a minimum of eight (8) free immersion style freedives as a warm-up.
 - c. Must reach a minimum of 25 metre/82 Feet without any hypoxic symptoms or barotraumas.
 - d. Employing the following proper techniques described below:
 - i. Breathe up properly.
 - ii. Remove snorkel.
 - iii. Descend using double or single leg descents.
 - iv. Ensure proper head position.

- e. Facial immersion for 5 minutes may be introduced on open water session 2.
 - f. A negative pressure dive with 1st level exhalation to a max 10 metre /33 Feet with 'touch 'n go' may be introduced as last warm-up procedure on open water session 2.
5. Constant Ballast Target Dives:
- a. Complete a minimum of eight (8) constant ballast style freedives.
 - b. Reach a minimum depth of 25 metre/82 Feet without hypoxic symptoms or barotraumas.
 - c. Employ the following proper techniques described below:
 - i. Surface breathing and preparation.
 - ii. Remove snorkel.
 - iii. Single leg raised descent.
 - iv. Proper head position.
 - v. Proper kick cycles to 20 Metre/66 Feet.
 - d. Pause kicking and sink to target depth with intermittent maintenance kicks to keep descent rate.
6. Emergency Rescue & Problem Management:
- a. Assist with a simulated surface LMC as a safety for a simulated 25 metre/82 Feet dive:
 - i. Meet Freediver at proper safety depth of 10 metre/33 Feet.
 - ii. Signal and respond to Freediver's signs and issues.
 - iii. Physically support the Freediver.
 - iv. Keep one hand on the chest above the waterline but below the chin.
 - v. Speak calmly to encourage the Freediver to breathe.
 - b. Respond to a simulated blackout at the surface for a simulated 30 metre/98 Feet dive:
 - i. Meet Freediver at proper safety depth of 10 metre/33 Feet.
 - ii. Signal and respond to Freediver's signs and issues.
 - iii. Protect the Freediver's airway with a "head sandwich".
 - iv. Place the Freediver on their back into a "dosey-doe".
 - v. Remove mask.
 - vi. Blow, Tap, Talk 3 times.
 - c. Assist with a simulated underwater blackout for a simulated 40 metre/132 Feet dive:

- i. Meet Freediver at proper safety depth of 15 Metre/50 Feet.
- ii. Signal and respond to Freediver's signs and issues.
- iii. When Freediver blacks out, protect the airway with a "head sandwich".
- iv. Swim Freediver to the surface and place on back and into "dosey-doe" position.
- v. Remove mask and perform Blow, Tap, Talk 3 times.
- vi. Perform 2 simulated rescue breaths and call for assistance.
- vii. Begin to evacuate while performing simulated rescue breaths once every 5 seconds.

7.14 Graduation Requirements

In order to successfully complete the course students must:

1. Successfully complete all the knowledge development, confined water, and open water training sessions. Open water training is not necessary for Pool Only certification.
2. Demonstrate mature and sound judgment concerning planning and execution.
3. Achieve a passing score of 80% on the final exam and show 100% knowledge comprehension.
4. Complete the following skills:
 - a. Equipment:
 - i. Prepare equipment with minimal assistance.
 - ii. Buddy check all equipment.
 - b. Entry and exit:
 - i. Enter water with techniques appropriate for the environment.
 - ii. Signal buddy/shore/boat.
 - iii. Exit water with techniques appropriate for the environment.
 - c. Proper weighting and buoyancy:
 - i. Test for approximate neutral buoyancy at surface by floating upright at collar bone without sculling, finning, or treading.
 - ii. After buoyancy has been established – either collarbone for pool only, or 10 metre/33 Feet during open water for Intermediate Freediver, perform a first level exhalation at the surface - If the student sinks – they are over weighted.
 - d. Snorkel Use:

- i. Successfully clear and blast the snorkel without removing the head from the water.
- e. Proper fin use:
 - i. Flutter kick at the surface.
 - ii. Maintain a stationary position with sculling.
- f. Descent and Ascent Procedures:
 - i. Surface breathing and preparation.
 - ii. Remove snorkel prior to entry.
 - iii. Demonstrate a double leg raised entry or a single leg raised entry in the order of:
 - 1. Bend.
 - 2. Leg(s).
 - 3. Pull.
 - 4. Kick.
 - iv. Demonstrate proper ascent procedures:
 - 1. Head in neutral position.
 - 2. Recapturing expanding air in the mask if possible.
 - 3. Exhale at approximately 2 metre /7 Feet.
 - 4. Proper recovery breathing.
 - v. During descents and ascents – the student’s head position must remain neutral.
- g. Self-emergency Ascent Procedures:
 - i. Flooded mask ascent:
 - 1. Fully flood at depth:
 - a. Pool only – deep end of pool.
 - b. Intermediate Freediver – at 10 metre/33 Feet.
 - 2. Remain at depth for approximately 10 seconds before ascending.
 - 3. Ascent and recovery breathe in a controlled manner.
 - ii. Remove weight belt and ascend:
 - 1. Remove weight belt at depth:
 - a. Pool only – deep end of pool.
 - b. Intermediate Freediver – minimum 10 metre/33 Feet.
 - 2. Ascend holding belt low at their side with buckle end down.

3. Perform proper recovery breathing.
 4. Replace weight belt at the surface with right hand release.
- h. Recovery Breathing:
- i. Proper exhalation from 2 metre/6 Feet.
 - ii. Position both hands on float/side of pool.
 - iii. Show proper 3 hook and 3 cleansing breaths on upper half of lung volume.
 - iv. Hook breaths are held for a full 3 seconds.
- i. Safety & Problem Management:
- i. Assist with recovery breathing as a safety:
 1. Be 2 metre/7 Feet to 3 metre/10 Feet to the side of the Freediver.
 2. Use audio coaching when necessary.
 3. Remain attentive and vigilant for a minimum of 30 seconds after the Freediver has surfaced.
 - ii. Respond to a simulated surface LMC as a Safety:
 1. Physically support the Freediver.
 2. Keep one hand parallel to the water, above the water, but below the chin.
 3. Speak calmly to encourage the Freediver to breathe.
 4. Maintain control until the Freediver regains control.
 - iii. Respond to a simulated blackout at the surface:
 1. Place the Freediver on their back with the airway protected using a "head sandwich".
 2. Securely support the Freediver's head with a "dosey-doe".
 3. Blow, tap, talk 3 times.
 4. Maintain control until the Freediver regains control.
 - iv. Assist with a simulated underwater blackout:
 1. Recognize signal for assistance.
 2. Physically support the Freediver.
 3. Ensure proper hand placement.
 4. Recognize blackout before the surface.
 5. Protect the airway with a "head sandwich".
 6. Perform surface blackout procedures through 2 rescue breaths once the student has ascended with the blacked out Freediver.

- v. Lost Freediver – completed no deeper than 10 metre/33 Feet:
1. Surface swim minimum 25 metre/82 Feet looking for “lost” Freediver.
 2. Locate Freediver, catch breath, breathe up.
 3. Make proper entry and simulate 25 metre/82 Feet dive.
 4. “Victim” descends after rescuer has been under water for approximately 20 seconds and will lay on the bottom next to the “rescuer”.
 5. After completion of 25 metre/82 Feet descent simulation, rescuer secures victim’s airway with a “head sandwich”.
 6. Ascend to the surface and place victim into “dosey-doe” and perform surface blackout rescue procedures.
 7. Call for assistance and evacuate the victim 50 metre /165 Feet while simulating rescue breaths every 5 seconds.

Instructors must:

1. Submit certifications to PFI Headquarters within 7 days of course completion date for processing.

7.15 Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

8. Adaptive Advanced Freediver

8.1 Introduction

This is the most advanced level certification course for individuals with disabilities wishing to expand their knowledge of breath hold diving beyond the Adaptive Intermediate Freediver level for the purpose of increasing underwater awareness and performance.

In this course individuals develop advanced level knowledge of the physics and physiology of freediving below residual lung volumes and the associated risks, as well as advanced equalization techniques beyond equalizing thresh-hold.

Participants will practice freediving specific skills and techniques to maximum depths no deeper than 60 metre/197 Feet while achieving a minimum depth of 40 metre/132 Feet utilizing advanced sink phases and negative pressure training with moderate packing, along with advanced techniques for static apnea to 4:00 minutes and dynamic apnea development for 75 metre/246 Feet.

A PFI Adaptive Advanced Freediver Pool Only certification may be issued to those not wishing to participate in open water training.

***Note:** Freediving under the supervision of a qualified PFI Adaptive Freediver Buddy may be required.

8.2 Course Objectives

The objective of this course is to train individuals in the benefits, skills, techniques and safety & problem management for Advanced level freediving to a minimum depth of 40 metre/132 Feet using an unmodified commercially available freediving mask, with extended level static apnea development of 4:00 minutes at a minimum, and optional dynamic apnea development of 75 metre/246 Feet.

8.3 Program Prerequisites

1. 16 years old.
2. Competent swimming skills.
3. PFI Safety Freediver (can be combined with Advanced Freediver however minimum course requirements from both courses must be met.)

8.4 Required Student Equipment

1. Freediving quality mask, fins (note – bi-fins are required for safety, a mono- fin is allowed for target dives), snorkel.
2. Freediving quality exposure protection (appropriate for local environment).

3. Freediving quality waist and neck weight belt and weights (appropriate for local environment).
4. Freediving computer and timing device.
5. Freediving AIDA or CMAS sanctioned lanyard.
6. Neck pillow and float.

***Note:** equipment may be removed or modified to meet the individual's needs.

8.5 Support Materials

Student Materials:

1. PFI Medical Statement.
2. PFI Liability & Assumption of Risk Form

Instructor Materials:

1. PFI Advanced Freediver Presentation.

8.6 Qualification of Graduates

Upon successful completion of this course, graduates may engage in freediving activity without direct supervision of an instructor to depths no greater than 60m/197ft, with a minimum 4-person buddy team utilizing a Freediver retrieval system for freedives greater than 40 metre/132 Feet.

Upon successful completion of this course, graduates are qualified to enroll in the PFI Freediver Supervisor Program.

Freedivers may be certified with an Adaptive Advanced Freediver-Pool Only certification after successfully completing all Knowledge Development and Confined Water training sessions. There is no open water training necessary for this level of certification and divers at this level are not certified for any open water activities.

8.7 Who May Teach

This course may be taught by any active PFI Adaptive Advanced Freediver Instructor. To qualify as a PFI Adaptive Assistant Advanced Freediver Instructor:

1. Active PFI Assistant Advanced Freediver Instructor.
2. Certified as PFI Adaptive Intermediate Instructor.

8.8 Student to Instructor Ratios

Classroom:

1. Unlimited so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training.

Confined Water:

1. A maximum of four students to one PFI Adaptive Advanced Instructor (4:1). Or maximum of six students to one PFI Adaptive Advanced Instructor (6:1) with the use of one active status PFI Adaptive Assistant Advanced Freediver Instructor max.

Open Water:

1. A maximum of four students to one PFI Adaptive Advanced Instructor (4:1). Or a maximum of six students to one PFI Adaptive Advanced Freediver Instructor (6:1) with the use of one active status PFI Adaptive Assistant Advanced Freediver Instructor max.

8.9 Course Structure and Duration

General Execution:

1. No more than 2 in-water sessions per day.
2. Training sessions must be completed during daylight hours, or under conditions that simulate daylight conditions.
3. All skills are to be briefed, practiced, evaluated, and debriefed by the PFI Advanced Freediver Instructor or PFI Assistant Advanced Freediver Instructor.
4. During all skills, appropriate safety must be reinforced either through Freediver Supervisors, or students in each position appropriate for the freedive.

Confined Water Execution:

1. Students must complete a minimum of 4 confined water sessions.
2. Maximum confined water training session of 10 metre/33 Feet for confined water skills, 60 Metre/197 Feet for open water skills for Advanced Freediver Deep Pool Only certification.
3. Students should, where applicable, treat the confined water as an 'open water environment' and employ all protocols consistent with open water freediving.

Open Water Execution:

1. Students must complete a minimum of 4 open water sessions.
2. Training depth must be between 40 to 60 Metre/132 to 197 Feet; the maximum depth may not exceed 60 Metre/197 Feet.

Course Structure:

1. PFI Allows Instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The suggested number of total course training hours is 50.

8.10 Administrative Requirements

1. Collect the course fees from all the students.
2. Ensure the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete:
 - a. *PFI General Liability and Express Assumption of Risk Form*
 - b. *PFI Medical History Form*

8.11 Knowledge Development Overview

The following topics must be covered during this course by the PFI Advanced Freediver Instructor and/or active status PFI Advanced Freediver Assistant Instructor as outlined in the PFI General Standards and Procedures section. However, instructors may use additional texts or materials they feel help present these topics.

1. Introduction:
 - a. Participant and staff Introductions.
 - b. Course overview.
 - c. Paperwork and prerequisites.
 - d. Equipment requirements check.
 - e. Classroom, Confined and Open Water protocols and conduct.
 - f. Safety/supervision practices.
2. Advanced Safety & Problem Management:
 - a. Advance Weighting Precautions:
 - i. Advanced Freedivers will be neutrally buoyant at 15 metre/50 Feet on a peak inhalation plus packing.
 - ii. The Freediver may be negatively buoyant at the surface on an exhalation due to packing.
 - iii. Lanyards and a Freediver recovery system must be used.
 - iv. Supervision and safety is increased at the advanced level due to surface buoyancy without packing.

- b. Exhalation Statics:
 - i. 1st level exhalation warmup statics.
 - ii. Required signals start at the 15 second mark.
 - iii. Signals must be performed at a minimum of every 15 seconds.
 - iv. No bubbles on LMC or Blackout.
- 3. Technical Freediving Protocols:
 - a. O2 Use for Advanced Freediving:
 - i. 100% Oxygen can be used as a recovery agent for Advanced Freediving.
 - ii. Freedivers cannot breathe 100% O2 and dive immediately for risk of oxygen toxicity.
 - iii. Effects of varying partial pressures on a person breathing 100% oxygen:
 - 1. CNS oxygen toxicity – NOAA CNS oxygen exposure limit:
 - a. Oxygen can only be used at the surface.
 - b. A minimum break of 5 minutes is required before any freedives.
 - iv. To avoid O2 toxicity, it's recommended that Freedivers breathe O2 for 5:00 minutes after a target dive, then breathe air for no less than 5:00 minutes before descending to any depth.
 - v. Signs & Symptoms of Oxygen Toxicity.
- 4. Equipment for Advanced Freediving Workshop and Equipment Check:
 - a. Masks & Fluid Goggles Workshop
 - i. Mask features and types.
 - ii. Fluid goggles.
 - 1. Benefits and drawbacks.
 - iii. No goggles.
 - iv. Nose clips.
 - b. Mono-fins vs. Bi-fins:
 - i. Benefits and drawbacks of each style.
 - ii. Blade materials.
 - iii. Exposure Protection Repair Workshop.
 - iv. Wetsuits:
 - 1. Two-piece or One-piece suits.
 - 2. Wetsuit features:

- a. Competition wetsuits vs. regular freediving wetsuits.
 - 3. Wetsuit Buoyancy.
 - v. Hoods:
 - 1. Ear holes.
 - c. Freediving Computers Workshop:
 - i. Freediving computer & timers:
 - 1. Features.
 - 2. Implementation for mouth fill.
 - 3. Proper maintenance.
 - d. Weighting Workshop:
 - i. Types of weight systems:
 - 1. Waist belt:
 - a. Right hand quick release
 - b. Features.
 - c. Styles.
 - d. Benefits.
 - ii. Neck weights:
 - 1. Features.
 - 2. Styles.
 - 3. Benefits.
 - e. Lanyard Check:
 - i. Check to ensure lanyard compliance for safe operation.
 - ii. Demonstrate proper lanyard location for each discipline.
 - iii. Activate emergency release.
 - f. Personal Floats & Mesh Bags:
 - i. Neck/knee/ankle personal floats:
 - 1. Mesh bags.
 - 2. Attachment points.
5. Advanced Freediving Breathing Techniques:
- a. Advanced Breathing Techniques:
 - i. Packing – Glossopharyngeal Inhalation:
 - 1. Technique.

2. Dangers and signs to terminate packing.
 - ii. Reverse packing – Glossopharyngeal Exhalation:
 1. Technique.
 2. Dangers and signs to terminate reverse packing.
 - iii. Workshop:
 1. While sitting or lying down trying to add or remove air from a water bottle.
 2. Start with one pack and gradually work up to more packs and reverse packs.
 3. Packing stretches.
 4. Peak inhalation with gradual packs.
 5. Series of 4 stretches: left, right, front, and back.
 6. Completed 3 times with gradually more packs.
 - iv. Reverse packing:
 1. Exhalation to residual volume with reverse packs.
 2. Used in coordination with negative diaphragm stretches.
 - b. Recovery Breathing and Surface Protocol (SP):
 - i. Upon surfacing, performer must do the following within 15 seconds:
 1. Remove all facial equipment.
 2. Give the 'okay' signal.
 3. Say "I'm okay" or "I am okay" in English.
 - ii. Recommended to practice doing 3 hook breaths first, then begin SP.
 - iii. Performer's airway must not submerge for 1:00 minute or until judges show cards.
 - iv. Safety Freedivers cannot touch the performer until a judge advises or shows the card.
6. Advanced Freediving Physics, Physiology and Techniques: Depth & Pressure:
 - a. Advanced Depth and Pressure on Physiology:
 - i. Depth compression to 7 ATA:
 1. Lung volume.
 2. Equalizing.
 - ii. Residual volume.
 - iii. 6 Freedivers airspaces affected by Boyle's law:

1. Lungs.
 2. Ears.
 3. Sinuses.
 4. GI.
 5. Mask.
 6. Wetsuit.
- b. Effects of Immersion and Negative Pressure Breathing:
- i. "On-back" horizontal position:
 1. Benefits.
 2. Potential issues.
- c. Negative Pressure Dives:
- i. Reasons to perform negative pressure.
 - ii. performed in the pool or in open water.
 - iii. Utilizes progressively greater levels of exhalation.
 - iv. Physics:
 1. A 1st level exhalation has an equal lung volume on the surface that a peak inhalation has at 20 metre/66 Feet/3 ATA.
 2. In a 5 metre/16 Feet/1.5 ATA dive 1st level exhale, simulates 35 metre/116 Feet from an equalizing/chest compression standpoint = $3 \text{ ATA} \times 1.5 \text{ ATA} = 4.5 \text{ ATA}$ or 35 metre/115 Feet.
 3. 2nd level = peak at 30/99/4 ATA so the same 5 metre/16 Feet /1.5 ATA dive equals $4 \text{ ATA} \times 1.5 \text{ ATA} = 6 \text{ ATA}$ or 50 metre/165 Feet.
 4. 3rd level = peak at 40 metre/132 Feet/5 ATA so $5 \text{ ATA} \times 1.5 \text{ ATA}$
 5. = 7.5 ATA or 65 metre/212 Feet.
 6. The depths simulated quickly increase with small jumps in actual depth achieved.
 7. 1st level at 10 metre/33 Feet /2 ATA is 50 metre/165 Feet, at 15 metre/50 Feet /2.5 ATA is 65 metre/212 Feet.
 - v. Physiology and safety:
 1. Due to the higher levels of chest compression, there are risks associated.
 2. Thoracic squeezes.
 3. Head position.
 4. Bottom turns.

5. Safety precautions.
6. Thoracic filling.
7. Presence of bubbles.
- vi. Benefits of negative pressure dives.
- d. Pressure and Body Airspaces:
 - i. Thoracic filling - Causes.
- e. Barotraumas – Pressure Related Injuries:
 - i. Middle ear barotraumas:
 1. Signs and symptoms.
 2. Effects of depth on middle ear.
 - ii. Barotitis media:
 1. Signs and symptoms.
 2. First aid.
 - iii. Sinus squeeze:
 1. Signs and symptoms.
 2. First aid.
 - iv. Alternobaric vertigo:
 1. Signs and Symptoms.
 2. First aid.
 - v. Transient vertigo:
 1. Signs and Symptoms.
 2. First aid.
 - vi. Perforated tympanic membrane (TM):
 1. Causes.
 2. Signs and Symptoms.
 3. First aid.
 - vii. Tooth squeeze:
 1. Causes.
 2. Signs and Symptoms.
 3. First aid.
 - viii. Reverse block:
 1. Causes.

2. Signs and Symptoms.
3. First aid.
- ix. Lung/tracheal squeeze:
 1. Signs and Symptoms.
 2. Causes.
 3. First aid.
 4. Three types of squeezes:
 - a. Type 1 – small traces or streaks of blood seen in spit.
 - i. First Aid.
 - b. Type 2 – Mostly bright red blood in spit.
 - i. First Aid.
 - c. Type 3 – Blood upon surfacing, coughing, blood for several days, or a re-squeeze of a type 1 or type 2.
 - i. First Aid.
 5. Persistent cyanosis & shortness of breath from any squeeze should include 100% o₂ and hospital care.
 - a. Signs and Symptoms
 - b. Causes
 - c. Prevention
 - d. First aid
 6. Lung over-pressurization – air expansion within the lungs
 - a. Signs and Symptoms
 - b. Causes
 - c. First aid
- f. Decompression and Freediving - Technical Freediving:
 - i. Signs and Symptoms.
 - ii. Causes.
 - iii. Prevention.
 - iv. First aid.
7. Advanced Equalization Techniques:
 - a. Equalization Techniques:
 - i. Throat block.

- ii. Equalizing ears, sinuses, and mask.
- iii. With mask vs. without mask.
- iv. Changes with 30 metre/99 Feet – 40 metre/132 Feet:
 - 1. Residual volume.
 - 2. Mouth filling.
 - 3. Head position.
- v. Voluntary Tubular Opening (VTO):
 - 1. Frequency.
 - 2. Methods.
 - 3. Benefits.
- vi. Frenzel:
 - 1. Frequency.
 - 2. Methods.
 - 3. Benefits.
- vii. Equalizing thresh-hold:
 - 1. Grouper call or reverse pack.
 - 2. Alarms and kick counts.
 - 3. Tongue position.
- viii. Negative pressure training:
 - 1. Simulate lungs at deeper depths.
 - 2. Mouth-fills and Frenzel practice.
 - 3. Head positioning.
 - 4. Psychology of Advanced Freediving
- b. Anxiety Stimulus:
 - i. Physiology of stress:
 - 1. Symptoms.
 - 2. Causes – real and imagined.
 - 3. Physical Stress.
 - 4. Physiological Stress.
 - 5. Psychological Stress.
 - ii. Stress Reduction:
 - 1. Stop – Think – Act.

2. Training.
 3. Preparation and prevention.
 4. Skills practice and in-water comfort.
 5. Confidence in buddy and support.
 6. Maintain equipment.
 7. Employ psychological techniques such as Self-talk.
 8. Step by step.
- iii. Compensatory changes.
 - iv. Visualization.
- c. Designing Your Warm-up Routine:
- i. Athletes are given 45:00 minutes to warm up before their target (Official Top, OT).
 - ii. For depth disciplines, you can use this time to do facial immersion, free immersion (FIM), negative pressure FIM, and final breathe-up.
 - iii. It is recommended but not required that your warm-ups are not deeper than 20 metre/66 Feet.
 - iv. For pool disciplines, a combination of facial immersion and shorter statics (inhalation or exhalation, wet or dry) are recommended.
 - v. Warm-up routines are to kick in mammalian dive reflexes and psychologically prepare the athlete for their target performance.
 - vi. If not regularly training, your warm-up routine may start with a greater number of dives or breath-holds.
 - vii. If training consecutively for days or weeks, you may not require many warm-up dives or breath-holds before the target performance.
 - viii. When designing your warm-up:
 1. Leave yourself enough cushion time for accidents such as water intake on peak inhale, equipment adjustments, etc.
 2. Calculate the time of your warm-up and subtract that from OT.
 - a. If your OT is 00:45 minutes, and your warm-up only takes 00:30 minutes, wait to start your warm-up until 00:15 minutes.
 - ix. DESIGN YOUR OWN OCEAN & POOL WARM-UP ROUTINES.
8. Advanced Freediving Training – Dry, Gym, Pool and Ocean:
- a. Proper Hydration for Freediving:
 - i. Loss of Fluids:

1. Sweating.
2. Breathing.
3. Urinating.
- ii. Dehydration:
 1. Fatigue.
 2. Impaired Blood Shunt.
 3. Increases risk of DCI.
- iii. Fluid Intake Before and During Exercise:
 1. What Is the Best Drink Composition.
- iv. Fluid Intake After Exercise:
 1. What Is the Best Drink Composition.
- b. Working Heart Rate Zones:
 - i. Calculating training zones:
 1. Maximum heart rate.
 2. Resting heart rate.
 3. Calculating the zone value.
 - ii. Energy Efficient or Recovery Zone – 60% - 70%.
 - iii. Aerobic Zone – 70% - 80%.
 - iv. Anaerobic Zone – 80% - 90%.
- c. Recovery:
 - i. Speeding up recovery.
 - ii. Refueling.
 - iii. Muscle repair.
 - iv. Re-hydration.
 - v. Immune system.
- d. Pool Training for Performance:
 - i. Pool program A – techniques & cardio/strength training.
 - ii. Pool program B – Technique & Co₂/O₂ tolerance training.
 - iii. Pool program C – Targets and Co₂/O₂ training.
- e. Gym Training for Performance:
 - i. Weight training – legs.
 - ii. Cardio training.

- f. Daily Food & Fitness Log:
 - i. Keep track of food and water intake.
 - ii. Note how you felt.
 - iii. Note how the workout that day went – what worked, what didn't.
- g. Freedive logs:
 - i. Keep track of your dive day.
 - ii. Includes:
 - 1. Equipment.
 - 2. Warm-up.
 - 3. Water conditions.
 - 4. Depths hit.
 - 5. Notes.
- h. Long term training program development:
 - i. Work with a coach.
 - ii. Set goals:
 - 1. Short term.
 - 2. Moderate term.
 - 3. Long term.
- i. Co2 & O2 tolerance training:
 - i. O2 tolerance.
 - ii. Co2 tolerance.
 - iii. Inhalation vs Exhalation training.
- j. Equalization training:
 - i. Daily X200 equalizations.
 - ii. Exhalation and reverse packs.
- k. Stretching programs:
 - i. Packing stretches.
 - ii. Negative diaphragm.
- l. Negative pressure training:
 - i. Quickly repetitive equalization and chest compression practice.
 - ii. Establish streamlined sink phase at shallower depths.
 - iii. Practice depth bottom turns shallower.

8.12 Confined Water

To be certified as a PFI Advanced Freediver a student must demonstrate the following skills to the satisfaction of the PFI Instructor as follows:

1. Watermanship and Stamina (May be completed in open water. If done in open water, must be completed prior to any other open water skills):
 - a. Distance swim of 200 Metre nonstop using any stroke without the use of swimming aids (mask or swim goggles may be used), or 300 Metre nonstop using mask, snorkel, and fins.
 - b. Tread water for 10 minutes without flotation.

Note: If an exposure suit is worn for any of the above skills, the wearer must be neutrally buoyant at the surface.

2. Open Water Simulation – 40 metre/132 Feet depth:
 - a. Breathe up on back with 5 purges (packs if utilizing).
 - b. Descend with appropriate kick cycles lasting 30 seconds.
 - c. 10 seconds relaxed no intermittent kicking (sink phase).
 - d. Relaxed bottom kicking for 40 seconds or kick horizontal for 40 metre/132 Feet dynamic.
 - e. Proper ascent in deep end with depth recovery breathing and buddy coaching.
3. Static/Dynamic Apnea:
 - a. Static apnea:
 - i. Students must perform as Buddy A and Buddy B; breath-holder and safety.
 - ii. Minimum of 4 consecutive static breath-holds.
 - iii. Complete a minimum of a 4:00 minutes static apnea without any hypoxic symptoms.
 - iv. Safety procedures.
 - v. Supervision with signals starting at:
 1. 1 minute on pool session one.
 2. 2 minutes on pool session two if participant hit 3:00 seconds static on pool session one.
 3. For third and fourth pool sessions signals are given by the discretion of the student, in addition minimum static signal standards.
 4. Additional signals may be required by the PFI Professional's request.

- vi. Timing and safety signals.
- vii. Recovery breathing and support assistance.
- b. Exhalation Static apnea:
 - i. Students work as Buddy A and Buddy B; breath-holder and safety.
 - ii. Students will use exhalation statics as warm-ups for max statics.
 - iii. Exhalation statics are used for a stressed warm-up for a more relaxed target.
 - iv. Utilize a relaxed 1st Level Exhale.
 - v. Start signals at 0:15 and be given every 15 seconds.
- c. Dynamic apnea (optional):
 - i. While optional, students are encouraged to participate in dynamic apnea.
 - 1. Students work as Buddy A and Buddy B; dynamic and safety.
 - 2. Minimum of 3 dynamic performances.
 - 3. Dynamic apnea streamlining & kick technique.
 - 4. Safety procedures:
 - a. Surface safety with flotation.
 - b. Recovery breathing and surface support assistance.
 - 5. Negative Pressure Dives:
 - a. Students work as Buddy A and Buddy B; switching back and forth after each dive.
 - b. Maximum of 6 negative pressure dives in one session.
 - c. Complete at a minimum, third level exhalation with proper equalization at a minimum depth between 3 metre/10 Feet or third level exhalation with 3 reverse packs for pools less than 3 metre/10 Feet with proper recovery breathing and without any hypoxic symptoms, causing persistent ear barotraumas or thoracic squeezes.

8.13 Open Water

At the discretion of the instructor for students that have already achieved close to 40 metre/132 Feet, neutral buoyancy and dive depth progression can be adjusted deeper, keeping safety and safe progression in mind.

To be certified as a PFI Advanced Freediver a student must demonstrate the following skills to the satisfaction of the PFI Instructor as follows:

1. Open Water Training Sessions:

- a. A minimum of four (4) separate ocean sessions must be completed.
2. Proper Weighting and Buoyancy:
 - a. Neutral Buoyancy at 15 metre/50 Feet – 20 metre/66 Feet on peak inhalation with packing – depth at instructor’s discretion:
 - i. Achieve neutral buoyancy to the .5kg/1.0 lbs.
 - ii. No sculling, finning, treading, or pushing off plate.
3. Proper Fin Use:
 - a. Kick cycles:
 - i. Demonstrate Proper kick cycles determinations to landmark depths:
 1. To neutral buoyancy depth – kick cycles.
 2. From neutral buoyancy to double neutral buoyancy – kick cycles.
 3. From double neutral buoyancy to double neutral plus 10 metre/33 Feet – intermittent kick cycles.
4. Equalization Threshold:
 - a. Establish the maximum mouth fill threshold.
 - i. Must be able to complete a mouth fill while head down no shallower than 25 metre/82 Feet.
5. Free Immersion Warm-up Dives:
 - a. Twelve free immersion warm-up dives:
 - i. Complete a minimum of twelve (12) free immersion style freedives as a warm-up.
 - ii. Reach a minimum of 40 metre/132 Feet without any hypoxic symptoms or barotraumas.
 - iii. Employing the following proper techniques described below:
 1. Surface breathing on back and preparation.
 2. Proper roll and go technique with lanyard attached to ankle.
 3. Single leg raised descent.
 - iv. Facial immersion for 5 minutes may be used.
 - v. A negative pressure dive with 1st level exhalation to a max 15 metre/50 Feet with ‘touch and go’ may be used for warm up.
 - vi. The student must show the ability to breath up on back, while securing the line.
 - vii. 90-degree bend at waist.
 - viii. One leg vertical out of water.

- ix. Double arm pull.
 - x. Grab line and hand to nose.
 - xi. "BEND, LEG, PULL & GRAB".
- b. Free immersion descent procedures:
- i. Stay in contact with descent line.
 - ii. Face line during descent.
 - iii. Maintain proper head 'neutral' position.
 - iv. The student must determine how many pull cycles to neutral and pull cycles to double neutral.
 - v. Equalizing frequently.
 - vi. Descend slowly and relaxed.
 - vii. Utilize line for an effective bottom turn.
- c. Free immersion ascent procedures:
- i. Stay in contact with ascent line.
 - ii. Slow and relaxed with head in neutral position.
 - iii. Recapture expanding air from mask if possible.
 - iv. 2 metre/6 Feet exhalation prior to surfacing.
 - v. Proper recovery breathing.
- d. Negative free immersion dives:
- i. Use negative pressure dives to practice sink phase and bottom turns.
 - ii. Add additional neck weights to create appropriate 1 metre/second speed at shallower depths 4-8 lbs.
 - iii. Lanyard must be used.
 - iv. Employing the following proper techniques described below:
 - 1. Surface breathing on back and preparation.
 - 2. Inhalations plus packing then relaxed sigh to 1st level exhalation.
 - 3. Proper roll and go technique with lanyard attached to ankle.
 - 4. Single leg raised descent.
 - v. Complete a series of negatives over the open water sessions:
 - 1. 5 metre – 7.5 metre – 10 metre – 12.5 metre – 15 metre/16 Feet– 24 Feet – 33 Feet – 41 Feet.
 - vi. A negative pressure dive with 1st level exhalation to minimum 15 metre/50 Feet required maximum of 20 metre/66 Feet.

6. Self-Emergency Ascent Procedures:

a. Lanyard Entanglement and last resort ditch and ascent:

- i. Descend to 15 metre/50 Feet.
- ii. Demonstrate undoing a simple entanglement and ascend.
- iii. Demonstrate the use of the lanyard quick release and ascend.

7. Constant Ballast Target Dives:

a. Twelve target constant ballast dives:

- i. Complete a minimum of twelve (12) constant ballast style freedives.
- ii. Reach a minimum depth of 40 metre /132 Feet without hypoxic symptoms or barotraumas.
- iii. Employ the following proper techniques described below:
 1. Surface breathing and preparation on back.
 2. Peak inhalation, packing, roll and go, with lanyard attached to wrist.
 3. Single leg raised descent or double with mono-fin.

b. Descent procedures:

- i. Stay within arm's reach of the descent line.
- ii. Face line during descent.
- iii. Maintain proper head 'neutral' position.
- iv. Equalizing frequently and with arm 'tucked'.
- v. Descend at approximately 1 metre/3 Feet a second.
- vi. Determine kick-cycle number, speed, and depth determination.
- vii. Employ sink phase after 30 metre/99 Feet or 40 metre/132 Feet with periodic correcting kick/mouth-fill.
- viii. Drop arms at a deeper depth to maintain 1 metre/second by creating flat surfaces.
- ix. Utilize line for an effective bottom turn.

c. Ascent procedures:

- i. Double raised hand.
- ii. Drop arms at 10 metre – 5 metre/33 Feet – 16 Feet.
- iii. Recapture expanding air from mask if possible.
- iv. 2 metre/6 Feet exhalation prior to surfacing.
- v. Proper recovery breathing with surface protocol.

8. Emergency Rescue & Problem Management (Rescue Scenarios):

a. LMC at surface review:

i. PFI Instructor simulates a 30 metre/99 Feet freedive:

1. Has LMC after no less than 2 recovery breaths.

ii. Buddy B – 10 metre/33 Feet safety Freediver:

1. Provides correct recovery breathing.
2. Provide correct arm support and airway protection.
3. Mask removal and blow across face if necessary.
4. Constant verbal encouragement.
5. Wait 30 seconds or until Freediver is recovered.

b. Blackout at surface review:

i. PFI Instructor simulates a 40 metre/132 Feet freedive:

1. Simulated LMC that progresses into BO after surface safety protects LMC.
2. Recovery after 3 'BLOW, TAP, TALKS'.

ii. Buddy B – 15 metre/50 Feet safety Freediver:

1. Provides correct recovery breathing and LMC response.
2. Airway control 'head sandwich' to horizontal.
3. Switch arms into the 'Dosey Doe' position.
4. Remove mask and provide 3 'BLOW, TAP, TALKS'.

8.14 Graduation Requirements

In order to complete this course, students must:

1. Successfully complete all the knowledge development, confined water, and open water training sessions. (Open water training is not required for a Pool Only certification).
2. Demonstrate mature and sound judgment concerning planning and execution.
3. Achieve a passing score of 80% on the final exam and show 100% knowledge comprehension.
4. Achieve the required constant weight and free immersion dive minimums with an unmodified commercially available mask. (Not required for Pool Only certification)
5. Complete the following skills:
 - a. Equipment:
 - i. Prepare equipment with minimal assistance.

- ii. Buddy check all equipment.
- b. Entry and exit:
 - i. Enter water with techniques appropriate for the environment.
 - ii. Signal buddy/shore/boat.
 - iii. Exit water with techniques appropriate for the environment.
- c. Proper weighting and buoyancy:
 - i. Test for approximate neutral buoyancy at surface by floating upright at collar bone without sculling, finning, or treading.
 - ii. After buoyancy has been established – either collarbone for pool only, or neutral buoyancy depth check during open water for Advanced Freediver, perform a first level exhalation at the surface – remain at the surface. However, this may not be possible in advance weighting situations due to packing, so lanyards should be used, and extra care always given to buddy supervision.
- d. Snorkel Use:
 - i. Successfully clear and blast the snorkel without removing the head from the water.
- e. Proper fin use:
 - i. Flutter kick at the surface.
 - ii. Maintain a stationary position with sculling.
- f. Descent and Ascent Procedures:
 - i. Surface breathing and preparation while floating on back.
 - ii. Roll over to a face down horizontal position.
 - iii. Demonstrate a double leg raised entry or a single leg raised entry in the order of:
 - 1. Bend.
 - 2. Leg(s).
 - 3. Pull.
 - 4. Kick.
 - iv. Demonstrate proper ascent procedures:
 - 1. Head in neutral position.
 - 2. Recapturing expanding air in the mask if possible.
 - 3. Exhale at approximately 2 metre/7 Feet.
 - 4. Proper recovery breathing.

- v. During descents and ascents – the student head position must remain neutral.
- g. Self-emergency Ascent Procedures:
 - i. Flooded mask ascent:
 - 1. Fully flood at depth:
 - a. Pool only – deep end of pool.
 - b. Advanced Freediver – at 20 metre/66 Feet.
 - 2. Remain at depth for approximately 10 seconds before ascending.
 - 3. Ascent and recovery breathe in a controlled manner.
 - ii. Remove weight belt and ascend:
 - 1. Remove weight on neck or waist belt (if no neck weight) at depth:
 - a. Pool only – deep end of pool.
 - b. Advanced Freediver – minimum 20 metre/66 Feet.
 - 2. Ascend holding belt low at their side with buckle end down.
 - 3. Perform proper recovery breathing.
 - 4. Replace neck weight or weight belt at the surface with right hand release if waist belt.
- h. Recovery Breathing:
 - i. Proper exhalation from 2 metre/6 Feet.
 - ii. Position both hands on float/side of pool.
 - iii. Show proper 3 hook and 3 cleansing breaths on upper half of lung volume.
 - iv. Hook breaths are held for a full 3 seconds.
- i. Safety & Problem Management.
 - i. Assist with recovery breathing as a safety:
 - 1. Be 2 Metres/7 Feet to 3 Metres/10 Feet to the side of the Freediver.
 - 2. Use audio coaching when necessary.
 - 3. Remain attentive and vigilant for a minimum of 30 seconds after the Freediver has surfaced.
 - ii. Respond to a simulated surface LMC as a Safety:
 - 1. Physically support the Freediver.
 - 2. Keep one hand parallel to the water, above the water, but below the chin.
 - 3. Speak calmly to encourage the Freediver to breathe.

4. Maintain control until Freediver regains control.
- iii. Respond to a simulated blackout at the surface:
 1. Place the Freediver on their back with the airway protected using a "head sandwich".
 2. Securely support the Freediver's head with a "dosey-doe".
 3. Blow, tap, talk 3 times.
 4. Maintain control until Freediver regains control.
 - iv. Assist with a simulated underwater blackout:
 1. Recognize signal for assistance.
 2. Physically support the Freediver.
 3. Ensure proper hand placement.
 4. Recognize blackout before the surface.
 5. Protect the airway with a "head sandwich".
 6. Perform surface blackout procedures through 2 rescue breaths once the student has ascended with the blacked out Freediver.
 - v. Lost Freediver – completed no deeper than 10 metre/33 Feet:
 1. Surface swim minimum 25 metre/82 Feet looking for "lost" Freediver.
 2. Locate Freediver, catch breath, breathe up.
 3. Make proper entry and simulate 25 metre/82 Feet dive – 6 strong kick cycles – 6 soft kick cycles – 5 seconds intermittent kicks.
 4. "Victim" descends after rescuer completes 6th strong kick cycle and will lay on the bottom next to the Freediver.
 5. After completion of 25 metre/82 Feet descent simulation, rescuer secures victim's airway with a "head sandwich".
 6. Ascend to the surface and place victim into "dosey-doe" and perform surface blackout rescue procedures.
 7. Call for assistance and evacuate the victim 50m/165ft while simulating rescue breaths every 5 seconds.

Instructors Must:

1. Submit certifications to PFI Headquarters within 7 days of course completion date for processing.

8.15 Dive-Buddy System

The Freedive-buddy system puts flexibility into the training program by allowing certification according to which performance requirements have been met.

FDB 1: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue and can provide equal assistance to their buddy should it become necessary. This freediver can freedive with any other certified freediver.

FDB2: All of the performance requirements have been met; the freediver has demonstrated the ability to perform self-rescue but is not able to provide assistance to their buddy should it become necessary. This freediver must freedive with 2 adult certified PFI Freedivers or equivalent.

FDB3: The physical performance requirements have been met; the freediver has demonstrated the ability to safely freedive in an open water environment. But the freediver does not have the ability to perform self-rescue or provide assistance to their buddy should it become necessary. This freediver must dive with 2 adult certified freedivers, one of which must be a qualified PFI Adaptive Freedive Buddy or equivalent.

9. Adaptive Freedive Buddy Program

9.1 Introduction

The PFI Adaptive Freedive Buddy certification program is designed to develop the knowledge and necessary skills for an individual to effectively perform as a freedive buddy for a physically disabled freediver. The practical skills developed are the same as for the PFI Adaptive Freediver Instructor, making the dive buddy course an important step in the development process.

9.2 Qualifications of Graduates

Upon successful completion of this course, graduates may:

1. Upon successful completion of this course, graduates are able to conduct freedive sessions with physically disabled freedivers.
2. Upon successful completion on this course, PFI Assistant Instructors are able to function as an Adaptive Assistant. PFI Freediver Instructor are eligible to enroll in the upgrade course to become a Adaptive Freediver Instructor.

9.3 Who May Teach

An active PFI Adaptive Freediver Instructor.

9.4 Student to Instructor Ratio

Academic:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training of subject matter.

Confined Water (swimming pool-like conditions):

1. A maximum of 8 students per instructor.
2. Instructors have the option of adding 2 more students with the assistance of an active assistant instructor for a total of 10 students.

Open Water (ocean, lake, quarry, spring, river, or estuary):

1. A maximum of 8 students per instructor are allowed; it is the instructor's discretion to reduce this number as conditions dictate.
2. Instructors have the option of adding 2 more students with the assistance of an active assistant instructor for a total of 10 students.

9.5 Student Prerequisites

1. Minimum age 18, 16 with parental consent.
2. Provide proof of:
 - a. Current CPR and first aid certification.
 - b. Safety freediver certification.

OR

 - c. Intermediate Freediver or equivalent with 40 logged freedive sessions.

9.6 Course Structure and Duration

1. PFI allows instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The suggested number of training hours is 20.
2. Of the suggested 20 hours, 12 of the suggested hours should be performed in confined and/or open water conditions.
3. Students must complete 4 confined or open water freedive sessions. *
4. Training depth must be between 5 to 20 Metres/16 to 66 Feet; the maximum depth may not exceed 20 Metres/66 Feet.
5. All dives must be completed during daylight hours, or under conditions that simulate daylight conditions.
6. Upon successful completion of the freedive sessions, the students must complete their logbooks and the instructor must sign off on the completed freedive session.

*** If open water dive sessions are not conducted, 1 open water site orientation must be conducted. The orientation must include best entry and exit procedures for disabled freediver, site considerations – parking, sun exposure, restroom facilities, etc.**

9.7 Administrative Requirements

Administrative Tasks:

1. Collect the course fees from all the students.
2. Ensure that the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete the:

- a. *PFI Liability and Assumption of Risk Form.*
- b. *PFI Medical Statement.*

9.8 Required Equipment

Basic freediver equipment as described in the individual courses in this manual.

9.9 Required Subject Areas

The following topics must be covered, by the instructor, during this course:

1. Background Information:
 - a. Instructor Awareness.
 - b. Public Acceptance.
 - c. Lifestyle and personality.
 - d. Social Integration.
2. Common Medical Conditions and Disabilities:
 - a. Amputations.
 - b. Asthma.
 - c. Cerebral Palsy.
 - d. Diabetes.
 - e. Epilepsy.
 - f. Hearing Disorders.
 - g. Muscular Dystrophy.
 - h. h. Motor Neuron.
 - i. Multiple Sclerosis.
 - j. Sight Impairment.
 - k. Spinal Injuries.
 - l. Attention Deficit Disorder (ADD).
 - m. Attention Deficit Hyperactivity Disorder (ADHD).
 - n. Traumatic Brain Injury (TBI).
 - o. Post-Traumatic Stress Disorder (PTSD).
 - p. Autistic Spectrum.
3. Common Terms:
 - a. Impairment.

- b. Disability.
 - c. Handicap.
4. Diving Environment:
- a. Confined Water.
 - b. Open Water.
5. Accessibility:
- a. Access to confined water.
 - b. Access to open water.
 - c. Liability and related legal considerations.

9.10 Required Skill Performance and Graduation Requirements

In order to complete this course, the required skills should be performed on a pool or boat deck in a confined and/or open water diving environment.

1. Sight impaired diver; show proficiency at giving and receiving tactile signals.
2. Complete 2 open water freedive sessions as a dive buddy, 1 sight impaired, 1 paraplegic.
3. Complete 2 open water freedive sessions as a student, 1 sight impaired and 1 paraplegic.
4. Complete 1 confined water training session with sight impaired diver (real or simulated).
5. Weight system assembly/adjustment with proper weighting.
6. Suiting up and de-suiting.
7. Pre-freedive check of self and buddy.
8. Use of mask, fins and snorkel.
9. Entries; assistance with controlled seated, back roll, giant stride entries.
10. Equipment; suiting up of diver in the water.
11. Equipment; removal of diver's equipment in the water.
12. Exits; assistance with shallow water and deep water exits.
13. Tired diver tows.
14. Communication; show good communication/understanding skills on surface and at depth.
15. Dive planning; use of surface intervals, rotation and PFDC, logging of freedive sessions.
16. Demonstrate sound judgment in freedive site suitability planning.
17. Demonstrate mature and sound judgment concerning freedive emergency planning and execution.

18. Complete all open water requirements safely and efficiently.
19. Complete a panicked freediver rescue drill (surface).
20. Complete a distressed freediver rescue drill (at depth).
21. Be seen to be having fun during the course.

10. Adaptive Freediver Instructor Upgrade Program

10.1 Introduction

The PFI Adaptive Freediver Instructor upgrade program is for those students who have successfully completed the PFI Adaptive Freedive Buddy program and have gone on to complete a recognized freediver instructor certification course. PFI feels that having learned the program once the new instructor needs only to be updated on the training aspect of teaching freedivers with medical conditions and physical disabilities.

10.2 Who May Teach

An active PFI Adaptive Freediver Instructor Trainer or SDI Scubility Instructor Trainer.

Administrative upgrades:

A PFI Instructor may apply to administratively upgrade to PFI Adaptive Freediver Instructor. The level of adaptive instructor certification corresponds to the level of PFI instructor rating held by the candidate. To upgrade, the PFI instructor must meet one of the following:

1. Be certified as an SDI Scubility Instructor or equivalent.
2. Be certified as a PFI Adaptive Buddy, SDI Scubility Buddy, or equivalent and can document at least 25 freedive sessions or scuba dives. Those sessions must include persons with varying disabilities to prove working with a variety of issues and adaptations. Those disabilities should include at minimum:
 - a. Arm amputee
 - b. Leg amputee
 - c. Paralysis
 - d. Neuro or muscular degenerative disorder
3. Be a licensed medical professional that works with varying levels of disability.

10.3 Qualifications of Graduates

Upon successful completion of this course, graduates are able to teach the full range of PFI Adaptive courses to the level of their qualified Instructor Rating.

10.4 Student to Instructor Ratio

Academic:

1. Unlimited, so long as adequate facilities, supplies and time are provided to ensure comprehensive and complete training of subject matter.

Confined Water (swimming pool-like conditions):

1. A maximum of 8 students per instructor Trainer.
2. Instructors have the option of adding 2 more students with the assistance of an active PFI Adaptive Freediver Instructor for a total of 10 students.

Open Water (ocean, lake, quarry, spring, river, or estuary):

1. A maximum of 8 students per instructor trainer are allowed; it is the instructor trainer's discretion to reduce this number as conditions dictate.
2. Instructor trainers have the option of adding 2 more students with the assistance of an active PFI Adaptive Freediver Instructor for a total of 10 students.

10.5 Student Prerequisites

1. Minimum age 18.
2. Provide proof of:
 - a. PFI Adaptive Freedive Buddy certification.
 - b. Current CPR and first aid certification.
 - c. Current PFI Basic Freediver Instructor or higher.

10.6 Course Structure and Duration

Course Structure:

1. PFI allows instructors to structure courses according to the number of students participating and their skill level.

Duration:

1. The suggested number of training hours is 8

10.7 Administrative Requirements

Administrative Tasks:

1. Collect the course fees from all the students.
2. Ensure that the students have the required equipment.
3. Communicate the schedule to the students.
4. Have the students complete the:
 - a. *PFI Liability and Assumption of Risk Form.*
 - b. *PFI Medical Statement.*

10.8 Required Equipment

Basic freediver equipment as described in the individual courses in this manual.

10.9 Required Subject Areas

The PFI Adaptive Freediver Instructor Guide is available for this course. Instructors may use any additional text or materials that they feel help present these topics.

Instructor Trainers are required to teach the following topics:

1. Training:
 - a. Confined Water.
 - b. Open Water.
 - c. Academic.
 - d. Liability and related legal considerations.
2. Marketing:
 - a. Course structure.
 - b. Target clients.
3. Standards:
 - a. Scubility course requirements and standards.

10.10 Required Skill Performance and Graduation Requirements

1. Required skills performance:
 - a. Show preparation and planning for:
 - b. Academic lessons.
 - c. Confined water training.
 - d. Open water training.
2. Complete one:
 - a. Academic session for a paraplegic diver.
 - b. Confined water training session with sight impaired or paraplegic diver (real or simulated).
 - c. Open water training session for a sight impaired or paraplegic diver.
3. Be seen having fun and enjoying teaching.